MARKET STUDY

FRUIT SECTOR
IN THE RUSSIAN FEDERATION, KAZAKHSTAN AND BELARUS

September 2018
CONTENT

METHODOLOGY .......................................................................................................................... 5

THE RUSSIAN FEDERATION ........................................................................................................ 7

1. FRUIT SECTOR SITUATION ..................................................................................................... 7
   1.1. STRUCTURE OF FRUIT PRODUCTION .................................................................................. 7
       1.1.1. STRUCTURE BY TYPE OF FRUIT .................................................................................. 7
       1.1.2. PRODUCTION STRUCTURE BY TYPES OF FRUIT PRODUCERS .................................. 8
       1.1.3. REGIONAL STRUCTURE OF FRUIT PRODUCTION ...................................................... 10
   1.2. QUALITY LEVEL IN THE SECTOR AND TECHNICAL ASPECTS ........................................ 18
   1.3. IMPORT AND EXPORT OF FRUIT .................................................................................... 24
       1.3.1. IMPORT ...................................................................................................................... 24
       1.3.2. EXPORT .................................................................................................................... 27
   1.4. CUSTOMS AND IMPORT REGULATIONS .......................................................................... 29
   1.5. FRUIT AND FRUIT PRODUCTS CONSUMPTION .............................................................. 31
   1.6. GOVERNMENT SUPPORT ............................................................................................... 33
   1.7. SWOT – ANALYSIS OF THE FRUIT SECTOR .................................................................. 35
   1.8. INTERMEDIATE CONCLUSIONS ....................................................................................... 36

2. PRODUCT CATEGORIES ............................................................................................................ 37
   2.1. FRUIT PROPAGATION MATERIAL ..................................................................................... 37
   2.2. FERTILIZERS AND CROP PROTECTION .......................................................................... 45
   2.3. FIELD AND ORCHARD MACHINERY AND EQUIPMENT ................................................ 51
   2.4. STORAGE, COOLING AND FREEZING FACILITIES .......................................................... 59
   2.5. CLEANING, SORTING, PACKAGING LINES AND PACKAGING MATERIAL FOR FRUIT ....... 65
   2.6. PROCESSING, HEATING AND DRYING LINES AND PACKAGING MATERIAL FOR FRUIT PRODUCTS ................................................................. 73
   2.7. CONSULTING SERVICES .................................................................................................. 79
   2.8. FRUIT PRODUCTS AVAILABLE ON THE LOCAL MARKET ............................................. 81
   2.9. INTERMEDIATE CONCLUSIONS ....................................................................................... 87

3. GUIDE TO MARKET ENTRY ..................................................................................................... 89

THE REPUBLIC OF KAZAKHSTAN ............................................................................................... 95

4. FRUIT SECTOR SITUATION ...................................................................................................... 95
   4.1. STRUCTURE OF FRUIT PRODUCTION .............................................................................. 95
       4.1.1. REGIONAL STRUCTURE OF FRUIT PRODUCTION ...................................................... 95
       4.1.2. FRUIT AREA .............................................................................................................. 98
       4.1.3. FRUIT YIELD ........................................................................................................... 99
       4.1.4. MAIN GROWING REGIONS ....................................................................................... 101
       4.1.5. LARGE PRODUCERS ............................................................................................... 104
   4.2. INVESTMENT PROJECTS .................................................................................................. 107
       4.2.1. GOVERNMENT POLICY IN FRUIT SECTOR ............................................................... 107
       4.2.2. PROJECTS UNDER DEVELOPMENT/ IMPLEMENTING PROJECTS/ ONGOING PROJECTS ................................................................. 107
   4.3. IMPORT AND EXPORT OF FRESH FRUITS .................................................................... 111
5. PRODUCT CATEGORIES ................................................................. 125

5.1. FRUIT PROPAGATION MATERIAL ........................................ 125

5.1.1. ANALYSIS OF FRUIT CROPS SLIPS MARKET .................. 125

5.1.2. ANALYSIS OF STRAWBERRY SEEDLINGS MARKET .......... 128

5.1.3. MAIN MARKET PLAYERS AT THE MARKET OF PROPAGATION MATERIAL .................. 129

5.1.4. PROCEDURE OF NEW VARIETIES REGISTER .................... 131

5.1.5. CONTROL OF DISEASES, PESTS AND CONFIRMATION OF PRODUCTS CLEARANCE ........ 132

5.2. FERTILIZERS AND (SUSTAINABLE) CROP PROTECTION ...................... 133

5.2.1. FERTILIZERS ................................................................. 133

5.2.1.1. EXTERNAL TRADE, MARKET VALUE ............................................ 133

5.2.1.2. CONSUMPTION IN KAZAKHSTAN .................................................. 135

5.2.2. CROP PROTECTION .......................................................... 137

5.2.3. MAIN MARKET PLAYERS .................................................. 140

5.3. ORCHARD MACHINERY AND EQUIPMENT .................................. 143

5.3.1. TRACTORS ...................................................................... 143

5.3.1.1. GENERAL SITUATION ................................................................. 143

5.3.1.2. TRACTORS. DOMESTIC PRODUCTION ..................................... 144

5.3.1.3. TRACTORS. IMPORT .............................................................. 145

5.3.1.4. TRACTORS. MARKET VALUE .................................................. 145

5.3.2. TILLAGE, SOWING, IRRIGATION AND FERTILIZER MACHINERY AND EQUIPMENT . 147

5.3.3. TOTAL MARKET VALUE OF ORCHARD MACHINERY AND EQUIPMENT .............. 149

5.4. STORAGE, COOLING AND FREEZING FACILITIES ....................... 150

5.5. CLEANING, SORTING AND PACKAGING LINES AND PACKAGING MATERIAL FOR FRUIT . 159

5.6. PROCESSING, HEATING AND DRYING LINES AND PACKAGING MATERIAL FOR FRUIT PRODUCTS ................................................................. 164

5.6.1. PROCESSING, HEATING, DRYING, CANNING AND FILLING LINES ...................... 164

5.6.2. PACKAGING MATERIAL FOR FRUIT PRODUCTS ................................... 166

5.7. FRUIT AND FRUIT PRODUCTS AVAILABLE ON THE LOCAL MARKET ......................... 168

5.7.1. PRODUCTION IN KAZAKHSTAN .................................................. 168

5.7.2. FOREIGN TRADE .................................................................. 170

5.7.3. MARKET VALUE ................................................................. 171

5.7.4. JUICE PRODUCERS .............................................................. 173

5.7.5. PRODUCERS OF PRESERVED PRODUCTS ..................................... 175

5.8. CONSULTING SERVICES ............................................................ 177

5.9. INTERMEDIATE CONCLUSIONS .................................................. 183

6. GUIDE TO MARKET ENTRY ............................................................... 187
ADDENDA

ADDENDUM 1. LIST OF KEY CONTACTS IN RUSSIAN FEDERATION, KAZAKHSTAN AND BELARUS

ADDENDUM 2. LIST OF KEY EXHIBITIONS IN RUSSIAN FEDERATION, KAZAKHSTAN AND BELARUS
INTRODUCTION

The Russian Federation, Kazakhstan and Belarus are promoting their agricultural production and to diversify their economy. One of the most interesting sectors is the fruit sector and investors in all three countries are looking for high value planting material, modern technology, specific expertise and training in this field. The Netherlands has a long tradition in fruit and has a lot to offer in the chain of hard as well soft fruits. Dutch suppliers for example of propagation material (young plants, fruit bushes and trees), fertilizers and crop protection, orchard machinery and equipment, storage, cooling and freezing facilities, washing, sorting, packaging and filling lines, processing and canning lines, services, practical advice and training can support the Russian Federation, Kazakhstan and Belarus in the developments of its fruit sector.

AIM OF THE STUDY

By making this information available, the Dutch Ministry of Agriculture, Nature and Food Quality aims to facilitate interested Dutch exporters and suppliers a better understanding of the specifics and future potential of the fruit sector in the Russian Federation, Kazakhstan and Belarus. In addition, the information is meant to ensure better market access to Dutch suppliers and exporters, by providing relevant key contacts and outlining the necessary steps to be taken.

OBJECTIVES AND APPROACH

The main objective of this market study is to provide information on:

- the structure (incl. trends) and organization of the fruit sector and market and its institutional structure and legal framework;
- the quality level in the sector and technical and financial aspects of the market;
- an analysis of the investment and market opportunities and bottlenecks (SWOT), internal and external risks as well as needs in the sector;
- an overview of customs and import regulations related to products originating from the Eurasian Economic Union and outside the Eurasian Economic Union;
- latest fruit market statistics: local production, consumption, import (incl. top 10 countries-importers, if available), export (incl. top 10 export destinations, if available), comparison of local consumption of fruit and fruit products with recommended norms;
- a practical guide to market entry, including the necessary pre-conditions to start or continue business activities (i.e. localization), a list of key contacts (government organizations (i.e. relevant ministries, committees, state companies (if applicable), branch organizations (associations), top market players in each product category, distributors and dealers (if applicable)) and exhibitions, as well as services that can be provided to Dutch companies entering the market.

PROJECT SCOPE

The market study covers the following product categories:

- Fruit propagation material (i.e. young plants, fruit bushes and trees);
- Fertilizers and (sustainable) crop protection;
• Orchard machinery and equipment (i.e. tree planting, spraying, mowing, lifting and harvest machinery, crates, etc.);
• Cleaning, sorting and packaging lines;
• Storage, cooling and freezing facilities;
• Processing, heating, drying, canning and filling lines and packaging material for fruit and fruit products;
• Fruit and fruit products available on the local market (incl. information on their brand names, producers and countries they originate from);
• All kind of services (technical advice and training on growing, quality, etc., and certification, norms and standards, labeling, etc.).

Product categories which presented in more detail:

• Product categories with which Dutch companies have already worked successfully and / or have prospects (potential);
• Product categories which have a big market volume.

For the calculation of the Market value the rate of exchange for all segments is appointed as:

1 euro = 69 RUB, 1 USD = 58 RUB,
1 euro = 368 KZT, 1 USD = 326 KZT.

The report includes a description of the fruit sector, a market assessment, a SWOT-analysis, guidelines of approaching the market, an overview of important legislation, organizations and available funding sources as well as a comprehensive data base of contacts and exhibitions relevant for the sector in Russia, Kazakhstan and Belarus.

Field research (expert phone and personal in-depth interview) was an important part of the market survey.

GEOGRAPHY OF THE STUDY

The research is carried out with a main focus on Russia and Kazakhstan. Information about the Fruit sector in Belarus is provided for reference, mainly from the point of general situation and influence on Russian and Kazakhstan markets.

ABBREVIATIONS USED

RF – the Russian Federation
KZ – the Republic of Kazakhstan
CC FEA – Commodity Classification of Foreign Economic Activity
EEU – Eurasian Economic Union
A.I.C. – Agro-industrial complex
1. FRUIT SECTOR SITUATION

1.1. STRUCTURE OF FRUIT PRODUCTION

1.1.1. STRUCTURE BY TYPE OF FRUIT

The bulk of hard and soft fruit (berries) production in the Russian Federation is accounted for by pome fruits – 56% of overall production.

Table 1. Hard and soft fruit production in the Russian Federation, thous. tons

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard and soft fruits, total</td>
<td>2 942</td>
<td>2 996</td>
<td>2 903</td>
<td>3 311</td>
<td>2 943</td>
<td>100%</td>
</tr>
<tr>
<td>Stone fruits (plums, cherries, apricots, peaches and others)</td>
<td>515</td>
<td>510</td>
<td>522</td>
<td>632</td>
<td>540</td>
<td>18%</td>
</tr>
<tr>
<td>pome fruits (apples, pears, quinces and others)</td>
<td>1 647</td>
<td>1 707</td>
<td>1 603</td>
<td>1 853</td>
<td>1 649</td>
<td>56%</td>
</tr>
<tr>
<td>soft fruits (strawberries, raspberries, currants, gooseberries and others)</td>
<td>765</td>
<td>763</td>
<td>761</td>
<td>807</td>
<td>737</td>
<td>25%</td>
</tr>
</tbody>
</table>


Furthermore, more than 95% of pome fruit production is accounted for by apples. This structure has not changed through the years.

Table 2. Production of main pome fruits in the Russian Federation, thous. tons / %

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>thous. tons</td>
<td>share, %</td>
<td>thous. tons</td>
<td>share, %</td>
<td>thous. tons</td>
</tr>
<tr>
<td>apples</td>
<td>1 403</td>
<td>95,4%</td>
<td>1 572</td>
<td>95,4%</td>
<td>1 624</td>
</tr>
<tr>
<td>pears</td>
<td>62</td>
<td>4,2%</td>
<td>70</td>
<td>4,3%</td>
<td>72</td>
</tr>
<tr>
<td>quinces</td>
<td>5</td>
<td>0,3%</td>
<td>5</td>
<td>0,3%</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>1 470</td>
<td>100%</td>
<td>1 647</td>
<td>100%</td>
<td>1 701</td>
</tr>
</tbody>
</table>


According to data from the research company «Tekhnologiia rosta» as well as from «Association of fruits, berries and propagation (planting) material producers» (Russia, [http://asprus.ru/blog/](http://asprus.ru/blog/)), the main cultivated soft fruits in the Russian Federation are black and red currants (45-47% of total yield). Strawberries take second place (23-25% of total yield).

These data have been supported by the investment company «Vostock Capital», by which the Russian Federation lead the world in currants production.
Fig. 1. Structure of total yield of fresh berries in all types of producers, % (in 2011)

Thus, 737 thous. tons of soft fruits were produced by all types of fruit producers in 2017, including:
- currants – 336 thous. tons;
- strawberries – 169 thous. tons;
- raspberries – 128 thous. tons;
- gooseberries – 49 thous. tons;
- other soft fruit types (including blueberries) – 54 thous. tons.

However, overall production includes not only commercial soft fruit production but also production by rural population (detailed information is in chapter 1.1.2), i.e. soft fruit production for retail or processing is significantly less.

Furthermore the research is carried out with the main focus on hard and soft fruits which meet the specified characteristics simultaneously:
- defined by the Terms of Reference as the most significant for the target group,
- occupy the largest share in fruit production in Russia:

1.1.2. PRODUCTION STRUCTURE BY TYPES OF FRUIT PRODUCERS

The main types of fruit producers in the Russian Federation are:
- Agricultural enterprises.
- Farms (mainly family).
Professional farmers got most part of their income from sales of fruit.

- **Rural population.**
  Agricultural production by rural population for own use or for direct sales c2c – not for industrial processing. Back yard producers are receiving from fruit production only an additional income.
  The overall production by rural population is the least statistically significant. It was calculated using method of sampling.

The share of hard and soft fruits produced by rural population is 72% on average. This share is different by types of fruits.

**APPLES AND PEAR**

**Fig. 2. Overall production of pome fruits* by types of producers, thous. tons**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>farms</td>
<td>1022</td>
<td>707</td>
<td>861</td>
<td>899</td>
<td>1033</td>
<td>1073</td>
<td>960</td>
<td>1075</td>
<td>895</td>
</tr>
<tr>
<td>agr. ens.</td>
<td>458</td>
<td>291</td>
<td>369</td>
<td>540</td>
<td>583</td>
<td>592</td>
<td>595</td>
<td>729</td>
<td>688</td>
</tr>
<tr>
<td>rural</td>
<td>28</td>
<td>38</td>
<td>27</td>
<td>31</td>
<td>31</td>
<td>41</td>
<td>47</td>
<td>48</td>
<td>68</td>
</tr>
</tbody>
</table>

* pome fruits, of which apples are more than 95% and pears 4% of the total production

*Reference source: Federal State Statistics Service of the Russian Federation*

The share of commercial apple production, i.e. production by agricultural enterprises and partly by farmers, has increased gradually.

**Fig. 3. Structure of apple and pear production by types of producers, %**

*Reference source: Federal State Statistics Service of the Russian Federation*
SOFT FRUITS

The agricultural enterprises and farmers produce an insignificant volume of soft fruits – together less than 2%. These enterprises sell the main part of soft fruits as fresh products (not frozen, dried or processed).

### Table 3. Structure of soft fruits production by types of producers, thous. tons / %

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Agricultural enterprises</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Rural population</td>
<td>742</td>
<td>661</td>
<td>736</td>
<td>696</td>
<td>753</td>
<td>751</td>
<td>747</td>
<td>794</td>
<td>724</td>
</tr>
<tr>
<td>Share of agricultural enterprises, %</td>
<td>1.2%</td>
<td>1.2%</td>
<td>1.0%</td>
<td>1.2%</td>
<td>1.0%</td>
<td>1.0%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>


Thus, according to the calculation from 169 thous. tons of strawberries (or 23% of total production of soft fruits), produced by all types of fruit producers in the Russian Federation in 2017, only 1.9-2.0 thous. tons of strawberries were produced by the agricultural enterprises. This figure is about 3 thous. tons; including farmers.

Also some reference sources estimate commercial strawberry production at 4-5 thous. tons¹. H.e. strawberries occupy 40-50% in commercial soft fruit production. According to the sector experts’ estimates raspberries are the second best, further - black currants and other soft fruit.

### 1.1.3. REGIONAL STRUCTURE OF FRUIT PRODUCTION

Here and elsewhere the part of branch data are described for the following Federal Districts of the Russian Federation:

Fig. 4. Russia’s Federal Districts

---

APPLES AND PEARs

The agricultural enterprises in three Federal Districts produce 97% of apples and pears in the Russian Federation. These are the Southern, North Caucasian and Central Federal Districts.

**Fig. 5. Structure of apple and pear production* in agricultural enterprises by Federal Districts of the Russian Federation, 2017, %**

![Circle diagram showing the percentage distribution of apple and pear production by Federal Districts.]

* pome fruits, of which apples are more than 95% and pears 4% of total production


Moreover, the rates of growth of overall apple production by Federal Districts are different. Over a period of 2009-2017:
- Southern Federal District – growth by 1.9 times;
- North Caucasian Federal District – growth by 7 times;
- Central Federal District – reduction 31%.

The permanent top apple producer is Krasnodar Krai (Southern Federal District). It accounts for 42% of Russian production in the agricultural enterprises.

See Fig. 6 for more detailed information about apple production by the regions of the Russian Federation.

Data about the largest apple producers in the Russian Federation are shown in Table 4.
Fig. 6. Pome fruit production (apples, pears, quinces) in the agricultural enterprises by regions in the Russian Federation in 2017, thous. tons

100-300 thous. tons
30-50 thous. tons
10-20 thous. tons
4-10 thous. tons

The regions with production less than 1 thous. tons are unmapped/non marked

Table 4. The largest apple producers in the Russian Federation

<table>
<thead>
<tr>
<th>Company</th>
<th>Region</th>
<th>Square of apple orchards</th>
<th>Overall apple production</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJSC «Sady Pridonia»</td>
<td>Saratov, Penza and Volgograd regions</td>
<td>more than 7 thous. ha</td>
<td>95-100 thous. tons</td>
<td>Top producer in the industry of horticulture in the Russian Federation. Makes the top three of juice producers. Only one domestic company. Annual orchard planting (establishment) is 100 ha. It has its own nurseries.</td>
</tr>
<tr>
<td>OJSC «Sad-Gigant»</td>
<td>Krasnodar Krai, the Republic of Ingushetia</td>
<td>1,9 thous. ha (38 ha — pears)</td>
<td>60-70thous. tons</td>
<td>The largest intensive orchard in the Russian Federation. The storage capacity is 30 thous. tons. The shipment of graded and packed products is up to 400 tons per day, Dutch equipment. In 2017 the net profit was cut in 2,6 times to 400 mln. RUB, the sales revenue decreased by one third to 2 bln. RUB</td>
</tr>
<tr>
<td>OJSC «Sady Baksana»</td>
<td>the Kabardino-Balkarian Republic</td>
<td>530 ha</td>
<td>about 12 thous. tons</td>
<td><a href="http://sadbaksan.ru/">http://sadbaksan.ru/</a> Fruit storage with storage capacity 25 thous. tons. It was built by the company Plattenhardt. Sorting lines are from The Netherlands.</td>
</tr>
<tr>
<td>LTD «Agrofirma imeni 15 let Oktiabria»</td>
<td>Lipetsk region</td>
<td>n/a</td>
<td>20 thous. tons</td>
<td><a href="http://krasivaya-mecha.ru/">http://krasivaya-mecha.ru/</a> Products: fresh fruits, juice, jam and apple puree. In 2016 108 ha of intensive orchard were made. In the next five years there are plans to upgrade 500 ha of apple orchards, by the year 2020 – to expand the area to 1 thous. ha.</td>
</tr>
<tr>
<td>LTD «TSentralno-Chernozemnaja plodovo-iagodnaia kompaniia»</td>
<td>Voronezh region</td>
<td>1,8 thous. ha</td>
<td>20-22 thous. tons</td>
<td><a href="http://apple-lider.ru/">http://apple-lider.ru/</a> The largest apple producer in the Central Black Earth Region. The company grows apples, raspberries, and also produces natural juice using the «technology of direct pressing».</td>
</tr>
<tr>
<td>LTD «Agronom-sad»</td>
<td>Lipetsk region</td>
<td>about 1 thous. ha</td>
<td>20 thous. tons</td>
<td><a href="http://agronom-ssad.ru/">http://agronom-ssad.ru/</a> It is owned to the largest Russian producer of infant food «Progress» (brand «Frutoniania»). In 2017 was organized planting of organic apples on 20 ha. Storages with the capacity 3 thous. tons, sorting line Dutch with the capacity 5 t/h</td>
</tr>
<tr>
<td>LTD «Ostrogozhsksadpitomnik»</td>
<td>Voronezh region</td>
<td>1 thous. ha</td>
<td>more than 16 thous. tons</td>
<td><a href="http://xn--80afegmakeqkdabfniqlbmm.xn--p1ai/">http://xn--80afegmakeqkdabfniqlbmm.xn--p1ai/</a> Fruit storage with the capacity 8 thous. tons. In the autumn of 2016 the first phase of construction of second modern storage with the capacity 3 thous. tons and the automated sorting and packaging line with the capacity 6 tons per hour completed. Annual orchard planting is 70-100 ha of new orchard. Has its own nursery.</td>
</tr>
<tr>
<td>LTD «Korochanskii plodopotomnik»</td>
<td>Belgorod region</td>
<td>900 ha</td>
<td>15-17 thous. tons</td>
<td><a href="http://xn--80aamcokbxhavpd1f7c.xn--p1ai/">http://xn--80aamcokbxhavpd1f7c.xn--p1ai/</a> It has its own nursery 83 ha. strawberries 10 ha, raspberries 2 ha</td>
</tr>
<tr>
<td>Agroholding «Step»</td>
<td>Krasnodar Krai, Rostov region</td>
<td>780 ha</td>
<td>16 thous. tons</td>
<td><a href="http://www.ahstep.ru/">http://www.ahstep.ru/</a> A part of AFK «Sistema». Fruit storage with the capacity 21 thous. tons. Has its own nursery.</td>
</tr>
</tbody>
</table>

Reference sources: official websites of producers, data available to the public

13
As a result of the Russian counter sanctions and import ban on fruit by the Russian Federation from the main exporters, firstly from Poland (detailed information is in chapters 1.3. and 1.4.), higher demand for apples from Russian producers is the result.

According to Oleg Rianov’s estimates, division manager of «Sady «AFG Natsional», taking into account necessary volume of fresh apples for sale (more than 1,6 mln. tons) the deficit of domestic production exceed 1 mln. tons.
The current market volume of apples is estimated by experts on average at 2,5 mln. tons, and its potential Market value – at 3 mln. tons in 2020. «It will take Russian fruit producers 10-15 years to reach sufficient overall production on a national scale » – Mr. Rianov says.

As a result, the majority of Russian producers with significant overall production sell their production before harvesting.

For example, according to a surveyed sector expert of the retail chain «O`Kei» (is one of the top ten largest food retailers in the Russian Federation) could not find apple suppliers in the Kabardino-Balkarian Republic (the second place for overall production in the Russian Federation) in 2017-2018. All production had already been sold.

The speculation at the market (purchase of the planned volume before it is harvested in fact for further reselling) has resulted from deficit of domestic production.

To reduce risks, the large retailers and producers make partner agreements. For example, «Sad-Gigant» at the beginning of 2018 made the strategic partnership agreement with X5 Retail Group, by which the retailer will plan to purchase 25 thous. tons of apples in 2018. It will guarantee about 10% of annual apple sales volume in all chain stores X5.

**SOFT FRUITS**

**Fig. 7. Structure of soft fruit production in the agricultural enterprises by Federal Districts of the Russian Federation, 2017, %**

![SOFT FRUITS](image)

*Reference source: Federal State Statistics Service of the Russian Federation*

---

Soft fruit production in a greater degree bounds to the major cities – sales regions. Moscow region ranks the 2\textsuperscript{nd} in the Russian Federation for soft fruit production.

The Altai Territory ranks the 1\textsuperscript{st}, because sea buckthorns, honeyberries and wild berries are widely spread there. These types of soft fruits are not a part of this research.

See Fig. 8 for more detailed information about soft fruit production by the regions of the Russian Federation.

As for strawberries, only some large producers can be distinguished:

1. LTD «Sovkhoz imeni Lenina», http://sovhozlenina.ru/, Moscow region
130 ha of strawberries, of which 103 ha of bearing strawberries, open field production.
Production is 0,9-1,3 thous. tons per year (according to different sources).

According to producer’s estimates in 2015:
- produced one third of strawberries, cultivated by the agricultural enterprises in the Russian Federation,
- the other large producers follow far behind: in Adygeya 40 ha, in Voronezh region 27 ha, in Ryazan region 5 ha\textsuperscript{3}.

2. Farm «Nika», http://nika01region.ru/, the Republic of Adygeya
40 ha of strawberries, open field production
The contract with the company «New Fruits» (Italy, http://www.geoplantvivai.com/?lang=en), about the exclusive right to produce strawberry planting material within the territory of the Russian Federation.

3. LTD «Ostrogozhskasadpitomnik», http://xn--80afegmakeqkdabfniqfbmm.xn--p1ai/, Voronezh region
75 ha of strawberries on mulching film using drip irrigation.

4. LTD «Iagodnye polia», Lipetsk region
The company works from 2016. At the beginning of 2018 approximately 45 ha of strawberries were planted, in spring 2018. The company decide to increase the planted area to 72,5 ha. According to plan in 2021 will be 120 ha of planted area, or about 2 thous. tons of soft fruits per year\textsuperscript{4}.
Open field production.
The frozen berries factory with a capacity of 8 thous. tons per year started to work in 2017.
The company has a contract to supply frozen berries to Danone for fruit yoghurt production.

The agricultural enterprises produce relatively small volumes of soft fruits. For example, the large agricultural enterprises in Voronezh (the third place for soft fruit overall production in the agricultural enterprises) and neighborhood regions produce together 755 tons including:
- LTD «Ostrogozhskasadpitomnik», Voronezh region - about 400 tons of strawberries and raspberries per year;
- LTD «Agrofirma imeni 15 let Oktiabria»\textsuperscript{5}, Lipetsk region - 250 tons of strawberries and currants per year;
- OJSC «Dubovoe» and LTD «Snezhetok», Tambov region - about 45 and 60 tons of soft fruits per year respectively (strawberries, raspberries and currants)\textsuperscript{6}.

\textsuperscript{3} https://www.kommersant.ru/doc/2753258
\textsuperscript{4} https://www.gazeta.ru/business/2018/02/27/11664769.shtml
\textsuperscript{5} http://krasivaya-mecha.ru/
\textsuperscript{6} https://www.kommersant.ru/doc/3112803
Fig. 8. Soft fruit production in the agricultural enterprises by regions in the Russian Federation in 2017, tons

- more than 1000 tons
- 400-1000 tons
- 200-400 tons
- 100-200 tons

The regions with berries production less than 100 tons are unmapped.

The farms have 2-3 ha of planted area of strawberries on average. However, there are large farmers: above-mentioned farm «Nika», farm «Fionovy» in Leningrad region (15 ha) and others. The project «Iagodnye polia» is forming large-scale soft fruit production by farmers, because the company needs raw materials for the maximum use of the production capacity of their processing plant.

The largest blueberry producer is LTD «Rassvet» (Nizhny Novgorod region). It started production in 2017 and grows 20 ha of strawberries, **15 ha of blueberries**, 10 ha of raspberries, 5 ha of blackberries (total 50 ha). Open field production. The company plans to grow raspberries using tunnel technologies. The first stage of soft fruit storage with blast freezing is in operation.

This project is being developed by the cofounders of the largest rice producer in the Russian Federation - «AFG Natsional», [http://afg-n.ru/](http://afg-n.ru/).

In 2017 LTD «Rassvet» produced 120 tons of all types of soft fruits, including 3 – 5 tons of blueberries.
In 2020 it will produce 200 tons per year.
The designed production is 700 tons.
The company supposes to occupy 10% of Russian commercial soft fruit production.
The company’s products are branded, packed and sold in retail chains. It plans to process fruits at «Sergachskii sakharний zavod» and produces preserves, jams, confitures and other dessert products.

It is important to note that as for blueberries in the segment «b2b» (frozen, freeze-dried (sublimated), dried berries) the indirect competitors for companies, producing blueberries commercially, are enterprises which gather and process wild berries. The main types of wild berries are bilberry, cowberry and cranberry. Such companies work mainly in the North-West and Central regions of the Russian Federation, in Siberia, for example:

- LTD "Rusberri Lain", [http://www.rusberry.com/](http://www.rusberry.com/), Vologda region, the processing capacity is more than 4 thous. tons of products.
- project «LavkaLavka. Teriberskiy production cluster», Murmansk region., [https://lavkalavka.com/](https://lavkalavka.com/), processing is 1 thous. tons of soft fruits per year.7

According to expert analysis actual production of wild berries is 110-140 thous. tons (1,3-2,5% of their biological production reserve), of which process industrially **35-45 thous. tons per year.**

---

1.2. QUALITY LEVEL IN THE SECTOR AND TECHNICAL ASPECTS

The key indicator of the technological development level is the yield of hard and soft fruits.

Over the last years the yield of pome fruits has increased in the Russian Federation due to intensive orchard planting.

Fig. 9. Yield of pome fruits in agricultural enterprises in the Russian Federation on average, t/ha

![Graph showing yield of pome fruits from 2009 to 2017]


In the leading regions the introduction of new technologies in commercial gardening has led to higher yields than on average in the Russian Federation (in 2017). For example:

- Krasnodar Krai – 23 tons / ha;
- Kabardino-Balkarian Republic – 25 tons / ha.

Nevertheless, the share of intensive orchards on average in the Russian Federation is still relatively low.

Table 5. Share of different technologies using in commercial gardening in the Russian Federation, 2017, %

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Technologies of commercial gardening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extensive</td>
</tr>
<tr>
<td>Number of trees per 1 hectare</td>
<td>200–350</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion, %</td>
<td></td>
</tr>
<tr>
<td>in the Russian Federation</td>
<td>~90</td>
</tr>
<tr>
<td>in the regions of central Russia</td>
<td>~80</td>
</tr>
<tr>
<td>in southern regions</td>
<td>~40</td>
</tr>
</tbody>
</table>

Reference source: «Rosinformagrotekh», published in January, 2018
Roughly the same estimates are made by the research company «Vostock Capital» as a result of more than 100 sector experts who were surveyed:

- the share of extensive orchards – 70-75%;
- the share of orchards with medium-grown and semidwarf stocks – 18-20%;
- the share of intensive orchards on dwarf stocks – 8-10%.

In 2017 the area of new orchard planting was **15,2 thous. ha**, in 2016 – 14,6 thous. ha. Over a period of 2013-2017, **64%** of new plantations was **intensive orchards**.

**Fig. 10. Area of perennial hard and soft fruit plantations in agricultural enterprises and farms, thous. ha**

![Graph showing area of perennial hard and soft fruit plantations](image)

Reference source: The national report «“Implementation results of State Program for Development of Agriculture and Regulation of Agricultural Commodity Markets for 2013 – 2020”

The leading regions in the area of orchard planting in 2017:

- Krasnodar Krai – 2,0 thous. ha,
- Kabardino-Balkarian Republic – 1,8 thous. ha,
- Republic of Daghestan – 1,3 thous. ha,
- Voronezh region – 0,9 thous. ha,
- Lipetsk region – 0,7 thous. ha.

827 ha of nurseries of fruit crop were planted in 2017 and 550 ha - in 2016. Additionally, 7,2 thous. ha of old orchards was grubbed out in 2016, which is 36% more than in 2015 (5,3 thous. ha).

Data about the largest investment projects are shown in the table below.
Table 6. The largest investment projects in the horticulture of the Russian Federation

<table>
<thead>
<tr>
<th>Company</th>
<th>Region</th>
<th>Project description</th>
<th>Duration</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Belyi sad&quot;</td>
<td>Belgorod region</td>
<td>In 2017 100 ha of apple and cherry orchards were planted. In 2018 the company plans to invest up to 2,5 bln. RUB in the enlargement of the area up to 500 ha. The planned overall production is 24 thous. tons. Development of apple processing in the future. Fruit storage.</td>
<td>reaching of planned overall production by the year 2020</td>
<td>Intensive orchard with drip irrigation.</td>
</tr>
<tr>
<td>LTD «Sad Gigant Ingusheniia»</td>
<td>The Republic of Ingushetia</td>
<td>The project on orchard planting on the area 1000 ha priced at 8 bln. RUB. Planned planting area is 432 ha in 2018-2019. Planned total apple production is 60 thous. tons per year. Storage for 50 thous. tons, equipment for processing and packaging of products with a capacity of 40 tons per hour. Nursery for 23 ha, production of 800 thous. of seedlings per year. Fruit concentrates plant with the processing capacity up to 10 thous. tons.</td>
<td>by the year 2022</td>
<td>Orchards on the fruit frames with drip irrigation and fertigation. In 2017 the total production was 10 thous. tons, the first stage of storage with the capacity of 6,5 thous. tons is in operation.</td>
</tr>
<tr>
<td>&quot;Sady Pridonia&quot;</td>
<td>Volgograd region</td>
<td>At the end of 2017 the project on modernization of the unit for fruits processing to natural juice has started. Equipment - Bucher Unipektin. Cost of equipment = over 2 mln. EUR</td>
<td>June 2018</td>
<td>After modernization the plant will process up to 750 tons of apples per day, 200 tons of cherries per day and produce up to 30 tons of juice concentrates per day</td>
</tr>
<tr>
<td>«AFG Natsional» (LTD «Rassvet»)</td>
<td>Nizhny Novgorod region</td>
<td>Project on expansion of commercial fresh berries production up to 500 ha, including 50 ha using tunnel technologies. Construction of storage and processing. Sales in fresh and frozen forms.</td>
<td>by the year 2020</td>
<td>The project was kicked off in 2017 on the area of 50 ha: 20 ha of strawberries, 15 ha of blueberries, 10 ha of raspberries, 5 ha of blackberries. The investments were 300 mln. RUB. Planned overall production is 700 tons.</td>
</tr>
<tr>
<td>«AFG Natsional» (&quot;IUzhnye zemli&quot;)</td>
<td>Krasnodar Krai</td>
<td>Plan – the area of super intensive orchards up to 2,5 thous. ha. 400 ha are already planted, the nursery is organized, the fruit storage is built. In 2018 it is planned to build the second phase of storage. The value of investments exceeds already 33 mln. EUR (2,3 bln. RUB).</td>
<td>n/a</td>
<td>At the end of 2017 &quot;Volga Group&quot; bought 35% of apple producer &quot;IUzhnye zemli&quot;.</td>
</tr>
<tr>
<td>«Alma Prodakshn» (Volga Group)</td>
<td>Krasnodar Krai</td>
<td>Plan - the enlargement of the orchard area from 316 ha (2017) to 500 ha in 2022. The investment for orchard planting will be around 800 mln. RUB. Development of a new nursery, the first phase is 5-6 ha.</td>
<td>by the year 2022</td>
<td>Intensive orchards with drip irrigation. The total production of apples was 15 thous. tons in 2017, the storage for 6,8 thous. tons has been built. Experimentally the company grew raspberries in 2017 - 0,25 ha.</td>
</tr>
<tr>
<td>Company</td>
<td>Region</td>
<td>Project description</td>
<td>Duration</td>
<td>Remarks</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>&quot;Sady Belogoria&quot;</td>
<td>Belgorod region</td>
<td>Plan - 400 ha of apple orchards, 1 thous. tons of apples per year. In 2018 the area of orchards will be enlarged from 35 to 85 hectares. The total production was about 200 tons in 2017. In December 2016 the company planned to build the plant for juice, puree and sun-dried apples production with investments of in total 400 mln. RUB. The company plans to process about 5% of production.</td>
<td>by the year 2021</td>
<td>Planting of intensive orchard with the fruit frames on dwarf stocks</td>
</tr>
<tr>
<td>&quot;Eko-Kultura&quot;</td>
<td>Stavropol Territory</td>
<td>Plan – an orchard area of 900 ha, including first 100 ha in 2018. Storage.</td>
<td>by the year 2020</td>
<td>The holding company specializes in greenhouse vegetables production.</td>
</tr>
</tbody>
</table>

*Reference source: mass media, official websites of companies*
The yield of soft fruits is lower than worldwide data which is also due to the current technological level.

Data on the yield including farms are represented in the figure below. Farms are the significant producers in this segment.

**Fig. 11. Yield of soft fruits in the Russian federation on average, t / ha**

![Graph showing yields of soft fruits](image)


*For reference:
FAO (Food and Agriculture Organization of the United Nations) gives the following data on the yield in the Russian Federation in 2016 in all types of producers: for strawberries 6.7 tons / ha.*

The majority of producers (according to our estimates 90-95%) grow soft fruits in open field on mulching film. The most advanced producers use drip irrigation.

Some greenhouse centers grow strawberries and other berries in high-tech greenhouses (in some tiers, with illumination), but only as an additional direction to the main business.

For example, agroholding «Moskovskii», Moscow region, [http://www.mosagro.ru/](http://www.mosagro.ru/), up to 20 tons of soft fruits per year.

Tunnel technologies only start to be introduced in the Russian Federation.

The large companies have little to do with soft fruit production. For example, LTD «Vyborzhets» ([http://vyborgec.ru/](http://vyborgec.ru/)), the largest greenhouse complex in on the North-West of the Russian Federation, considered possibility of strawberry production in 2017, taking into account available production capacity and closeness to the market – Saint-Petersburg. Sales Director of the agroholding Aleksandr Belkovets explains, «We counted profitability and decided that soft fruits growing in the green houses will be too expensive, so we cannot compete with the other producers».

According to him there is no opportunity for greenhouse soft berry production in the Northwestern Federal District, because the price for greenhouse fruit products will be too high. Farmers will remain the drivers in this segment.

Nevertheless, in 2018 the company returned to its consideration to produce soft fruits on her own.

t of strawberries were grown, the sales revenue was 13 thous. EUR (900 thous. RUB). The company does not plan to increase the overall production, because according to company representatives’ estimates, the competition with imported fruit products is too high.

In general, according to the data from the company «Vostock Capital» and survey findings the main problems in horticulture today are the following:

- production and technological issues, including the technological backwardness, the old-fashioned facilities, the issues with stocking material and seedling adaptation to local climate, etc.
- financial issues, including access to credits, long investment cycle and payback time, high initial investments, price increase of raw material and equipment and high costs while working with food retail chain.

**Fig. 12. Main problems in horticulture according to sector experts’ estimates**

![Chart showing main problems in horticulture](image)

*Reference source: «Vostock Capital»*

The main problem is storage for fruit production, particularly apples. According to data from the «Association of fruits, berries and propagation (planting) material producers», in the Russian Federation there are now fruit storages only for 200 thous. tons while the demand is 600 thous. tons.
The main part of high-tech storages are situated in the large enterprises and agro holdings. More detailed analysis of fruit storage is presented in chapter 2.4.
1.3. IMPORT AND EXPORT OF FRUIT

1.3.1. IMPORT

Top-3 of fruits imported by the Russian Federation in 2017:
- bananas – 1,13 bln. USD,
- citrus – 1,17 bln. USD,
- apples – 406 mln. USD.

The dynamics of import of the main types of hard and soft fruits, covered by the research, are represented in Table 7.

Table 7. Dynamics of fresh hard and soft fruits import by the Russian Federation

<table>
<thead>
<tr>
<th>Types of products</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>apples</td>
<td>thous. tons</td>
<td>1371</td>
<td>1053</td>
<td>892</td>
<td>666</td>
<td>709</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>min. USD</td>
<td>796</td>
<td>622</td>
<td>387</td>
<td>367</td>
<td>406</td>
<td>51</td>
</tr>
<tr>
<td>pears</td>
<td>thous. tons</td>
<td>390</td>
<td>369</td>
<td>264</td>
<td>226</td>
<td>260</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>min. USD</td>
<td>390</td>
<td>355</td>
<td>154</td>
<td>147</td>
<td>182</td>
<td>47</td>
</tr>
<tr>
<td>strawberries</td>
<td>thous. tons</td>
<td>59</td>
<td>55</td>
<td>48</td>
<td>25</td>
<td>49</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>min. USD</td>
<td>129</td>
<td>113</td>
<td>50</td>
<td>31</td>
<td>51</td>
<td>39</td>
</tr>
<tr>
<td>raspberries</td>
<td>thous. tons</td>
<td>1,5</td>
<td>1,4</td>
<td>1,0</td>
<td>1,1</td>
<td>2,0</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>min. USD</td>
<td>9,4</td>
<td>6,7</td>
<td>1,9</td>
<td>3,0</td>
<td>4,5</td>
<td>48</td>
</tr>
<tr>
<td>cranberries, blueberries and other fruits of the genus Vaccinium</td>
<td>thous. tons</td>
<td>2,1</td>
<td>1,9</td>
<td>1,5</td>
<td>1,7</td>
<td>2,3</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>min. USD</td>
<td>12</td>
<td>11</td>
<td>4,2</td>
<td>6,1</td>
<td>11,5</td>
<td>96</td>
</tr>
</tbody>
</table>

Reference source: Federal Customs Service of the Russian Federation, CC FEA codes 080810, 080830, 081010, 081040

The reduction in the volume of imports is related to the decline in populations income in the light of the economic crises and the devaluation of the ruble. The additional factor for apples is the increase in overall production in the Russian Federation and the construction of modern storages, which makes it possible to cut losses.

The volume of soft fruit imports has almost restored in 2017 as compared with 2013.

To detail import by the types of «cranberries, blueberries and other fruits of the genus Vaccinium» (CC FEA code 081040) the database of http://www.infomozaika.ru/ is used. This data base shows more detailed data on import, but without including trade within the Eurasian Economic Union (RF, KZ, BY, AR and KRZ).

Fresh blueberries are mainly imported.
Table 8. Structure of fresh soft fruit import «cranberries, blueberries and other fruits of the genus Vaccinium» (without including the Eurasian Economic Union)

<table>
<thead>
<tr>
<th>Type of products</th>
<th>2013 weight, t</th>
<th>2013 mn. USD</th>
<th>2014 weight, t</th>
<th>2014 mn. USD</th>
<th>2015 weight, t</th>
<th>2015 mn. USD</th>
<th>within 10 months of 2016 weight, t</th>
<th>2016 mn. USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh soft fruits, total</td>
<td>1,7</td>
<td>11,3</td>
<td>1,7</td>
<td>10,7</td>
<td>0,5</td>
<td>3,1</td>
<td>0,6</td>
<td>4,0</td>
</tr>
<tr>
<td>soft fruits including</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>blueberries</td>
<td>1,5</td>
<td>9,7</td>
<td>1,6</td>
<td>10,4</td>
<td>0,5</td>
<td>3,1</td>
<td>0,6</td>
<td>4,0</td>
</tr>
<tr>
<td>bilberries</td>
<td>0,028</td>
<td>0,171</td>
<td>0,009</td>
<td>0,056</td>
<td>0,004</td>
<td>0,024</td>
<td>0,002</td>
<td>0,011</td>
</tr>
<tr>
<td>cranberries</td>
<td>0,021</td>
<td>0,112</td>
<td>0,000</td>
<td>0,002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cowberries</td>
<td>-</td>
<td>-</td>
<td>0,002</td>
<td>0,014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference source: data analysis http://www.infomozaika.ru/

The biggest part of the soft fruits is imported in frozen form. Moreover, the volume of frozen soft fruit import is stable despite of the Russian counter sanctions and the devaluation of the ruble.

Table 9. Dynamics of frozen soft fruits import by the Russian Federation

<table>
<thead>
<tr>
<th>Type of products</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>strawberries</td>
<td>thous. tons</td>
<td>19,2</td>
<td>19,4</td>
<td>18,3</td>
<td>19,6</td>
<td>21,7</td>
<td>113,0</td>
</tr>
<tr>
<td></td>
<td>mn. USD</td>
<td>19,3</td>
<td>20,6</td>
<td>17,6</td>
<td>17,2</td>
<td>21,7</td>
<td>112,4</td>
</tr>
<tr>
<td>raspberries</td>
<td>thous. tons</td>
<td>n/a</td>
<td>n/a</td>
<td>6,0</td>
<td>5,4</td>
<td>7,8</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>mn. USD</td>
<td>n/a</td>
<td>n/a</td>
<td>8,5</td>
<td>6,5</td>
<td>8,6</td>
<td>x</td>
</tr>
<tr>
<td>blueberries</td>
<td>thous. tons</td>
<td>n/a</td>
<td>1,5</td>
<td>1,1</td>
<td>1,7</td>
<td>1,8</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>mn. USD</td>
<td>n/a</td>
<td>2,7</td>
<td>1,8</td>
<td>2,4</td>
<td>2,5</td>
<td>x</td>
</tr>
</tbody>
</table>

Reference source: Federal Customs Service of the Russian Federation, CC FEA codes 081110, 081190500, 081190700

Structure of import by countries

The key apple importer to Russia was Poland (49% of supplies in 2013). However, after imposing of embargo the importers from Serbia have carved out this niche.

In 2015 the Federal Service for Veterinary and PhytoSanitary Surveillance («Rosselkhoznadzor») imposed restrictions on the supplies of apples from Serbia suspected, that they had Polish origin. Serbian exporters were meant to send prior notice to «Rosselkhoznadzor». In 2015 Polish portal sadyogrody.pl, publishing information about horticulture, reported that Serbia and other Balkan states increased the purchases of apples from Poland. Moreover, among apples exported from Serbia to Russia began to dominate variety «Idared», which is typical for Polish fruit sector 8.

Polish newspaper «Onet Biznes» published the article, which is stated that in 2016 the volume of export of Polish apples rebounded to level seen before imposing of food import embargo by the Russian Federation. Also the article reported that the recovery of export happened «mainly because of Belarus». In 2016 514 thous. tons of apples were exported to Belarus as compared to 145 thous.

8 http://www.gazeta.ru/politics/2015/08/07_a_7673313.shtml
tons in 2013. The article connected the increase of export with «massive entrance to Russian market».

Import of apples from the Netherlands in 2013 (before imposing of sanctions) was 6 mln. USD (0,8%).

Fig. 13. Structure of fresh apple import* by the Russian Federation, %

![Apple Import Structure Diagram](image)

* in value terms
Reference source: Federal Customs Service of the Russian Federation, CC FEA code 080810

The structure of countries-importers of soft fruits has changed significantly after the imposing of the Russian counter sanctions.

Fig. 14. Structure of fresh strawberry import* by the Russian Federation, %

![Strawberry Import Structure Diagram](image)

* in value terms
Reference source: Federal Customs Service of the Russian Federation, CC FEA code 081010

The main countries-exporters of blueberries after imposing of the counter sanctions are Belarus, Peru, Morocco, and Chile.

---

9 http://www.rbc.ru/rbcfreenews/58c953c49a7947fa69cf725b
The structure of importers in the Russian Federation has changed significantly. The large importers can be divided into two groups:

- Wholesale companies-importers, which specialization is international economic activity directly. Imported products after all necessary customs procedures are sold to other wholesale companies.
- Importers affiliated with the large federal food retail chains and food retail chains themselves.

The wholesale companies-importers emphasize the increase in competition with federal chains, which import fruits and vegetables more and more directly, without intermediate sellers. The surveyed importers confirm that the companies-importers are becoming progressively less significant players as compared with chains.

For example, the largest retail chain «Magnit» in the Russian Federation in 2014 hit the top 10 of the largest importers in the Russian Federation (among all products, not only food)\(^{10}\).

X5Retail Group is the second retailer in the Russian Federation. It plans to raise the share of direct fruits and vegetables import to 100% by 2019. According to company’s data in 2017 almost 50% of hard and soft fruits are imported directly\(^{11}\).

In general, it can be predicted that the trend of switch to the direct import will continue.

Also the surveyed fruit importers emphasize the following issues of operation with the retail chains – their main customers:

- The federal chains work with europallets, but europallets for fruit import are seldom used.
- The labels should be in Russian language, but suppliers send products with the labels in their own language. Importers bear additional costs to reload products and change the labels.

1.3.2. EXPORT

Fruit export by the Russian Federation stays relatively small.

The key foreign customers of fruits from the Russian Federation are the CIS states – Kazakhstan, Belarus, Ukraine, Azerbaijan and Tajikistan. For example, more than 90% of apples in 2017 were exported to Ukraine.

Table 10. Dynamics of fresh fruit export from the Russian Federation

<table>
<thead>
<tr>
<th>Type of products</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>apples</td>
<td>thous. tons</td>
<td>0,6</td>
<td>0,7</td>
<td>5</td>
<td>14</td>
<td>18</td>
<td>30 times</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>0,8</td>
<td>0,5</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>8 times</td>
</tr>
<tr>
<td>pears</td>
<td>thous. tons</td>
<td>0,4</td>
<td>0,3</td>
<td>0,4</td>
<td>0,3</td>
<td>0,4</td>
<td>94,6</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>0,7</td>
<td>0,4</td>
<td>0,3</td>
<td>0,2</td>
<td>0,3</td>
<td>47,7</td>
</tr>
</tbody>
</table>

Reference source: Federal Customs Service of the Russian Federation

\(^{10}\) http://www.vedomosti.ru/business/articles/2014/09/12/magnit-popal-v-desyatku
\(^{11}\) https://www.x5.ru/ru/Pages/Media/News/071117.aspx
Fresh soft fruit export during 2013-2017 was:

- strawberries – 88 tons in volume and 174 thous. USD in value;
- cranberries, blueberries and other fruits of the genus Vaccinium – 2,1 thous. tons in volume and 3,6 mln. USD in value.

More significant volume of export of fresh «cranberries, blueberries and other fruits of the genus Vaccinium» compared with strawberries is connected with wild berries export.

The biggest part of wild soft fruits is exported in frozen form.

Table 11. Dynamics of frozen soft fruit export from the Russian Federation (without including the Eurasian Economic Union*)

<table>
<thead>
<tr>
<th>Type of products</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>thous. tons</td>
<td>mln. USD</td>
<td>thous. tons</td>
<td>mln. USD</td>
</tr>
<tr>
<td>bilberry</td>
<td>5,3</td>
<td>19,8</td>
<td>7,6</td>
<td>26,1</td>
</tr>
<tr>
<td>cowberry</td>
<td>1,1</td>
<td>2,9</td>
<td>0,4</td>
<td>1,1</td>
</tr>
<tr>
<td>cranberry</td>
<td>0,6</td>
<td>1,8</td>
<td>0,7</td>
<td>2,3</td>
</tr>
<tr>
<td>blueberry</td>
<td>0,01</td>
<td>0,04</td>
<td>0,01</td>
<td>0,04</td>
</tr>
<tr>
<td>cloudberry</td>
<td>0,3</td>
<td>4,6</td>
<td>0,2</td>
<td>2,2</td>
</tr>
<tr>
<td>strawberry</td>
<td>0,1</td>
<td>0,4</td>
<td>0,07</td>
<td>0,02</td>
</tr>
</tbody>
</table>

* except strawberry

In general the Russian Federation imports commercial-produced soft fruits, exports wild soft fruits. The main volume of wild soft fruits is exported to Baltic countries and then reexported to Germany.
1.4. CUSTOMS AND IMPORT REGULATIONS

REGULATIONS RELATED TO PRODUCTS ORIGINATING FROM THE EURASIAN ECONOMIC UNION

The Eurasian Economic Union (EEU) was set up as a successor of the Customs Union of Russia, Kazakhstan and Belarus and Common Free Market Zone, and as an international body for the regional economic integration.

The participating states of the EEU are:
- the Russian Federation
- Armenia
- Belarus
- Kazakhstan
- Kirghizstan

Between EEU member-states goods, including fruits, can circulate free. This means that there are in principle no customs inspection at the EEU inner frontiers and no customs duties.

REGULATIONS RELATED TO PRODUCTS ORIGINATING OUTSIDE THE EURASIAN ECONOMIC UNION

The Russian food products import embargo\(^{12}\), started in August 2014 and has been prolonged till the end of 2018\(^{13}\).

The USA, EU, Australia and the Kingdom of Norway were included in the Russian counter sanction list. Later the sanction list was expanded by Albania, Montenegro, Iceland, Liechtenstein and Ukraine (from 2016)\(^{14}\).

The list of agricultural products, raw materials and food, which are prohibited to be imported from the sanction list countries, is presented by the types of concerned hard and soft fruits and products produced from these.

Table 12. List of agricultural products, raw materials and food, prohibited to be imported from the sanction list countries

<table>
<thead>
<tr>
<th>CC FEA Code</th>
<th>Item name(^*)**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0808</td>
<td>Apples, pears and quinces, fresh</td>
</tr>
<tr>
<td>0809</td>
<td>Apricots, cherries, peaches (including nectarines), plums and sloes, fresh</td>
</tr>
<tr>
<td>0810</td>
<td>Other fruit, fresh (including strawberries, blueberries, raspberries, currants and others)</td>
</tr>
<tr>
<td>0811</td>
<td>Fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen, whether or not containing added sugar or other sweetening matter (including strawberries, blueberries, raspberries, currants and others)</td>
</tr>
<tr>
<td>0813</td>
<td>Fruit dried</td>
</tr>
</tbody>
</table>

\(^*) for usage of this list it is critical to be ruled by CC FEA only, the item names are presented for convenience.  
\(^**) apart from goods for infant food.

\(^{12}\) RF Government Regulation №778 from 7.08.2014  
\(^{13}\) RF Government Regulation №790 from 4.07.2017  
\(^{14}\) RF Government Regulation №842 from 13.08.2015
After imposing the Russian food embargo, the quality and variety of marketable apples in the Russian Federation decreased significantly and the prices increased.

Foreign fruit producers are not active in organizing fruit production in Russia. Nevertheless, there are some examples. Polish fruit producer «TOP SAD» organized its own production in Kaliningrad region. The area of apple orchard planting in 2016 was 500 ha. Additionally, polish fruit producers offer help for preparing local experts in horticulture and assist in buying seedlings and special equipment.

Throughout the EEU the unified customs tariff is valid – rates of import customs duties applying to commodities, importing (imported) into the customs territory of EEU from Third Countries.

Table 13. EEU customs duties and VAT rates by hard and soft fruits originating outside the EEU\(^5\)

<table>
<thead>
<tr>
<th>CC FEA Code</th>
<th>Product names</th>
<th>VAT, %</th>
<th>Customs duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>080810</td>
<td>Apples</td>
<td>18%</td>
<td>from 0,015 to 0,06 EUR per kg depending on period and variety</td>
</tr>
<tr>
<td>080830, 080840</td>
<td>Pears and quinces</td>
<td>18%</td>
<td>5%</td>
</tr>
<tr>
<td>0809</td>
<td>Apricots, cherries, peaches (including nectarines), plums and sloes, fresh</td>
<td>18%</td>
<td>5%, except peaches and nectarines (0%)</td>
</tr>
<tr>
<td>081010, 081020</td>
<td>Strawberries, raspberries, blackberries</td>
<td>18%</td>
<td>5%</td>
</tr>
<tr>
<td>081030, 081040</td>
<td>Currants, gooseberries, cranberries, blueberries</td>
<td>18%</td>
<td>10%</td>
</tr>
<tr>
<td>0811</td>
<td>Fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen, whether or not containing added sugar or other sweetening matter</td>
<td>18%</td>
<td>8-10%</td>
</tr>
<tr>
<td>0813</td>
<td>Fruit dried</td>
<td>18%</td>
<td>5-10%</td>
</tr>
</tbody>
</table>

* apart from goods for infant food (5%)

\(^5\) http://www.eurasiancommission.org/ru/act/trade/catr/ett/Pages/default.aspx
### 1.5. FRUIT AND FRUIT PRODUCTS CONSUMPTION

The average per capita consumption of hard and soft fruits in the Russian Federation (62 kg/cap/year) is 38% lower than the recommended standard for consumption (100 kg/cap/year).

**Fig. 15. Consumption of hard and soft fruits* in the Russian Federation, kg/cap/year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Apples</th>
<th>Pears</th>
<th>Strawberry</th>
<th>Raspberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>60</td>
<td>61</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>2012</td>
<td>60</td>
<td>61</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>2013</td>
<td>60</td>
<td>61</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>2014</td>
<td>60</td>
<td>61</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>2015</td>
<td>60</td>
<td>61</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>2016</td>
<td>60</td>
<td>61</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

* including products after processing hard and soft fruits, dried fruits etc.

Reference source: Federal State Statistics Service of the Russian Federation, the guide «Consumption of basic food by population of the Russian Federation»

Hard and soft fruit consumption is equal by the regions of the Russian Federation except the Southern Federal District (consumption in 2016 was 78 kg/cap/year) and the Siberian Federal District (48 kg/cap/year).

Below is the calculation of per capita consumption by the types of concerned hard and soft fruits. According to the Federal State Statistics Service of the Russian Federation population of the Russian Federation was 146,9 mln. people as of January, 2018.

**Table 14. Calculation of consumption by the types of hard and soft fruits, 2017**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Apples</th>
<th>Pears</th>
<th>Strawberry</th>
<th>Raspberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production in all types of producers in the Russian Federation, thous. tons</td>
<td>1 575</td>
<td>69</td>
<td>169</td>
<td>138</td>
</tr>
<tr>
<td>Import, thous. tons</td>
<td>709</td>
<td>260</td>
<td>70*</td>
<td>10*</td>
</tr>
<tr>
<td>Export, thous. tons</td>
<td>18</td>
<td>0,4</td>
<td>0,1</td>
<td>0,7</td>
</tr>
<tr>
<td>Market volume, thous. tons</td>
<td>2 266</td>
<td>329</td>
<td>240</td>
<td>147</td>
</tr>
<tr>
<td><strong>Per capita consumption, kg per year</strong></td>
<td>15,4</td>
<td>2,2</td>
<td>1,6</td>
<td>1,0</td>
</tr>
<tr>
<td><strong>Self-sufficiency</strong> (taking into account production by rural population), %</td>
<td>70%</td>
<td>21%</td>
<td>71%</td>
<td>94%</td>
</tr>
</tbody>
</table>

* fresh and frozen

** share of domestic production in market volume

7 kg/cap is the recommended standard for all types of soft fruits without breakdown by types of berries.

The calculation of hard and soft fruit consumption includes production produced by rural population. Taking into account that the overall production by rural population is the least statistically significant, the real apple and soft fruit consumption is significantly lower.

Additionally, apples produced by rural population are consumed seasonally, because the varieties do not appropriate for storage and there are hardly no storages by themselves. So such products either are eaten within a few months after harvesting or are processed to fruit drinks, preserved and/or dried. During most part of the year imported hard and soft fruits are sold in food retail chains, or apples of Russian producers with intensive orchards and modern storages.

So the calculation of hard and soft fruit consumption is more correct taking into account production only in the agricultural enterprises (this means commercial production).

Table 15. Calculation of consumption by the types of hard and soft fruits taking into account only commercial production, 2017

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Apples</th>
<th>Pears</th>
<th>Strawberry</th>
<th>Raspberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production in agricultural enterprises in the Russian Federation, thous. tons</td>
<td>655</td>
<td>29</td>
<td>4,5</td>
<td>2,4</td>
</tr>
<tr>
<td>Import, thous. tons</td>
<td>709</td>
<td>260</td>
<td>70</td>
<td>10</td>
</tr>
<tr>
<td>Export, thous. tons</td>
<td>18</td>
<td>0,4</td>
<td>1</td>
<td>0,7</td>
</tr>
<tr>
<td>Market volume, thous. tons</td>
<td>1 346</td>
<td>288</td>
<td>75</td>
<td>11</td>
</tr>
<tr>
<td><strong>Per capita consumption, kg per year</strong></td>
<td><strong>9,2</strong></td>
<td><strong>2,0</strong></td>
<td><strong>0,5</strong></td>
<td><strong>0,1</strong></td>
</tr>
<tr>
<td><strong>Self-sufficiency (taking into account production by agricultural enterprises)</strong></td>
<td>%</td>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>49%</td>
<td>10%</td>
<td>6%</td>
<td>21%</td>
</tr>
</tbody>
</table>

1.6. GOVERNMENT SUPPORT

The main types and forms of government support to horticulture in the Russian Federation are the following:

- **The privileged credits (to replenish current assets and investment).**
  From 2017 the rate of interest subsidies is presented to the banks (previously – to the agricultural producers directly). The subsidies are allocated to the replacement incomes which have not been received by the banks. These subsidies are equal to 100% of the Central Bank of the Russian Federation key rate for credits extended to A.I.C. enterprises at the rate of up to 5%.

  68 projects were supported in horticulture in 2017 by subsidized investment credits at the sum of 28 mln. EUR (1,9 bln. RUB).

- **«Unified subsidy»**
  Each region will decide on its own, which purposes and branches the so called «Unified subsidy» will be direct to.
  Under «unified subsidy» the following subsidies are provided for horticulture:
  
  ✓ for perennial planting and maintenance,

  For reference:
  as example in Krasnodar Krai the interest rate for subsidy rate calculation in 2018 is:
  for planting of perennial hard and soft fruit plantations, soft fruit nurseries – 80% of actual costs, with a maximum of 753 EUR/ha (52 thous. RUB/ha),
  for hard fruit nurseries – 80% of actual costs, with a maximum of 3,6 thous. EUR/ha (249 thous. RUB/ha),
  for planting of intensive orchards (number/amount of trees is 800-2499 seedlings per ha) - 80% of actual costs, with a maximum of 3,3 thous. EUR (225 thous. RUB/ha),
  for planting of intensive orchards (number/amount of trees is 2500 and more seedlings per ha) - 80% of actual costs, with a maximum of 5,9 thous. EUR/ha (404 thous. RUB/ha),
  for perennial planting maintenance – 318 EUR/ha (22 thous. RUB/ha).

  ✓ for partly compensation of the cost of insurance premium payments under the agreements of insurance.

- **Part repayment of capital costs**
  From 2015 the Russian Federation began to offset the capital costs for creation and modernization of the agro-industrial objects (CAPEX)\(^1\). This type of support is available only for the investment projects shortlisted by the Commission of the Ministry of Agriculture of the Russian Federation.

  Cofinancing of the cost for the creation and modernization of fruit storages is 20%. The maximum cofinancing per unit capacity is 870 EUR per ton (60 thous. RUB/t).

  12 projects for the creation and modernization of fruit storages were selected in 2017 with a total capacity of 43 thous. tons. The amount of subsidies for partly repayment of the capital costs was 5,1 mln. EUR (353 mln. RUB).

---

- **Subsidies to agricultural equipment producers due to which producers reduce the price for their customers.**
  The subsidy rate is 20% of the agricultural equipment price with a maximum subsidy per unit of equipment.
  Subsidies are meant for Russian producers and producers with a high share of localization.

- **Privileged leasing from «Rosagroleasing» for buying machinery and equipment.**
  Machinery and equipment should comply with the requirements of the Decree № 1432. Their production should be Russian or with the high share of localization. If there are no Russian-produced prototypes, the enterprises can get the privileged leasing as well.

- **Subsidies for amelioration support.**
### 1.7. SWOT – ANALYSIS OF THE FRUIT SECTOR

Table 16. SWOT – analysis of the fruit sector

<table>
<thead>
<tr>
<th>Internal factors</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>✓ Planting of intensive orchards mainly, which mean achievement of competitive production level.</td>
<td>✓ Low share of agricultural enterprises in hard and soft fruit production, low share of commercial production, i.e. production for retail and processing (b2b).</td>
</tr>
<tr>
<td>✓ Forming of vertically-integrated production: from raw material production to processing and sales.</td>
<td>✓ Lack of storages for horticultural production.</td>
</tr>
<tr>
<td>✓ Available agricultural land for enlargement of the area for hard and soft fruit planting.</td>
<td>✓ Extensive technologies dominate in hard and soft fruit production (low crop yield, lack of labor in rural areas), low competitiveness as compared to imported products.</td>
</tr>
<tr>
<td>✓ Large and middle sized projects for hard fruits (apples) growing.</td>
<td>✓ Dependence of planting material, equipment for storage and package on imports and the level of the currency rate.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External factors</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>✓ High demand for commercial production because of the low level of hard and soft fruit self-sufficiency, embargo from countries – main apple and soft fruit exporters.</td>
<td>✓ Lifting of sanctions, aggravation of competition with imported fruit products.</td>
</tr>
<tr>
<td>✓ Opportunities for soft fruit producers are urbanization, growth of incomes of the population and demand for «fresh» products including soft fruits.</td>
<td>✓ Difficulties to get loan-based funding with government support.</td>
</tr>
<tr>
<td>✓ High potential of soft fruit export (dried, sublimated, eco products).</td>
<td>✓ Breakthrough growth in the prices of raw material.</td>
</tr>
<tr>
<td>✓ Government support.</td>
<td>✓ Climate and environmental risks.</td>
</tr>
<tr>
<td>✓ Privileged tax regime for agricultural producers.</td>
<td></td>
</tr>
</tbody>
</table>
1.8. INTERMEDIATE CONCLUSIONS

- The large share of overall hard and soft fruit production is produced by rural population. This production is unavailable for retail or processing (b2b). In 2017 the share of agricultural enterprises produced apples is 42%, produces soft fruits - 1%.

- In the structure of hard fruit commercial production (production by agricultural enterprises) apples account for 91%.
In the structure of soft fruit commercial production strawberries account for 40-50%, overall blueberry production is insignificant.

- The overall apple production by agricultural enterprises is growing steadily: +50% over a period of 2010-2017, the overall soft fruit production by agricultural enterprises is stagnating.
The farms have raised apple production in 2,4 times over a period 2010-2017, soft fruit production however, increased 4,4 times, but the overall production by the farms is insignificant.

- The average per capita consumption of hard and soft fruits in the Russian Federation (62 kg/cap/year) is 38% lower than the recommended standard for consumption (100 kg/cap/year).

- The low level of self-sufficiency: apples - 49% (without including production by rural population), strawberries – 6%. Consequently, the high demand for production by Russian producers.

- The volume of apple import has declined by 48% over a period 2013-2017, fresh strawberries – only by 18%. Import of cranberries, blueberries and other fruits of the Genus Vaccinium has increased by 10%.
The volume of Russian export of hard fruits and commercially produced soft fruits is insignificant.

- The main apple production is located in the Southern, Central and North Caucasian Federal Districts.
The large investment projects (including «green field») are mainly implemented in the same region of the Russian Federation.
Soft fruit production is particular linked to the main consumer regions – major cities.

- Modern technologies are actively implemented in horticulture (intensive orchards).
There are only a few large soft fruit producers. Field soft fruit production dominates. Interest in the introduction of commercial technologies allowing to grow soft fruits practically all year round starts to rise.

- In horticulture investors try to implement «full cycle (chain)» projects: including fruit production, own storages, sorting and packaging lines or processing equipment. For this reason the large holdings mainly implement such projects.

- The investment projects in horticulture including production and storage are implemented, however the investors are still cautious because of the long pay-back period of the investment and no warranties in government support can be given.

\[17\] pome fruits (apples, pears, quinces and others) and stone fruits (plums, cherries, apricots, peaches and others)
2. PRODUCT CATEGORIES

2.1. FRUIT PROPAGATION MATERIAL

All surveyed sector experts emphasize the dependence of commercial soft and fruit production on imported fruit propagation material in the Russian Federation.

Imports of fruit young stocks (young plants, fruit bushes and trees) have increased by 36% in value terms in 2017 as compared to 2013. During 2014-2015 the sharp devaluation of the ruble (the rate of main currencies – USD and EUR – has doubled) and the decrease of the agricultural enterprises’ purchasing power, the demand in the Russian Federation for fruit propagation material became under pressure. In particular the last two years (2016 and 2017) the Russian import has increased. However, the Russian government wants to be less depended on the import of plant propagation material and tries to stimulate the production of young stock in their country.

![Fig. 17. Imports of trees and bushes with edible fruits and nuts, mln. EUR*](image)

*hereinafter recalculation USD (currency of customs statistics) to EUR by the rate of exchange 1 USD = 0,84 EUR over the years


The customs value\(^{18}\) of the imported young stock (hard and soft fruit crops except strawberry) was 2,2 EUR/unit (2,6 USD/unit) in 2017. Imports of young stock was 8,5 mln. units in volume terms in 2017.

The customs value which is used in the Market value calculation is the average of all fruit crops. According to data from the sector experts, the imported apple young stock (the most popular crop for orchard planting) cost 5-6 EUR/unit. If an apple producer has its own nursery then the price of young stock will be 2-3 times lower.

About 15 thous. ha of industrial orchards were planted in Russia over the last years (see chapter 1.2). These are about 20 mln. units of young stock per year. Thus, Russian-produced young stok for commercial orchards are 11,6 mln. units, excluding imports.

The young stock which Russian nurseries deliver to rural population (according to our calculation no less than 15 mln. units) are excluded from the calculation because the imported products practically

---

\(^{18}\) Cost without customs duties and VAT
are not delivered in this segment. The calculated Market value and the share of imports in this case might be incorrect.

Table 17. Market value of fruit young stock, mln. units/ mln. EUR

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Russian production</th>
<th>Imports</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young stock, mln. units</td>
<td>11,6</td>
<td>8,5</td>
<td>20</td>
</tr>
<tr>
<td>Market structure in volume terms, %</td>
<td>58%</td>
<td>42%</td>
<td>100%</td>
</tr>
<tr>
<td>Price, EUR/unit</td>
<td>2,2</td>
<td>2,2*</td>
<td>x</td>
</tr>
<tr>
<td>Market value, mln. EUR</td>
<td>25,5</td>
<td>18,6</td>
<td>44,0</td>
</tr>
<tr>
<td>Market structure in value terms, %</td>
<td>58%</td>
<td>42%</td>
<td>100%</td>
</tr>
</tbody>
</table>

* customs value
Reference source: calculation according to data from Federal Customs Service of the Russian Federation and sector experts

Sector experts’ estimations of the share of Russian and imported fruit propagation material are different which is due to «grey» («shadow») import.

For example, according to data from the Ministry of Agriculture of the Russian Federation there are 208 nurseries in Russia. They produce about 10 mln. units for young stock fruit and berry crops. Only 2-2,5 mln. units of young stock are imported. The share of import is 20%.

According to data from the president of the «Association of fruits, berries and propagation (planting) material producers» Igor Mukhanin 12,8 mln. units of young stock are produced in Russia. About 7 mln. imported young stock\(^\text{19}\) are required additionally to plant 14,5 thous. ha of orchards per year. The share of import is 35% in volume terms.

At the same time Russian nurseries do not produce fruit propagation material for intensive orchards. According to Igor Mukhanin’s estimates there is almost nothing to grow for intensive orchards from 12 mln. units of young stock: «90 % of nurseries grow young stock which are unsuitable for intensive orchards».

As of the end of 2016 about 14 mln. stocks (rootstocks) were produced in the Russian Federation while the requirement is till 17 mln. It is impossible to cover the deficit by imports because imports have to increase 6 times. However, there are no such quantities in Europe. According to the sector experts’ estimates, European stocks can be imported to Southern regions. However, they are unfitted for Central regions of the Russian Federation because winter-resistant stocks are needed. Partially the problem is solving for account of Poland but the deficit doesn’t cover.

According to the sector experts’ estimates, growing of tree stocks has to be increased almost in 3 times during 2-3 years.

New varieties of fruit crops should be registered in the «National register» («National register of selective breeding results admitted for using»), [http://reestr.gossort.com/](http://reestr.gossort.com/). After 2-3 years of fruit bearing they are registered as admitted for growing if they confirm their competitive ability, produce a good yield, demonstrate frost and disease resistance.

The fruit producers often don’t want to wait admitting and import the young stock as «already registered varieties», which increase the counterfeit.

To force the introduction of intensive technologies in Russia, Public-Private Partnerships, (PPP) are used. The crop testing plots of «Gossortkomissiia» («National Commission of the Russian Federation for the Testing and Protection of Selective Breeding Results», [https://gossort.com/](https://gossort.com/)) are organized on

the basis of the existing enterprises. The parties make mutual benefits. The crop testing plot solves the problem of material and technical supply and the enterprise starts to grow new varieties first. The example of such partnership is the crop testing plot on the basis of «Sad-Gigant» (http://www.sadgigant.ru/, Krasnodar Krai).

The main country-exporter of fruit young stock to the Russian Federation is Italy. 76% of imports in value terms in 2017 were from Italy.

**Fig. 18. Structure* of import of fruit young stock in 2017, %**

![Diagram showing import structure]

* in value terms
Reference source: Federal Customs Service of the Russian Federation, CC FEA code 0602202000

The surveyed experts from Southern regions of the Russian Federation (the main fruit production is concentrated here) confirm the leading positions of Italian producers in the fruit propagation material sector which is related to the facts that:

- historically these suppliers entered Russian market first;
- Southern regions of the Russian Federation and Italy have similar climatic conditions.

Italian companies realize the active marketing policy including support of government institutions, for example, the Embassy of the Italian Republic in the Russian Federation and the ICE: Italian Trade Agency (https://www.ice.it/it).

From 2013 «Rosselkhoznadzor» imposed the temporary restrictions on fruit propagation material imported from EU countries. There are only 5 countries which have 23 certified nurseries – Poland, Hungary, Germany, Latvia and Finland (https://www.fsvps.ru/fsvps-docs/ru/importExport/eu/files/farm_eu.pdf). Import of fruit propagation material is permitted from these countries.

As for the other countries, like the Netherlands, an importer should apply to «Rosselkhoznadzor» concerning the start to deliver the quarantine products to the Russian Federation from the foreign countries. Russian phytosanitary experts first have to inspect the nurseries and the traded fruit products in the countries of export. Only after positive results, trade of the inspected plant material can start.
Export of fruit propagation material by the Russian Federation is insignificant – 0.7 mln. EUR per year on the average during 2015-2017. The main countries for export are the countries of the Eurasian Economic Union (RF, KZ, BY, AR and KRZ).

However, the examples of fruit propagation material export to EU countries start appearing. For example, at the beginning of 2018 mass media highlighted deliveries of apple young stock to Italy by company «Agrotsentr» as a milestone event for the region and the sector (specializes in growing of intensive orchards, http://agrocentr.org/). It was the first time in the history of the Republic of Adygea. The agreement with the Italian partners contains the delivery of 600 thou. units of young stock. The first installment was 150 thou. units of young stock.

The main market players in the sector of fruit propagation material in the Russian Federation:

- **IMPORTED PRODUCTION:**
  - «Vivai Nischler», http://www.nischler.it/en/, Italy
    27% of hard fruit slips import in 2016 by CCFEA code 0602202000 in value terms
  - «Vivai F.Ili Zanzi», http://www.vivaizanzi.it/ru/home/1, Italy
    26% of hard fruit slips import in 2016.
    Deliverer for «Sad-Gigant» incl.
    9% of hard fruit slips import in 2016.
    Deliverer for «Agrotsentr» (Adygea) incl.
  - «GRIBA», https://www.griba.it/, Italy
    6% of hard fruit slips imports in 2016.
  - «Gruber Genetti», https://www.gruber-genetti.it/en, Italy
    4% of hard fruit slips import in 2016.
  - «SALVI VIVAI - S. S.», http://www.salvi.it/salvi-vivai/homeru-2/, Italy
    4% of hard fruit slips import in 2016.
  - «ARNO GROUP», http://www.arnogroup.pl/about-us/, Poland
    2% of hard fruit slips import in 2016.

Companies from the Netherlands export fruit young stock to the Russian Federation as well and the number of exporters and volume is growing.

- **RUSSIAN PRODUCTION:**
  - Specialized nurseries (federal plant breeding centers):
1 mln. units of young stock (here and elsewhere overall production of young stock according to the data from «Register of nurseries of the Ministry of Agriculture of the Russian Federation in 2016»)

  1,2 mln. units of young stock, including 320 thous. units of apple trees

  220 thous. units of young stock, including 90 thous. units of apple trees (mainly for Central Russia)

✓ Nurseries of the large fruit producers (5 the largest producers by «Register of nurseries of the Ministry of Agriculture of the Russian Federation in 2016»):

  1,5 mln. units of young stock.

  1,4 mln. units of young stock, the area of nursery is 64 ha. The company plans to enlarge the area of nursery to 300 ha in 2020.

  2,0 mln. units of young stock, including 1,4 mln. units of apple slips

- LTD "Korochanskii plodopitomnik", Belgorod region, http://xn--80aamcokbxhavpd1f7c.xn--p1ai/
  0,9 mln. units of young stock.

At the same time the classification «Russian / imported production» has a conditionality. For example, the nursery of OJSC «Sad-Gigant» (the largest intensive orchard in the Russian Federation) is a joint Russian-Italian company for production of fruit propagation material (was established in 2001, the capacity is 1 mln. units of young stock and production was about 0,5 mln. units of young stock in 2016).

The service company «Bazis», https://baziskbr.ru/, the Kabardino-Balkarian Republic – delivers young stock from its nurseries, which are grown in collaboration with European nurseries: FENO, Vivai Zanzi sa, Vivai Nischler srl, Fairplant BV, etc.

The agricultural enterprises and large farmers try to provide diversity of their varieties and grow 8-10 varieties of their main crop (both hard fruit and soft fruit crops). For example, they choose 2 early varieties, 2-3 intermediate varieties and 3-5 late varieties. The varieties of strawberries are chosen with the difference of ripening 1-2 weeks to extend the harvesting period. Pears have mainly imported fruit propagation material because the Russian breeding varieties are only for the summer period and unfit for storage.

According to data from the surveyed fruit producers, they prefer to work with more than one supplier of young stock, therewith:
- reduce the risk to depend on one supplier;
- select nurseries of fruit varieties which are the most successful in growing.

In other words, the new and more complicated varieties are imported and regional (adopted) varieties are bought from Russian nurseries. However, the Russian government likes to decrease the dependence on imported fruit propagation material the coming years.

The market value of **strawberry seedlings** is calculated separately because they have separate a CCFEA code.

The import of strawberry seedlings amounted 0,8 mln. EUR in 2017. The average price of one seedling was 0,09 EUR and the total amount 9,2 mln. units.

**Fig. 19. Import of strawberry seedlings, mln. EUR**


According to surveyed sector experts to plant more hectares of soft fruits it will be necessary to import fruit propagation material from other countries. Russian seedlings suitable for commercial strawberry production are not enough in the Russian Federation.

We estimated the share of Russian-produced seedlings for commercial soft fruit production as 40% or 2,7 mln. units.

So, the market volume and value of strawberry seedlings for commercial production in the Russian Federation is estimated at around 11,9 mln. units or 1,1 mln. EUR per year.

The seedlings for rural population are excluded from the calculation with hard fruit crops.

**Table 18. Market value of strawberry seedlings, 2017, mln. units / mln. EUR**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Russian production</th>
<th>Imports</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seedlings, mln. units</td>
<td>2,7</td>
<td>9,2</td>
<td>11,9</td>
</tr>
<tr>
<td><strong>Market structure in volume terms, %</strong></td>
<td>23%</td>
<td>77%</td>
<td>100%</td>
</tr>
<tr>
<td>Price, EUR/unit</td>
<td>0,09</td>
<td>0,09</td>
<td>x</td>
</tr>
<tr>
<td><strong>Market value, mln. EUR</strong></td>
<td>0,3</td>
<td>0,8</td>
<td>1,1</td>
</tr>
<tr>
<td><strong>Market structure in value terms, %</strong></td>
<td>23%</td>
<td>77%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Reference source: calculation according to data from Federal Customs Service of the Russian Federation and sector experts
The main deliverers of imported strawberry seedlings to Russia are Italy and Belarus. A part of fruit propagation material (including it from the Netherlands) is imported via transit from other countries.

Also Belorussian nurseries buy semi-finished seedlings in other European countries, complete of their growing and export to the Russian Federation.

**Fig. 20. Structure of import of strawberry seedlings in 2017, %**

[Diagram showing import structure]

Reference source: Federal Customs Service of the Russian Federation, CC FEA code 0602903000

**The Netherlands** export strawberry seedlings to the Russian Federation actively as well – about 15% of the import value in 2016. However, the supplies go through other countries, for example, Poland, Czech Republic, Slovakia, so the Netherlands is not reported in Fig 20.

Separate regions, for example North-Western regions of the Russian Federation, buy strawberry seedlings in Finland, because Finnish companies consulted Russian farmers actively about the commercial strawberry growth technologies.

There are no Russian seedlings for tunnel technologies. The fruit propagation material is often delivered together with the tunnel technology and equipment or the supplier of tunnel technology recommends propagation material producers or dealers.

The large Russian producers of strawberry seedlings are the federal plant breeding centers and the large producers of commercial soft fruits (as well as producers of hard fruit young stock):

- **Farm «Nika», [http://nika01region.ru/](http://nika01region.ru/), the Republic of Adygeya**
  The company has a contract with the company «**New Fruits**» (Italy, [http://www.geoplantvivai.com/?lang=en](http://www.geoplantvivai.com/?lang=en)) about exclusive right to grow strawberry propagation material at the territory of the Russian Federation. It delivers «frigo» plants.
  The head of «Nika» Aleksandr Iurevich Bota believes that growing strawberry seedlings is more profitable than growing berries.
  Annualy the farm sells about 1,5 mln. units of seedlings to the colleagues in the Southern, Central and Volga region (data of 2012).
  According to data of the Ministry of Agriculture of the Russian Federation it produced 0,6 mln. seedlings in 2016.
  It sells imported seedlings as well, for example produced by the companies:
- LTD «Ostrogozhskadpitomnik», http://xn--80afegmakeqkdabfniqfbmm.xn--p1ai/, Voronezh region
  According to the Ministry of Agriculture of the Russian Federation it produced 1,3 mln. strawberry seedlings in 2016.

- LTD "Sovkhoz imeni Lenina", http://sovhozlenina.ru/, Moscow region
  According to the Ministry of Agriculture of the Russian Federation it produced 1,0 mln. strawberry seedlings in 2016.

- SHPK "PZ Maiskii", http://www.pzmay.ru/, Vologda region
  According to the Ministry of Agriculture of the Russian Federation it produced 0,6 mln. strawberry seedlings in 2016.

The companies – deliverers of imported strawberry seedlings:

- «MAZZONI», http://en.mazzonigroup.com/, Italy
  17% of imports of strawberry seedlings in 2016 by CC FEA code 0602903000 in value terms

- «NOAD L&P B.V.», the Netherlands
  Deliveries are through Poland and the Czech Republic.
  10% imports of strawberry seedlings in 2016.

- «FLOR-EXPRESS B.V.», the Netherlands
  Deliveries are through Poland and Slovakia.
  5% imports of strawberry seedlings in 2016.

In general imports of strawberry seedlings are less consolidated than import of hard fruit young stock. Deliveries from a number of producers from different countries, are handled by one intermediary or integrated company. This is particular the case for deliveries from Poland.
2.2. FERTILIZERS AND CROP PROTECTION

FERTILIZERS

Mineral fertilizers are described in this chapter. Manure is very rarely applied in horticulture because the transport and fertilizing costs are significant. As an alternative, green manure (leies) is used.

The general structure and market trend is considered as illustrated by aggregating the Russian market of fertilizers. Furthermore, the fertilizer Market value is calculated only for hard and soft fruit production.

The aggregate Russian Market value of fertilizers is 14 500 thous. tons.

Table 19. Russian Market value of fertilizers, thous. tons

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, thous. tons</td>
<td>39 802</td>
<td>41 477</td>
<td>42 647</td>
<td>44 523</td>
<td>49 060</td>
</tr>
<tr>
<td>Import, thous. tons</td>
<td>90</td>
<td>152</td>
<td>147</td>
<td>155</td>
<td>350</td>
</tr>
<tr>
<td>Export, thous. tons</td>
<td>27 290</td>
<td>30 896</td>
<td>31 653</td>
<td>31 459</td>
<td>34 910</td>
</tr>
<tr>
<td>Market value, thous. tons</td>
<td>12 602</td>
<td>10 733</td>
<td>11 141</td>
<td>13 219</td>
<td>14 500</td>
</tr>
</tbody>
</table>

| Share of import in volume terms, % of Market value | 0,7 | 1,4 | 1,3 | 1,2 | 2,4 |


Russian producers of mineral fertilizers are still export-oriented - about 70% of Russian production is exported and only 30% is sold on the domestic market.

The main importing countries of Russian fertilizers are Brazil, Ukraine, China and the USA.

The share of import has increased over the last years but it is still insignificant – 2,4% in volume terms in 2017.

The main exporting countries of fertilizers to the Russian Federation are Belarus and Kazakhstan. Export of fertilizers from the Netherlands to the Russian Federation in 2017 was 2,8 mln. EUR or 2,8%.

Fig. 21. Structure* of fertilizer export to the Russian Federation by the countries, 2017, %

* in value terms

Reference source: Federal Customs Service of the Russian Federation, CC FEA code 31
In the structure of Russian-produced fertilizers the main volume accounts for nitrogenous and potassic fertilizers. In general compound and potassium fertilizers are imported.

**Fig. 22. Structure of Russian-produced fertilizers in 2017, %**

- Nitrogenous fertilizers: 44%
- Potassic fertilizers: 17%
- Phosphorus fertilizers: 39%

**Fig. 23. Structure** of fertilizer import in 2017, %

- Organic fertilizers: 43%
- Nitrogenous fertilizers: 11%
- Phosphorus fertilizers: 45%
- Potassic fertilizers: 0%

* on primary nutrient basis
** in value terms


The Market value in value terms is calculated as the value of import (100 mln. EUR in 2017) and the value of Russian production for domestic consumption at the statistically average price of 171 EUR per ton (11,8 thous. RUB/ton).

The aggregate Russian market value of fertilizers is 2526 mln. EUR, including 4% of import. In this research it is assumed that the same share of import is typical for the fertilizer market in fruit production as well.

To calculate the fertilizer Market value only for fruit production the data of official statistics on fertilizer application per 1 ha of arable land were used. This figure has grown annually but it is still lower than the recommended rates.

However, the orchards do not apply to arable land and statistics in the Russian Federation do not take orchard into account. For the calculation of the market value within this research, it has been decided to accept the figure for fertilization in the orchards and berry plantation similar for the arable land this means 55 kg of primary nutrient per ha.
Fig. 24. Application of mineral fertilizers by the agricultural enterprises on 100 % primary nutrient basis per 1 ha of arable land, kg

![Graph showing application of mineral fertilizers by agricultural enterprises]


In the Market value calculation the total area of the orchards (bearing and nonbearing) is included.

Table 20. Market value of fertilizers for fruit production in the Russian Federation, thous. tons / mln. EUR

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of hard and soft fruit plantations in the agricultural enterprises and family farms, thous. ha</td>
<td>166</td>
</tr>
<tr>
<td>Mineral fertilization per ha, kg on primary nutrient basis</td>
<td>55</td>
</tr>
<tr>
<td>Mineral fertilization per ha, kg in gross weight</td>
<td>120</td>
</tr>
<tr>
<td>Mineral fertilization for hard and soft fruit plantations, thous. tons</td>
<td>19,9</td>
</tr>
<tr>
<td>Mineral fertilization hard and soft fruit plantations, mln. EUR</td>
<td>3,4</td>
</tr>
<tr>
<td>including import (4%)</td>
<td>0,1</td>
</tr>
</tbody>
</table>

Reference source: the calculation according to data from Federal State Statistics Service of the Russian Federation

Thus, the Russian Market value of fertilizers for fruit production is 3,4 mln. EUR including import 0,1 mln. EUR.

The main fertilizer producers in the Russian Federation are the main fertilizers producers for fruit production as well.

The ten largest producers account for about 67% of total sales. Furthermore, over the last years there have been consolidations and enlargement in size of Russian agrichemical companies, which also have production capacities abroad. These are the holdings «Evrokhim», «FosAgro» and «Akron».

Table 21. TOP-6 of largest Russian fertilizer producers in the Russian Federation

<table>
<thead>
<tr>
<th>Producer</th>
<th>Sales revenue in 2016, bln. EUR</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>FosAgro</td>
<td>2,7</td>
<td><a href="https://www.phosagro.ru/">https://www.phosagro.ru/</a></td>
</tr>
<tr>
<td>Uralkhim</td>
<td>1,4</td>
<td><a href="http://www.uralchem.ru/">http://www.uralchem.ru/</a></td>
</tr>
<tr>
<td>Akron</td>
<td>1,3</td>
<td><a href="http://www.acron.ru/">http://www.acron.ru/</a></td>
</tr>
<tr>
<td>Toliattiazot</td>
<td>0,6</td>
<td><a href="http://www.toaz.ru/eng/">http://www.toaz.ru/eng/</a></td>
</tr>
</tbody>
</table>

Reference source: RBC Research. Rating of 500 the largest companies in the Russian Federation, 2017
The concentration in the market is even more typical for potassic fertilizer production. The only producer which is controlling the whole production chain from mining to the customers is the company «Uralkali». It has a world market share of 20% for potassic fertilizers.

Regarding the phosphorus fertilizer market, more than half of the production is occupied by «FosAgro». The remaining market is divided between «Evrokhim» and «Uralkhim».

In the compound fertilizer market two main players «FosAgro» (about 38%) and «Akron» (just less of 30%) are active.

The hard and soft fruit producers in the Russian Federation work with the fertilizer producers mainly through their regional dealers.

According to data from the surveyed fruit producers, imported fertilizers which they bought are mainly compound fertilizers – high-tech fertilizers for foliar application and organic promoting agents. For example, by Italian company «LEA».

**CROP PROTECTION**

In this chapter only the chemical crop protection agents are considered. According to the surveyed fruit producers’ estimates the biological crop protection agents are so far not used practically.

The fruit producers try to use the chemical crop protection agents in such a way so that by harvesting there are hardly or no pesticide residues on the fruits.

The general structure and market trend is considered as illustrated by the aggregate Russian market of crop protection agents; furthermore, the Market value of crop protection agents is calculated only for hard and soft fruit production.

Nowadays the Market value of crop protection agents in the Russian Federation is significant and more dynamic as compared to the markets in Western European countries.

According to data from the large supplier of agricultural chemicals BASF, the key factors of the market growth are the intensification of crop production and the enlargement of the area under crops of the large agro holdings. Separately the expert emphasizes the contribution of the fruit and vegetable producers which increased their production and so the demand for crop protection agents and in particular after the Russian Federation imposed in 2014 its counter sanctions on the import of agricultural products.

The aggregate Market value of the crop protection agents in the Russian Federation in 2017 was 405 thous. tons.

Even the actual import volume of crop protection has grown, the share of import has decreased gradually. The sector experts emphasize the success of import substitution, however also emphasize that Russian producers of crop protection agents depend on raw material import – the active substances.
Table 22. Russian Market value of crop protection agents, thous. tons

<table>
<thead>
<tr>
<th>Criteria</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, thous. tons</td>
<td>56</td>
<td>157</td>
<td>153</td>
<td>264</td>
<td>295</td>
</tr>
<tr>
<td>Import, thous. tons</td>
<td>82</td>
<td>87</td>
<td>97</td>
<td>116</td>
<td>128</td>
</tr>
<tr>
<td>Export, thous. tons</td>
<td>11</td>
<td>13</td>
<td>10</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Market value, thous. tons</td>
<td>126</td>
<td>230</td>
<td>240</td>
<td>366</td>
<td>405</td>
</tr>
<tr>
<td>Share of import in volume terms, % from Market value</td>
<td>65,0</td>
<td>37,6</td>
<td>40,4</td>
<td>31,7</td>
<td>31,6</td>
</tr>
</tbody>
</table>


Among using pesticides in the Russian Federation, the herbicides lead - 58% in 2014. However, their share in the total volume has decreased. It was 66% in 2012. The share of insecticides has increased from 11% to 24%\(^2\) during that same period.

According to data of the Ministry of Agriculture of the Russian Federation the market of crop protection agents in 2014 was 1,1 bln. EUR (1,3 bln. USD at the exchange rate of September 2014). In the proportional recalculation for the market volume in 2017 the market value of crop protection agents in 2017 was 1,9 bln. EUR (2,3 bln. USD).

The import of crop protection agents in 2017 was 738 mln. EUR (879 mln. USD) which amounts 39% of the market in value terms.

Table 23. Import and export of the crop protection agents in the Russian Federation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export</td>
<td>thous. tons</td>
<td>11</td>
<td>13</td>
<td>10</td>
<td>14</td>
<td>18</td>
<td>160,2</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>109</td>
<td>117</td>
<td>87</td>
<td>95</td>
<td>134</td>
<td>122,9</td>
</tr>
<tr>
<td>Import</td>
<td>thous. tons</td>
<td>82</td>
<td>87</td>
<td>97</td>
<td>116</td>
<td>128</td>
<td>155,9</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>557</td>
<td>601</td>
<td>560</td>
<td>744</td>
<td>879</td>
<td>157,8</td>
</tr>
</tbody>
</table>

Reference source: Federal Customs Service of the Russian Federation, CC FEA code 3808

The surveyed fruit producers emphasize the higher share of imported pesticides in applying crop protection systems:

- **70% - imported pesticides,**
- **30% - Russian pesticides – generics (analogs comprising predominantly the active substances which patent protection is finished).**

Russian generics are cheaper in comparison with the imported analogs but in many cases their use is less effective because of the higher usage or ineffective at all in case of counterfeit products. So the surveyed fruit producers work with the generics which checked by the company-dealers in practice. The example of such company is «Agroprogress» [http://agroprogress.org/](http://agroprogress.org/) in Krasnodar Krai. This company check the effectiveness of the pesticides 2-3 years by themselves.

To calculate the market value of the crop protection agents **only for fruit production** by a direct method is a real challenge. It has been decided to calculate it on the basis of a percentage from the aggregate market volume of the crop protection agents in the Russian Federation.

The percentage is accepted the same as for fertilizers, which means 0.14% of the aggregate Russian market.

The low share of pesticides for fruit production is explained. The most volume of the crop protection agents are applied for the grain crops, sunflowers and sugar beets because of their area – about 55 mln. ha in the agricultural enterprises. The area of hard and soft fruit plantations is much less - 166 thous. ha.

**Thus, the Market value of crop protection agents only for fruit production is 2,6 mln. EUR, including import 70% or 1,8 mln. EUR.**

The main producers of the crop protection agents in the Russian Federation are the main producers of the crop protection agents for fruit production as well.

**Russian companies - leaders:**

According to estimates by the Director of Marketing in Russia of the company Syngenta Iurii Vasilkov, the share of the market of two of the largest Russian companies – «Avgust» and «Shchelkovo Agrokhim» – was 25–26% (in 2015).

The producers of imported products – the leaders at the market of the crop protection agents - not only in the Russian Federation but also world width are the multinational agrochemical companies. After the recent concentration in the market, four companies have remained:
- Bayer + Monsanto;
- ChemChina + Syngenta;
- Dow + DuPont;
- BASF.

The surveyed fruit producers emphasize that they use the pesticides of all mentioned world producers because one company cannot meet the demand for the integrated crop protection system. Also they mentioned the company «Chempura» (has been bought in 2017 by «Lanxess»).

Some multinational companies localize their production in the Russian Federation. For example, BASF has started production in the Kirovo-Chepetsk based plant "Agrokhimikat" (Kirov region).
2.3. FIELD AND ORCHARD MACHINERY AND EQUIPMENT

The agricultural machinery park in the Russian Federation is old-fashioned and asks for renewal, which potentially create a strong demand for machinery. The share of tractors with the useful lifetime more than 10 years was 60 % in 2016\(^2\).

In general the agricultural machinery park renewal rate in the Russian Federation is relatively slow and is limited by the real demand of agricultural enterprises, which has been declined even more due to the devaluation of the ruble, the higher increase of costs as compared with product pricing and reduction of possibilities to get a privileged credit. However, in the fruit production the large agro holdings have more opportunities to buy or upgrade agricultural machinery but the situation is a bit similar.

From surveyed sellers’ experience, at the present time the agricultural enterprises buy machinery by using different government support programs:
- either privileged credit, which is very difficult to get;
- or Program 1432, by which the Government subsidizes the discount to Russian agricultural machinery producers. The discount equals to 15-20% for the customers.

There is almost no machinery bought through commercial credits.

«Rostselmash» (the largest Russian agricultural machinery producer) in 2016 sold about 90% of his machinery through the Program 1432.

However, at the end of June 2018 the Ministry of Industry and Trade of the Russian Federation (http://minpromtorg.gov.ru/) informed the agricultural machinery producers about the interruption of the Program 1432 because the allocated funds were all used.

Russian agricultural machinery producers in reply warned the Russian authorities about the decline of production and sales of agricultural machineries and slow down of technical improvement of the agricultural producers.

At the same time in 50 regions of the Russian Federation there are subsidy programs for purchasing Russian and imported machinery using the funds of regional budgets. More than 116 mln. EUR (8 bln. RUB) is allocated for it annually.

From surveyed sellers’ experience imported machinery is bought:
- if there is a subsidy from the regional budgets;
- in case of damages, functional loss of the large tractors, other specialized machinery which cannot be provided by Russian prototypes;
- due to high overload of orders by Russian machinery producers because of Program 1432, which timing of orders may reach up to one year.

The total agricultural machinery Market value in the Russian Federation in 2017 was 2,7 bln. EUR.

The share of import has decreased gradually – 48% in 2017. However, it must be considered that:

- the sales growth of Russian machinery is maintained and essentially depend on:
  - the oriented Program of subsidizing of agricultural equipment producers (including equipment with high share of localization), so-called Program 1432;
  - the privileged leasing from «Rosagroleasing»;
- after devaluation of the ruble in 2014-2015 the main share of field machinery imported in the Russian Federation originates from the Republic of Belarus;
- the share of import varies widely in regard to types of machinery.

If the share of Russian production of tractors and tillage machinery is expanding at a fast rate than import is still key to specialized machinery for fruit production (sprayers, systems for drip irrigation, harvest machinery (orchard platforms), etc.).

In February 2017 Deputy Director General of JSC «Rosagroleasing» (https://www.rosagroleasing.ru/) Zudina Natalia in her report points out the limitation of agricultural machinery produced by Russian plants. She listed the types of agricultural machinery by which Russian producers lead, which produced in limited quantities and which is not produced by Russian enterprises (Table 24).

52% of the Market value is accounted for by Russian-produced agricultural machinery. About 15% is accounted for by localized assembly of foreign machinery in Russia.
Table 24. List of agricultural machinery produced by Russian plants, produced in limited quantities and not produced by Russian enterprises

<table>
<thead>
<tr>
<th>Leading positions of Russian producers</th>
<th>Produced in the Russian Federation in limited quantities</th>
<th>Not produced in the Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain harvesters.</td>
<td>Self-propelled sprayers.</td>
<td>Tractors for fruit and grape production.</td>
</tr>
<tr>
<td>Tractors with the capacity more than 300 h.p.</td>
<td>Tractors 20-80 h.p., 80-130 h.p., 130-180 h.p., 180-300 h.p.</td>
<td>Majority machinery for animal production.</td>
</tr>
<tr>
<td>Tillage and sowing machinery.</td>
<td>Equipment for precision agriculture.</td>
<td>Telescopic loaders.</td>
</tr>
<tr>
<td>Elevator and grain cleaning machinery.</td>
<td></td>
<td>Self-propelled beet harvesters.</td>
</tr>
<tr>
<td>Forage machinery (cutters, pickup press etc.).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference source: JSC «Rosagroleasing»

The market value of agricultural machinery for fruit production is defined proportionally to the share of hard and soft fruit plantations which was 0.3% in 2017 (Fig. 26).

This all means that, the market value of agricultural machinery for fruit production in the Russian Federation in 2017 is estimated at 8.2 mln. EUR.

To calculate the share of import we accept that the agricultural market structure in general is similar to the market structure of agricultural machinery for fruit production, h.e. import is 48%.

In this way the cost of imported machinery can be estimated at 3.9 mln. EUR.

Fig. 26. Structure of crop area in the agricultural enterprises in the Russian Federation, 2017, %

In general, agricultural machinery for hard and soft fruit producers can be divided into 2 groups:
- common agricultural machinery – tractors, tillage machinery, etc.;
- specialized machinery – specialized tractors, system of drip irrigation, harvest machinery (orchard platform), sprayers, etc.

In the first group the following categories are discussed in more detailed:
- tractors;
- agricultural machinery for soil preparation or cultivation.
The share of tractors by Russian brands is insignificant: 14% in 2016. The biggest part of the tractors are Belorussian or imported.

Table 25. Change in structure of the Russian market of tractors for agricultural and forestry use

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2016</th>
<th>2016 / 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number, thous. units</td>
<td>Share, %</td>
<td>Number, thous. units</td>
</tr>
<tr>
<td>Russian brands</td>
<td>0,9</td>
<td>2%</td>
<td>2,9</td>
</tr>
<tr>
<td>Foreign brands by Russian</td>
<td>2,7</td>
<td>6%</td>
<td>1,0</td>
</tr>
<tr>
<td>assembly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belorussian brands (MTZ) by</td>
<td>3,5</td>
<td>8%</td>
<td>3,0</td>
</tr>
<tr>
<td>Russian assembly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import from Belarus</td>
<td>23,2</td>
<td>51%</td>
<td>8,2</td>
</tr>
<tr>
<td>Import of new tractors but</td>
<td>11,9</td>
<td>26%</td>
<td>4,2</td>
</tr>
<tr>
<td>excluding Belarus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import of second-hand foreign</td>
<td>3,2</td>
<td>7%</td>
<td>1,7</td>
</tr>
<tr>
<td>brands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45,6</td>
<td>100%</td>
<td>20,8*</td>
</tr>
<tr>
<td>including import</td>
<td>38,4</td>
<td>84%</td>
<td>14,0</td>
</tr>
<tr>
<td>import excluding Belarus</td>
<td>15,2</td>
<td>33%</td>
<td>5,8</td>
</tr>
</tbody>
</table>

* according to data from National report "Implementation results of State Program for Development of Agriculture" the market of the tractors only for agricultural use was 13,5 thous. units or 65% in 2016.

Reference source: calculation according to data from OJSC «Avtoselkhozmash-holding»

In general the market volume has declined but the share of import from Belarus has declined in 2016 as compared to 2013 by 12 %, and import from other countries – only by 6 percent.

According to the surveyed experts – scientists it is related to the fact that the machinery management in Belarus is not flexible enough and discourage the active innovative process. As a result for the tractor MTZ it is difficult to compete with tractor brands from other foreign producers.

Additionally, the devaluation of the ruble in the short term, allowed Russian producers of agricultural machinery increasing their volume of sales. Machinery export by Belarus became less profitable. As a result the part of production is moving to joint Russian-Belorussian enterprises in the Russian Federation.

The analysis of agricultural machinery for soil preparation or cultivation is carried out by CC FEA code 8434 which includes ploughs, harrows, scarifiers, cultivators, seeders, and spreaders and distributors of manure and fertilizers.

Table 26. Import of agricultural machinery for soil preparation or cultivation

<table>
<thead>
<tr>
<th>CC FEA code / type of machinery</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>8432: Agricultural machinery for soil preparation or cultivation</td>
<td>thous. units</td>
<td>445</td>
<td>419</td>
<td>273</td>
<td>247</td>
<td>336</td>
<td>75,5</td>
</tr>
<tr>
<td>mln. USD</td>
<td>561</td>
<td>497</td>
<td>260</td>
<td>375</td>
<td>463</td>
<td></td>
<td>82,5</td>
</tr>
</tbody>
</table>

Reference source: Federal Customs Service of the Russian Federation

22 percentage points
The Russian import of agricultural machinery for soil preparation or cultivation has decreased sharply after the devaluation of the ruble in 2014.

The main exporters of agricultural machinery for soil preparation or cultivation are Germany, the USA, and China. The leaders have not changed after the devaluation of the ruble in 2014 which is evidenced about their stable competitive positions.

Fig. 27. Structure of import of agricultural machinery for soil preparation or cultivation by countries*, %

The main producers of tractors and agricultural machinery for soil preparation or cultivation at Russian market are the following:

- «Rostselmash» (https://rostselmash.com/). It includes 13 enterprises located on 10 production sites in 4 countries. It launches machinery by the brands ROSTSELMASH and VERSATILE. It occupies 65% of Russian production of agricultural machinery.


- «CLAAS».

- «John Deere».
Table 27. Main producers of tractors and agricultural machinery for soil preparation or cultivation at Russian market

<table>
<thead>
<tr>
<th>Producers</th>
<th>Company</th>
<th>Web-site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian producers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rostselmash</td>
<td></td>
<td><a href="https://en.rostselmash.com/">https://en.rostselmash.com/</a></td>
</tr>
<tr>
<td>KLEVER (is included in Rostselmash)</td>
<td></td>
<td><a href="http://www.kleverltd.ru/en/">http://www.kleverltd.ru/en/</a></td>
</tr>
<tr>
<td>Brianskselmash</td>
<td></td>
<td><a href="http://www.bryanskselmash.ru/">http://www.bryanskselmash.ru/</a></td>
</tr>
<tr>
<td>Peterburgskii traktorny zavod (tractors)</td>
<td></td>
<td><a href="http://kirovets-ptz.com/eng/">http://kirovets-ptz.com/eng/</a></td>
</tr>
<tr>
<td>Cherepovetskii liteino-mekhanicheskii zavod (tractors)</td>
<td></td>
<td><a href="http://www.chimz.ru/">http://www.chimz.ru/</a></td>
</tr>
<tr>
<td><strong>Locally foreign production</strong></td>
<td><strong>(high level of localization, so these companies are included to the Federal Program of field machinery producers subsidization and to programs «Rosagroleasing»)</strong></td>
<td></td>
</tr>
<tr>
<td>CLAAS</td>
<td></td>
<td><a href="http://www.claas.ru/">http://www.claas.ru/</a></td>
</tr>
<tr>
<td>John Deere</td>
<td></td>
<td><a href="http://www.deere.ru">http://www.deere.ru</a></td>
</tr>
<tr>
<td>CNH Kamaz Industria</td>
<td></td>
<td><a href="http://www.kamaz.ru">http://www.kamaz.ru</a></td>
</tr>
<tr>
<td>MTZ-ELAZ (assembly of Belorussian tractors)</td>
<td></td>
<td><a href="http://www.mtz-elaz.ru/">http://www.mtz-elaz.ru/</a></td>
</tr>
<tr>
<td>DEUTZ-FAHR</td>
<td></td>
<td><a href="http://www.deutz-fahr.com/ru-ru/">http://www.deutz-fahr.com/ru-ru/</a></td>
</tr>
<tr>
<td><strong>Importers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gomselmash</td>
<td></td>
<td><a href="http://eng.gomselmash.by/">http://eng.gomselmash.by/</a></td>
</tr>
<tr>
<td>Minskii traktorny zavod</td>
<td></td>
<td><a href="http://www.belarus-tractor.com/">http://www.belarus-tractor.com/</a></td>
</tr>
<tr>
<td>CLAAS</td>
<td></td>
<td><a href="http://www.claas.ru/">http://www.claas.ru/</a></td>
</tr>
<tr>
<td>John Deere</td>
<td></td>
<td><a href="http://www.deere.ru">http://www.deere.ru</a></td>
</tr>
<tr>
<td>Krone</td>
<td></td>
<td><a href="http://www.krone-rus.ru/">http://www.krone-rus.ru/</a></td>
</tr>
<tr>
<td>New Holland (is included in CNH Industrial)</td>
<td></td>
<td><a href="http://www.newholland.com">http://www.newholland.com</a></td>
</tr>
<tr>
<td>Spedo (including specialized machinery for fruit production)</td>
<td></td>
<td><a href="http://www.spedo.eu/sito/eng_pagine/">http://www.spedo.eu/sito/eng_pagine/</a></td>
</tr>
</tbody>
</table>

Specialized machinery for hard and soft fruit production is mainly imported.

According to the chief engineer of LTD «Sad-Gigant» from 28 items of necessary agricultural machines for intensive fruit production, only 5 items are produced by Russian enterprises and by enterprises of CIS countries:
- orchard tractors MTZ 921;
- loader SSSh 30 PV;
- sprayers;
- soil auger;
- container vehicle.

According to him it is impossible to produce fruits without imported machinery because of the absence of good Russian prototypes.

According to the data from surveyed sector experts, Russian prototypes are produced by:
- the specialized research institutes – privately and in limited value, for example, "All-Russian Horticultural Institute for Breeding, Agrotechnology and Nursery", https://vstisp.org/vstisp/,


the machine engineering plants – mainly certain types of machines
for example, OJSC «Remontno-mekhanicheskii zavod «Prokhladnenskii»,
http://rmzkbr.ru/.

the private entrepreneurs. The majority of prototypes are at the stage of test models.

The surveyed fruit producers estimate the perspectives of Russian producers of specialized machinery as rather promising. According to an agronomist of one the largest orchards in the Republic of Adygeya, the following statements were made on providing field machinery (orchard platforms):

- Belarusian machinery ("Scientific and Practical Center of the National Academy of Sciences of Belarus for agricultural Way Mechanization") are cheap but need to be more modernized;
- Polish machinery («MCMS Warka», «Ditta Seria», «WEREMCZUK FMR») are relatively expensive and need to be more modernized as well,
- Italian machinery («Frumaco», «ORSI», «F.Lli Festi») is more expensive,
- Russian private entrepreneurs, whose machinery are tested on their production facilities, produces machinery according to Russian circumstances and needs. This means more powerful, stronger and having a wider rage in use.

According to him in the majority of the orchards in the Russian Federation, the conditions divers from the conditions in Italian orchards, for example:

- in Italian orchards the space between the rows is narrow, while in most of the Russian orchards – these rows are wider, so harvesting equipment should be wider as well;
- Italian orchards are small and Russian orchards are large, so the hardness of the metal should be higher. As a result Russian fruit producers strengthen the frames of the orchard machinery additionally.

Fully-mechanized harvesting in the Russian Federation is not applied yet, only for stone fruit crops. These harvesting machines are mainly imported.

An important group of specialized machinery is sprayers. They are mainly imported:
- Italian («SAE», «Caffini»);
- Polish («WEREMCZUK FMR»);
- Turkish;
- Dutch.

The surveyed fruit producers emphasize that they prefer using Italian sprayers. Using of Turkish sprayers is in their opinion a temporary solution in the absence of adequate financial resources.

20-30% of the systems of drip irrigation are Russian-produced, the rest is imported, mainly from Israel («Metzerplas») and Greece.

The components of the systems of drip irrigation are Russian-produced:
- pump stations

➢ **drippers**


«IugPoliv» is a dealer of drip irrigation equipment of foreign producers. In general according to company’s estimates it delivers systems of drip irrigation for 40% of new orchards planted in the Russian Federation.

The specialized tractors for fruit production at the Russian market are:

- Lamborghini, Italy;
- VALPADANA, Italy, [https://www.valpadana.it/as/](https://www.valpadana.it/as/);
- John Deere, USA, [http://www.deere.ru](http://www.deere.ru);

To set poles either Russian pole-setting machine or imported diggers with special settings are used. The majority of the orchards in the Russian Federation hire the external companies with their own machinery.

Regarding crates for the fruit producers, there are quite a number of producers of plastic products in the Russian Federation. The company which is specialized in producing of crates for fruit production is company «Bazis», [https://baziskbr.ru/](https://baziskbr.ru/).

An example of crates for soft fruit producers presented at the Russian market is the Ortiflor Group from Italy, [https://www.ortiflorgroup.it/](https://www.ortiflorgroup.it/).

The surveyed large farmers (15-20 ha of soft fruit plantations) emphasize that imported crates are relatively expensive. They either adapt the existing agricultural machines or use hand labor.

It is worth noting the company «Haygrove», [https://www.haygrove.com/](https://www.haygrove.com/). This company is not so much a machinery supplier, but a supplier of integrated technology for soft fruit growing in tunnels. The tunnels are not widespread in the Russian Federation, mainly on the experimental plots (1-2 ha) and in the ambitious investment projects. Nevertheless, «Haygrove» is one of the more active player which promotes this kind of technology at the Russian market. Similar technologies are offered by the companies from Finland and Poland.
2.4. STORAGE, COOLING AND FREEZING FACILITIES

There is not enough fruit storage capacity in the Russian Federation. According to the estimates of the «Association of fruits, berries and propagation (planting) material producers» the total capacity was only about 200 thous. tons in 2016 whereas 600 thous. tons of apples are produced commercially (the main type of growing fruits). The other 400 thous. tons are processed or sold in September, when the price is the lowest.

Taking into account the fruit storages in operation in the main regions of fruit growing, the storage capacity at the beginning of 2018 was over 250 thous. tons.

The self-sufficiency in fruit storages in the main regions of fruit growing is the following:

<table>
<thead>
<tr>
<th>Region</th>
<th>Place by overall apple production in the agricultural enterprises</th>
<th>Overall apple production in the agricultural enterprises, thous. tons</th>
<th>Storage capacity, thous. tons</th>
<th>Self-sufficiency in fruit storages, %</th>
<th>Plan to put fruit storages in operation by 2020, thous. tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krasnodar Krai</td>
<td>№1</td>
<td>291</td>
<td>167</td>
<td>57%</td>
<td>100</td>
</tr>
<tr>
<td>Kabardino-Balkarian Republic</td>
<td>№2</td>
<td>73</td>
<td>94</td>
<td>128%</td>
<td>300</td>
</tr>
<tr>
<td>Stavropol Krai</td>
<td>№7</td>
<td>33</td>
<td>14</td>
<td>42%</td>
<td>46 requirement estimate</td>
</tr>
</tbody>
</table>

Reference source: data from sector experts

The modern storages with controlled climate atmosphere are being built by the large producers and agricultural holdings.

On a scale of the sector the large project of storage building in the Russian Federation is 20-25 thous. tons of simultaneous storage. The average capacity of existing storages in Krasnodar Krai and the Kabardino-Balkarian Republic is 3-4 thous. tons.

The problem of low level of storage provision in Russian fruit growing is debated a lot since 2014 after the imposing of the Russian counter sanctions and fruit import ban by the Russian Federation from the main exporters. The sector experts emphasized that there is not only a low self-sufficiency in the apple production in the Russian Federation, but also a lack of modern high-qualitative storages to store the existing yield.

According to the estimates of a surveyed representative of a company which supplies storage facilities, apples from Poland (DDP Moscow) cost 0,4 EUR/kg (27 RUB/kg) before the Russian counter sanctions were imposed (2014). The price of apples from Krasnodar Krai was about the same or even slightly lower, the profitability was low and it was unprofitable to build own storages in that time.

As a result of fruit market foreclosure from the countries – the main competitors, the number of completed projects and the demand for storage facilities has grown.
From 2015 on there is government support to build, modernize and upgrade fruit storages in the form of 20% of capital costs subsidizing.

The main form of the government support to build, modernize and upgrade fruit storages is the interest rate subsidization by investment credits.

**Fig. 28. Capacity of selected and funded projects to build and upgrade fruit storages under government support, thous. tons of simultaneous storage**


To participate in the national capital costs subsidy program it is necessary to be selected by the Ministry of Agriculture of the Russian Federation. In 2017 only 12 fruit storage projects were selected with a total capacity of 43 thous. tons. After the positive decision and building of the fruit storage about 20% of capital costs was subsidized. This also means that part of the investment projects for storages, especially small ones, is being implemented without government support.

In addition, fruit storages are being built by the whole-sale and distribution centers (warehouse complex for storage, primary processing, packaging and sale of agricultural products) – independent or providing service to federal retail chains. The capacity in such whole-sale and distribution centers is mainly used for vegetables, and taking into account the cycle of sales the storage chambers for fruits are usually small. Nevertheless, the sale of fruit storage facilities in this segment is possible as well.

For reference only:
Projects for building storage capacity by the whole-sale and distribution centers can get government support in the form of 20% of capital costs recovery.

To estimate the market value of fruit storage facilities let’s accept the additional capacities of fruit storages implemented without the government support and as part of the whole-sale and distribution centers at the level of 15% from the fruit storage capacities with the government support (Fig.28).

In total, in the Russian Federation **35 thous. tons** of fruit storages are built annually on average (30 thous. tons on average during the period 2015-2017, which means an increase of 15%).

According to the sector experts’ estimates, the high quality apple storage facilities with a capacity of 20-30 thous. tons were put in operation in 2013-2014, 50-60 thous. tons - in 2017.

The market value calculation is made on the basis of the average data of fruit storages putting in operation during 2015-2017 (conservative scenario) because there are risks of reduction in the number of implemented projects and in the demand for storage facilities because of:

- Lifting of the import ban for fruit from the countries included in the sanction list;
- cancellation of the government support of 20% of capital costs investment for fruit storage building, modernizing and upgrading.

On the other side, the orchards planted in 2015-2017 will give commercial yield up to 2018-2020 and will require fruit storages building to provide higher sales prices.

The sector experts’ estimates, the storage facilities’ costs calculated per one ton are different. According to the director of an engineering company specializing in cooling and freezing facilities, only around 27% of the fruit storage cost structure is accounted for by the (basic) technological and climate control equipment, the remaining part of the cost structure is accounted for the construction of the building itself.

**Fig. 29. Fruit storage cost structure, 2017, %**

![Fig. 29. Fruit storage cost structure, 2017, %](image)

According to the fruit storage, construction cost is 870 EUR (60 thous. RUB) per 1 ton and the cost for the basic technological and climate control equipment is about 235 EUR per 1 ton.

According to data from the representative of another engineering company specializing in vegetable and fruit storages building, the cost for the basic technological and climate control equipment is 70-110 EUR per 1 ton.

**Table 28. Cost for the basic technological and climate control equipment, EUR per 1 tone of stored fruits**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Economy market segment</th>
<th>Middle market segment</th>
<th>Premium market segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate control equipment</td>
<td>30 - 35 €</td>
<td>60-75 €</td>
<td>95 € and more</td>
</tr>
<tr>
<td>Controlled atmosphere equipment</td>
<td></td>
<td>15 - 30 €</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>70-110 €</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Reference source: data from surveyed sector experts*

To estimate the market value of fruit storage facilities in the Russian Federation, the cost are set at the level of 170 EUR per 1 ton of stored fruits.
Thus, the market value of storage facilities for fruit in the Russian Federation is 6 mln. EUR per year (Table 29). The main part of storage facilities are imported – about 90% or 5.4 mln. EUR.

Table 29. Market value of technological and climate control equipment for fruit storages in the Russian Federation, mln. EUR

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit storages putting into operation, thous. tons per year</td>
<td>35</td>
</tr>
<tr>
<td>Cost of climate control and technological equipment, EUR/tone of stored fruits</td>
<td>170</td>
</tr>
<tr>
<td><strong>Market value of climate control and technological equipment, mln. EUR</strong></td>
<td>6,0</td>
</tr>
<tr>
<td>including imported equipment (90%)</td>
<td>5.4</td>
</tr>
<tr>
<td>Russian components (10%)</td>
<td>0.6</td>
</tr>
</tbody>
</table>

*Reference source: calculation of «Rusmarketconsulting»*

The companies – producers and leaders by the main technological equipment (Controlled Atmosphere) not only at Russian market, but in the world are:

- «Fruit Controls», [http://www.fruitcontrol.it/en/](http://www.fruitcontrol.it/en/), Italy;

The company «Plattenhardt + Wirth GmbH», [http://plawi.de/en/](http://plawi.de/en/), from Germany is not an equipment producer, however, is quite active at the Russian market. As an integrator (intermediary) the company implements turn-key projects of fruit storages building and is using the equipment of mentioned above world leaders. «Plattenhardt» started in the Russian Federation as a project developer, then as a main contractor, and after that as a supplier of equipment.

According to sector specialists, «Plattenhardt» is now a leader in the fruit storage sector at the Russian market. It implemented the largest number of storage projects in the Russian Federation (for example projects for «Sad-Gigant» - the largest intensive orchard in the Russian Federation) as compared to the other companies.

«Plattenhardt» has Russian-speaking staff responsible for promoting its business in Russia. «Plattenhardt» has a representing company - partner:


Italian companies only start to work independently with Russian customers. Before they delivered their equipment as a part of the complex projects of the integrated companies.
Fruit producers in the Southern regions of the Russian Federation (Krasnodar Krai) have trust in Dutch equipment and seems to be cautious towards Italian equipment, despite the fact they are working already for quite some time with Italian suppliers in this sphere.

Some regions, for example the Republic of Adygeya and the Kabardino-Balkarian Republic, are oriented toward not only Italian storage facilities but all equipment for fruit production. The first intensive orchards, with Italian technology, started to plant in Adygeya in 2010. Now these orchards have increased production and need and plan to build modern fruit storages.

Some Russian companies, for example construction companies which were involved in fruit storage building by the integrated companies, try to receive similar projects independently. They select specialists in technological, climate control equipment and engineering to have the option to offer turn-key fruit storage building.

There are quite a number of Russian companies producing climate control equipment. They also use the main components by European and American producers. It is related to the fact that there are a sufficient number of reliable producers of high quality components for refrigerating systems. The price of the components is acceptable to avoid Russian prototypes.

The main producers and suppliers of compressor assemblies (the key and the most sophisticated equipment) are «Bitzer» and «Bock» (Germany). In the Russian Federation, after the collapse of the Soviet Union, the Soviet engineering school lost its importance Today’s engineering decisions and technologies in the Russian Federation are in general old-fashioned and uncompetitive.

Heat-transfer equipment (evaporators, condensers) is produced in the Russian Federation, but the components (impellers, engines) are mainly from Germany or Italy.

As for monitoring systems (temperatures, etc.), there are companies in the Russian Federation which develop electronics. For example «Oven», http://www.owen.ru/. However, based on experiences of surveyed specialists of the engineering companies, the usage of these elements, which are not tested in real production, increases risks significantly.

In general the integrated companies try to cut costs at the equipment assembling and installation in the Russian Federation, but not at the equipment and its components.

According to sector experts in the Russian Federation, there are over 10 companies which work with cooling and freezing facilities for vegetable and fruit storages. Also many unspecialized companies, working with cooling and freezing facilities in the dairy and meat sector, try to enter the storage sector.

One of the specialized Russian integrated company targeted at the cooling and freezing facilities for fruit storages is «Interagro», https://interagro.info/. It works closely with the integrated company from the Netherlands «Witte – koeltechniek».

«Zanotti S.p.A.» (http://www.zanotti-ts.ru/, Italy) is a foreign company producing climate control equipment (including cooling and freezing facilities for fruit storages) and working at the Russian market. According to sector experts, the company’s prices are higher than the main competitors’ ones.
The producers of panels are worth noting individually. The panels are significant cost item during fruit storage building.


«ISOPAN» participated also in projects where construction activities were provided by «Rukimastera» (which was invited in the project by «Plattenhardt»).

Company «Kingspan» ([https://www.kingspan.com/ru/ru-ru](https://www.kingspan.com/ru/ru-ru), the plant in Leningrad region) is one of the world leaders at the market of sandwich panels. It also worked on the fruit storage building in the Russian Federation, for example «Sad Gigant Ingusheniia» (the fruit storage with controlled atmosphere with a capacity of 50 thous. tons).

The companies which are active in fruit storage building can be interesting partners to promote the building of storage facilities to Russian market.

European climate control equipment for fruit storages is relatively costly especially after the devaluation of the ruble at the end of 2014. The market players try to make it cheaper.

The bottlenecks in the sales of climate control equipment for fruit storages are the stereotypes. Some clients suppose that the cooling and freezing facilities for fruits are normal and simple refrigerators. It is difficult to change their beliefs.

A surveyed fruit importer confirmed this last aspect. According to him the importers or wholesalers are searching first for second hand storage equipment. They tend to look not only for storage facilities of the bankrupt fruit companies but also to other unspecialized companies, for example meat-processing ones.

According to him a lot of second hand equipment is supplied from Poland where this market is well-developed. New equipment is bought by the companies which take credit or leasing. The companies which have their own funds buy the second hand equipment.

It general the following can be concluded:

- The market value of climate control and technological equipment for fruit storages in the Russian Federation is relatively small;
- The market is conservative;
- Extremely high competition in clients. It is practically impossible to enter the market as a new market player;
- A low-margin market for equipment suppliers and project developers;
- It is impossible to enter the market without the possibility to implement turn-key projects (project development, building, equipment supply, etc.);
- The «entrance ticket» into the Russian market is quite expensive for new market players, because it is necessary to have completed already to complete project or to build a demo fruit storage.
2.5. CLEANING, SORTING, PACKAGING LINES AND PACKAGING MATERIAL FOR FRUIT

The main customers of cleaning, sorting and packaging lines for hard and soft fruits in the Russian Federation are the following:

- the fruit producers;
- the hard and soft fruit importers / wholesalers;
- the companies, which pack hard and soft fruit;
- the large retail chains.

From the point of view of presales preparation and/or packaging of hard and soft fruit, Russian producers are only at the beginning in this market segment. The intensive orchards, which were planted over the last few years, start to give commercial production so the fruit storage building will become active. They are in the first stage to increase business further and producers will start to compare prices:

- for apples shipped in bulk from the storage;
- for sorted / calibrated apples;
- for processed apples (juice, jam, frozen, etc.).

Nevertheless, according to data from the surveyed equipment suppliers, 50% of the fruit producers, which are building or planning to build their own fruit storages, focus on the presales fruit preparation as well (cleaning, sorting and packaging). The large projects are or will be implemented by stages.

This chapter focuses mainly on:

- fruit cleaning and sorting (grading) lines;
- fruit packaging lines.

The consumer package of fruits is in low demand by retail and other consumers. From the side of apple producers the package inboxes is popular.

At retail level the apples and other fruits are sold mainly by weight. The customers gather fruits into plastic bags and weight them. However, in the hypermarkets of the federal retail chains are presented the following packages:

- apples in plastic bags (weight from 1-2 kg)
- in flow-pack (0.5-1 kg)
- tray pack (about 1 kg)

- in a grid (different weight).

The market of apples in consumer package in the Russian Federation has not developed yet. It is hard to tell what package will be popular in the future. One surveyed representative of a company and supplier of packaging lines from the perspective of European experience believes that the package in breathable polyethylene or polypropylene looks better on the shop shelves and more attractive than grid. The polypropylene bags are brighter. Such package might be popular in the future. However, at this moment it is hard to tell because the market is only developing.

Citrus fruits are packaged more often, especially in the season and mainly in a grid. According to data from the surveyed fruit importers, it is difficult to sell high volume of citrus fruits in the season without packaging. However, citrus fruits are outside the scope of this research.

In shops the seasonal fruits (black cherries, peaches, nectarines, etc.) are often packaged on trays, mainly by hand.

**Example of seasonal fruit package on trays**

By contrast, soft fruits cannot be supplied to retail chains without consumer package (with minor exceptions).
According to a representative of a Top-3 ranked retail chain, the requirements to soft fruits package are:
- correx with cover – 250 or 500 g;
- preservation of soft fruits quality unchanged after they had been delivered to the distribution center – minimum 5 days.

However, to sort, cull and pack soft fruits, hand labor is often used (non-automated processes) because the small-scale farms dominate among producers.

Example of soft fruits package at retail

Retail is the main consumer of packaged hard and soft fruits for the importers/wholesalers and the customer for the companies-packers.

According to data from fruit importers the profitability of the package business is going down due to:
- the retail chains dictate lower prices for package services as at own distribution centers, and as a consequence the profitability has decreased consequently;
- the high level of production capacity used is not guaranteed.

To make profit in packaging, the companies started to work with revised equipment or bought second-hand equipment form packers and importers, which went bankrupt.
The profitability reduction of packaging, influences the demand for packaging lines.

Nevertheless, the equipment capacity bought by the importers/wholesalers and packers for hard and soft fruits cleaning, sorting and packaging is estimated at the level of 10% from the volume of apple and soft fruit imports (or 76 thous. tons per year).

According to the equipment suppliers’ estimates, it is profitable to install cleaning and sorting lines with a capacity from 2 tons or more per hour. Less volume is usually managed by the hand labor.
To estimate the market value the equipment cost of the cleaning and sorting lines per 1 ton of processed production is used:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>2</th>
<th>5-10</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment cost, thous. EUR</td>
<td>150-200</td>
<td>300-600</td>
<td>1500</td>
</tr>
<tr>
<td>Volume of processed production (on condition of 8 working hours per day), thous. tons per year</td>
<td>6,0</td>
<td>15,0</td>
<td>58,0</td>
</tr>
<tr>
<td>Equipment cost per 1 ton of processed production, EUR</td>
<td>34</td>
<td>21</td>
<td>26</td>
</tr>
</tbody>
</table>

Reference source: data from equipment supplier

Based on this calculation, the market value of the cleaning, sorting and packaging lines for hard and soft fruits in the Russian Federation is estimated at 3,3 mln. EUR per year on average.

Table 30. Market value of cleaning, sorting and packaging lines for hard and soft fruits in the Russian Federation, mln. EUR

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Putting in operation of fruit storages by the fruit producers, thous. tons per year</td>
<td>35</td>
</tr>
<tr>
<td>Share of the producers focused on the installation of cleaning, sorting and packaging lines during fruit storages building, %</td>
<td>50</td>
</tr>
<tr>
<td>Capacity of the fruit storages with of cleaning, sorting and packaging lines, thous. tons</td>
<td>18</td>
</tr>
<tr>
<td>Purchase (upgrade) of the cleaning, sorting and packaging lines by the importers/wholesalers and packers (10% from volume of import), thous. tons</td>
<td>76</td>
</tr>
<tr>
<td>Total cleaning, sorting and packaging lines, per thous. tons of processed fruits</td>
<td>94</td>
</tr>
<tr>
<td>Cost of cleaning, sorting and packaging lines, EUR per 1 ton of processed fruits</td>
<td>35</td>
</tr>
<tr>
<td><strong>Market value of cleaning, sorting and packaging lines, mln. EUR per year</strong></td>
<td><strong>3,3</strong></td>
</tr>
<tr>
<td>including imported equipment (90%)</td>
<td><strong>3,0</strong></td>
</tr>
<tr>
<td>Russian components (10%)</td>
<td><strong>0,3</strong></td>
</tr>
</tbody>
</table>

Reference source: calculation of «Rusmarketconsulting»

The import data by CC FEA code «8433600000 – cleaning, sorting or grading lines for eggs, fruits and other agricultural products» were analyzed additionally. CC FEA code is combined and includes mainly the cleaning and sorting lines for vegetables, firstly potato. The share of equipment for fruits is unstable from year to year. For example, the total value of imports in 2015 and 2016 was equal, however, the share of equipment for fruits was:

- ✓ 30% in 2016,
- ✓ 13% in 2015.
As a result the import of the cleaning, sorting and grading lines for hard and soft fruits can differ more than 2 times: 1,7 mln. EUR in 2015 and 3,8 mln. EUR in 2016.

Nevertheless, the calculated market value, including import, is consistent with the customs statistics data and can be statistically significant.

According to the estimates of the suppliers of cleaning, sorting and grading lines for hard and soft fruits, nowadays there are no Russian-produced prototypes. Nevertheless, any European equipment has some units (elevators, conveying units, and baths for soaking) which are produced in the Russian Federation.

In many projects the customers ask to make equipment cheaper. The suppliers decide which equipment should be European-produced and which equipment units (conveying units, baths) can be Russian-produced. There are some Russian companies which cannot implement a complete project but can produce for example specific equipment units.
The share of Russian equipment in the investment project depends on the projects details. It can be 10 conveying units, 5 elevators, some bunkers or it can be only 1-2 equipment units. So in some cases the share of Russian-produced components can be 50%, in other cases it can be 5-10%. The surveyed equipment suppliers (the dealers of European companies – the market leaders) estimate the share of Russian-produced components in the market value at the level of 10% on average.

Even if the Russian equipment producers will move to a more complex supply, then the main components will already be European-produced. Lower cost can be achieved only due to cheaper Russian assembling. Furthermore, the purchasers will estimate additionally whether the equipment is assembled in the Netherlands or in the Russian Federation.

From the experience of the surveyed equipment suppliers, Russian companies, which have started to produce cleaning lines or bunkers for vegetables recently, are unreliable for their clients. The experience is that their equipment has fewer lifetimes and breaks more often within the guarantee period, because the quality of metal (pieces) and electronics is less in comparison with imported equipment.

The cleaning, sorting and grading lines are bought mainly by the companies which work with the retail chains or at the commercial market where break downs lead easily to shortfalls in deliveries and heavy fines. That's why the key parameter of equipment for the customers is reliability. As a consequence, the large companies at this market work with reliable equipment and not with equipment from the Russian Federation, Belarus and China.

Nevertheless, the high EUR/RUB exchange rate cuts down opportunities to buy European equipment.

In general the market is quite stable. The main equipment producers work at the market already for quite some years. The majority of equipment has been used in existing production facilities. According to the equipment suppliers’ estimates not every customer decides to try something new. If big companies in sector work with 2-3 equipment brands, then the majority of other companies choose the same brands.

The reasons for the famous European suppliers are the understandable situation:
- what kind of problems can happen with the equipment;
- is the maintenance and repair difficult or not;
- is it possible to find any replacement parts at the Russian market, etc.

The main suppliers of the concerned equipment to the Russian Federation are the Netherlands (leader), Italy and Spain.

The leading position of the companies from the Netherlands at the market of the cleaning and sorting lines for hard and soft fruits is confirmed by the structure of import by CC FEA code 843360000 in general.
The key players and producers of cleaning and sorting lines for hard and soft fruits at Russian market are:

- **AWETA**, [http://www.aweta.nl/](http://www.aweta.nl/), The Netherlands;
- **GREEFA**, [https://www.greefa.nl/](https://www.greefa.nl/), The Netherlands;

Some companies specialized in hard and soft fruit package can be distinguished, like:
- **ULMA**, [https://www.ulmapackaging.ru/](https://www.ulmapackaging.ru/), Spain;
- **GILLENKIRCH**, [https://www.gillenkirch.com/?lang=en](https://www.gillenkirch.com/?lang=en), Germany;

Also the same packers suit for apples as for potatoes but with a softer mechanism, for example:

- «JASA» (pillow bag made from polyethylene);
- «C-Pack»( grid with a clip or package like D-pack);
- «NEWTEC» (bag PE);
According to data from customs statistics, the sorting and packaging lines for soft fruits are supplied in small amounts during 2015-2016. The most frequent company is **TOMRA SORTING, S.R.O.**, Slovakia.

According to the equipment suppliers’ estimates, the demand for the sorting and packaging lines for soft fruits will grow. It is still possible to enter as a new players into the market because there is a vacant market niche and not all technological solutions are presented, for example:

- equipment to remove stones from cherries;
- optical calibrators for peaches and nectarines;
- calibrators and packers for soft fruits (strawberries, raspberries, blackberries, currants,, etc.).

On the one hand, Russian producers have not shown serious interest so far in these types of equipment, because the soft fruit producers are at the very beginning. On the other hand, the companies producing such equipment have not entered the Russian market yet.

The principal barrier for the market growth is the lack of funding for investment of the potential customers.

**Packaging material for fruits**

According to the sector experts’ estimates:

- the market value of packaging material for hard and soft fruits is insignificant;
- the share of import is 30%, Russian share is 70%.

There are many companies producing and supplying plastic films, tray packs from expanded polystyrene and bags. It is difficult to define a market leader.

Some examples of companies producing different packages and which work with the surveyed suppliers of packaging lines for hard and soft fruits are:

- Plastic package (punnets, trays and fruit nest) – «ILIP» (ILPA Group), [https://www.ilip.it/en/](https://www.ilip.it/en/), Italy;
2.6. PROCESSING, HEATING AND DRYING LINES AND PACKAGING MATERIAL FOR FRUIT PRODUCTS

In the Russian Federation from the total volume of commodity production:

- **25% of hard and soft fruits**
- 15% of vegetables

are processed.

As a comparison, this share of processed hard and soft fruits in European countries is 50%.

One of the reasons is **the lack of modern fruit processing capacity**. For example, in Leningrad region the paradoxical situation is created when the local apple producers (700-1000 ha of orchards) sold their products in Belarus because of absence of local processors (taking into account that Saint-Petersburg is the second largest consumer market in the Russian Federation).

The processing segment was damaged seriously in the 90s when the fruit and vegetable production decreased sharply and many plants closed consequently.

The main part of canneries have worked since the Soviet era.. During that period, the canning industry was developed well. However, nowadays these enterprises require fundamental modernization. An exception are the relatively new plants which usually are included into the vertically-integrated agriholdings.

Nowadays the problem of the lack of modern hard and soft fruit processing capacity grow worse because of:

- the increase of commodity production, as a result the of new orchards and soft fruit plantations which were planted 3-5 years ago;
- the lack of modern storages (a significant part of the harvested fruits should be quickly processed);
- the expansion of consumption of commercially produced hard and soft fruit by population (the reduction of consumption of preserved products from own backyards).

Apart from the processors the hard and soft fruit producers process themselves:

- the large hard and soft fruit producers initially focus on the processing and production of more marginal products;
- the medium and small producers process them reluctantly because they do not have possibility to sell products which are in compliance with the quality characteristics to sell fresh.

The promising direction in the Russian Federation is the fruit processing for b2b which means the appropriate equipment is in demand. Early the products of hard and soft fruit processing for b2b are delivered mainly from Europe. After the devaluation of the ruble the demand of Russian production has grown.

The popular variants for hard and soft fruit processing for b2b are:

- frozen peeled and cut apples used as semi-finished products for dairy, canning and confectionery industries;

---

- apple puree as a product, which has a wide range of usage: in juice, jam etc. production;
- the relatively simple variant, which is peeled, cut and blanched. This is a filling for pancakes, dumplings, etc. There are a few producers, which make such products. The market is unsaturated;
- the sublimated products, for example apple sublimation for muesli, breakfast cereal production, for confectionery industry. This is a high-tech process with relatively high investments and high cost of the finished product.
- the apple chips – the production technology is less complicated but the marketing is expensive;
- as for soft fruits, it can be juices, frozen, sublimated, and dried products. Frozen and dried soft fruits are more interesting for export.

According to data from surveyed equipment suppliers there are requests in Russia for the supply of equipment for hard and soft fruit processing. The market has started to develop. However, there are some limitations:
- the large sum of initial investment (excluding lines for directly squeezed juices);
- unguaranteed sales of hard and soft processed products;
- relatively large scale of production for the return of investment;
- the demand for raw materials.

The line for directly squeezed juices for 300-500 liters per hour costs 200 thous. EUR. Equipment for puree production with the capacity 4-5 tons per hour (minimally effective scale of production) costs 2 mln. EUR. Equipment for juice concentrate production costs about 7 mln. EUR; the effective scale of production is 10 tons raw material per hour.

Apart from the investment to processing equipment, the additional resources are necessary, like water, steam and electricity. If there are no or insufficient resources in or around the existing production facility or in the nearby storage, then the additional investment is necessary.

For hard and soft producers it is important to decide what should be done with the products – sale fresh, frozen or processed. This affects the varieties which will be grown and with which Brix values. The fruit processing depends on Brix values. To make the best use of equipment particular raw material should be used.

The large fruit processing plants (25 tons of apples per hour) has to deal with the large investments and demand for raw material. Such equipment usually works twenty four hours. 400 tons of apples per day are processed.

In Europe there are processing plants where raw material from many enterprises / storages is delivered. In the Russian Federation some variants are possible:
- the large producer (50 thous. tons apples) can afford to sell and process production;
- the company build the plant and process the products from 2-3 or more suppliers. But this variant increases the risks.

The unguaranteed sales of fruit processed products are one more barrier for fruit processing development in the Russian Federation.
According to data from one engineering company working in the sphere of fruit processing, 99% potential customers don’t know whom they could sell fruit products (especially in b2b segment). So this engineering company not only supplies equipment, but additionally find some contact in the processing or retail who would be interesting in fruit processing products. From their experience, if they don’t do it, then the probability of the project implementation is next to none.

In general the share of imported equipment in the Russian food industry is 80-100% depending on the segment\(^{24}\). There is no reason to believe that the situation in hard and soft fruit processing is different.

Moreover, according to official statistics the cost of fruits, vegetables and nuts processing equipment produced in the Russian Federation in 2017 was only 0,02 mln. EUR (1,5 mln. RUB). Production of such equipment is monitored since 2017. It is evident that its production in the Russian Federation is insignificant.

According to official statistics the total cost of equipment for the food industry produced in the Russian Federation in 2017 was 208 mln. EUR (14,3 bln. RUB).

The Ministry of Industry and Trade of the Russian Federation (http://minpromtorg.gov.ru/) estimates the capacity of the Russian market of equipment for the food industry in 2017 at 865 mln. EUR (59,7 bln. RUB), including import of 701 mln. EUR (48,4 bln. RUB)\(^{25}\).

The capacity of Russian market of equipment only for hard and soft fruit processing is estimated proportionally to the output composition of the food industry by the types of products. The fruit and vegetable products occupy 10% in value terms, including 2% for hard and soft fruit products.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity of the Russian market of equipment for the food industry, mln. EUR</td>
<td>865</td>
</tr>
<tr>
<td>The share of fruit and vegetable products in the structure of the food industry (in value terms), %</td>
<td>10</td>
</tr>
<tr>
<td><strong>including the share of fruit preserves, %</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Value of the Russian market of equipment for hard and soft processing, mln. EUR</strong></td>
<td>17,3</td>
</tr>
<tr>
<td><strong>including import (90%)</strong></td>
<td>15,6</td>
</tr>
<tr>
<td><strong>Russian production (10%)</strong></td>
<td>1,7</td>
</tr>
</tbody>
</table>

Reference source: calculation of «Rusmarketconsulting»

So the value of the Russian market of equipment for hard and soft fruit processing is 17 mln. EUR of which import is not less than 15,6 mln. EUR.

As a support measure for Russian producers of equipment for the food industry, the Ministry of Industry and Trade of the Russian Federation in April 2018 offered to increase the duties on imported equipment. While the decision has not yet been made.

The Ministry of Industry and Trade of the Russian Federation worked out a special strategy till 2030. According to this strategy to 2020 the share of Russian equipment for food and processing industry at Russian market should reach 62%.

\(^{24}\) [https://www.rbc.ru/business/09/06/2018/5b1a4b549a79471225c65d86](https://www.rbc.ru/business/09/06/2018/5b1a4b549a79471225c65d86)

\(^{25}\) [http://tass.ru/ekonomika/4572642](http://tass.ru/ekonomika/4572642)
Nowadays the zero rate of import customs duties acts on the import of equipment for food industry. The Ministry of Industry and Trade of the Russian Federation offers to increase the duties till the level of the ultimate rate by the commitments of WTO – depending on the type of equipment it is from 3% till 10%. Lines for juice production and packaging lines are included in the list of equipment on which are offered to increase the duties.

Food producers believe that the increase of the duties is too premature, because Russian engineering is not ready to give prototypes for the food industry equal to imported ones.

Additionally, nowadays there are some support measures for Russian producers of equipment for the food industry including equipment for hard and soft fruit processing:

- partly compensation of the expenses for production concerning preliminary consignments of equipment, compensation of R&D expenditures;
- subsidizing of the interest charges by the credits during the implementation of the integrated investment projects;
- soft loans of «Industrial Development Fund» (http://frprf.ru/) at the rate of 5% per annum;
- the subsidizing program at the value of 15% from cost equipment provided from 2017. For the amount of the subsidy, the equipment producers provide a discount to the customers.

Surveyed equipment suppliers mentioned that Italian producers are the leaders in the market of equipment for hard and soft fruit processing (jams etc.) Serbian equipment is presented as well. It is related to the fact that in the Soviet Union the canning industry was equipped with equipment from Serbia and Croatia.

Italian and Serbian producers specialize not only in production of equipment for hard and soft fruit processing in general but narrower, for example in the production of equipment only for stone fruits (plums, cherries). Italy and Serbia are the world leaders in this segment.

There is no large industrial stone fruits processing company in the Russian Federation. For small production the cheaper Chinese prototypes can be bought.

Equipment for juices, nectars and puree is mainly Italian (for example «FENCO») and German (for example «Bucher Unipektin») or Swedish («Alfa Laval»).

The freezing lines for hard and soft fruits are mainly from Polish origin, because this market is developed there. There is Italian and Scandinavian equipment as well on the Russian market.

PACKAGING MATERIAL FOR FRUIT PRODUCTS

The kinds of packages for fruit products in the Russian Federation are provided below. The main package for juices is cardboard pack, for hard and soft fruit products of processing – grass jar. Preserved fruits (peaches, pineapples, mango, apricots) are packaged in cans, but these products are mainly imported.

The kinds of packages for juices:
Bag In Box
for 3 and 5 l

Cardboard pack
with variable volume

PET bottles

Glass jars and bottles with variable volume

The kinds of packages for **processed preserved products**:

**Glass jars**
with variable volume

**Doy-pack**

The foreign companies – the market leaders – are classified as Russian production of cardboard pack. For example:

- «**Tetra Pak**» (Sweden)
  The company Tetra Pak for packaging is situated in Lobnya (Moscow region). Nowadays it is the largest enterprise in the Russian Federation and in Eastern Europe for package material production for liquid foods.

- «**Elopak**» (Norway)
  The company in Leningrad region for package material production for liquid foods.
As for glass packaging there are 28 companies for glass containers production in the Russian Federation. The sector experts emphasize the high competition between glass containers producers. The largest enterprises are located in the Central Federal District - 43% of all-Russian production in 2016.
2.7. CONSULTING SERVICES

In this chapter the focus is on consulting for agricultural enterprises – hard and soft fruit producers.

All surveyed experts agree that:

- the independent consulting for agriculture is developing with great difficulty in Russia (some of them estimate this direction as lacking in prospects);
- the main volume of consulting services is provided as a part of market promotion by suppliers of goods and services.

The market share of the independent consultants (the consulting companies) is rather small in the Russian Federation.

For independent consultants it is difficult to compete with consulting from goods and services promotion companies because such consulting is formally free.

The surveyed sector experts emphasize the high cost of consultants’ services. For example, the cost of one working day of a Dutch equipment expert specialist is 600-700 EUR per day, hard and soft fruit growing expert – 1000 – 1200 EUR per day.

For qualified Russian experts 2 such days equals to a monthly salary.

For small projects, especially soft fruit projects, it is difficult to finance such expenditure for foreign consultants.

There are no Russian experts for soft fruit growing in tunnels. In such projects, growers cannot do without foreign experts. By contrast, there are quite some companies and experts for cooling and freezing lines in the Russian Federation.

According to a surveyed engineering company working on fruit storage projects it prefers Russian experts for cooling and freezing lines at the designing stage to make the project overall cheaper. In other words, there are options to choose experts.

When in a situation where there are no Russian experts the agricultural producers require services of private foreign experts which work independently. The cost of their services differ.

There are no special subsidies for the agricultural producers to pay the consulting service in the Russian Federation.

The sector specialists emphasize that there is the situation frequently where the project managers under highly costly investment projects refuse the consulting arguing it has a lack of financial resources.

The sales growth of consulting services depends highly on the concrete and final results of their consultant. The personal reference helps to work further.

The advantage of the independent consultant is the absence of affiliation with any companies-suppliers. In this case the consultant is targeted not at the peak sale of the products but at maximum effect for the customer.
One of the surveyed representatives of the consulting company supposed that it is possible to promote the consulting services of Dutch experts in the sphere of hard and soft fruit production through the experts for tunnel technologies. In this sector Dutch companies are the absolute leaders and have the recognized authority.

It is hard to get clear insight in and information about the market of the consulting services in the Russian Federation. There are both positive and negative experiences of consultants' involvement.

The selection of the consultant depends on the level of the agricultural enterprises: the strong enterprises choose mainly the foreign consultants, less profitable and professional enterprises can invite experts from other Russian strong enterprises or other industry companies.

Russian companies which are consulting the hard and soft fruit producers are the following:

- the specialized research institutes
  for example, FSBSI «Federal Research Center named after Michurin», [http://fnc-mich.ru/](http://fnc-mich.ru/)
- the industry unions which promote the services and goods for their partners-participants,
  for example «Association of fruits, berries and propagation (planting) material producers», [http://asprus.ru/blog/](http://asprus.ru/blog/)

The majority of large Russian nurseries provide services in turn-key orchard projects.

Foreign companies which are actively promoting their services for the hard and soft fruit producers in the Russian Federation are:

- Advice & Consulting, Italy, [http://www.advice-consulting.it/?lang=en](http://www.advice-consulting.it/?lang=en);
- Delphy, the Netherlands, [https://delphy.nl/en/](https://delphy.nl/en/), the technology consulting for strawberry growing in the greenhouses;
- Alecon, Israel, [http://alecon.co.il/](http://alecon.co.il/).

In general, the market of independent consulting services for the hard and soft fruit producers is relatively small. It is hard to estimate its real activities.
### 2.8. FRUIT PRODUCTS AVAILABLE ON THE LOCAL MARKET

#### PRODUCTION IN THE RUSSIAN FEDERATION

Production of dried and frozen soft fruits, jams, jelly, and puree from hard and soft fruits has grown steadily in the Russian Federation. It provides a stable demand for raw material both Russian-produced and imported.

#### Table 32. Production of the main types of fruit products in the Russian Federation in 2013-2017

<table>
<thead>
<tr>
<th>Type of products</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried hard and soft fruits, nuts, except bananas</td>
<td>thous. tons</td>
<td>12,0</td>
<td>12,8</td>
<td>13,0</td>
<td>11,1</td>
<td>12,8</td>
<td>107%</td>
</tr>
<tr>
<td>Frozen hard and soft fruits</td>
<td></td>
<td>1,2</td>
<td>0,6</td>
<td>0,7</td>
<td>1,5</td>
<td>8,9</td>
<td>7,5 times</td>
</tr>
<tr>
<td>Fruit and berry jam and jelly, fruit and berry compote, fruit and berry puree</td>
<td></td>
<td>123</td>
<td>141</td>
<td>158</td>
<td>161</td>
<td>166</td>
<td>135%</td>
</tr>
<tr>
<td>Fruit preserves</td>
<td>min. of standard cans*</td>
<td>5 276</td>
<td>5 325</td>
<td>4 376</td>
<td>3 946</td>
<td>no data</td>
<td>x</td>
</tr>
<tr>
<td>Fruit and vegetable infant preserve, including juices</td>
<td></td>
<td>2 879</td>
<td>2 866</td>
<td>2 828</td>
<td>2 884</td>
<td>3 940</td>
<td>137%</td>
</tr>
<tr>
<td>Fruit and berry homogenized products for infant nutrition</td>
<td></td>
<td>152</td>
<td>163</td>
<td>174</td>
<td>125</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Fruit and vegetable juices</td>
<td></td>
<td>2 564</td>
<td>2 570</td>
<td>1 962</td>
<td>1 579</td>
<td>1 069</td>
<td>42%</td>
</tr>
<tr>
<td>Fruit and vegetables nectars</td>
<td></td>
<td>2 796</td>
<td>2 806</td>
<td>2 470</td>
<td>2 278</td>
<td>1 098</td>
<td>39%</td>
</tr>
</tbody>
</table>

* unit of measurement of official statistics, further translation 1 standard can = 350 grams


In contrast, juice and nectars production has decreased during 2013-2017 more than half. This is related to:

- the reduction in personal incomes (and juice do not consider as an essential commodity);
- the increase of the price for juices (the increase of imported raw material – juice and puree concentrate – because of the devaluation of the ruble);
- the partial raw material redistribution – fruits – from the processing segment to the retail sale segment in fresh on the back of fruit import ban from the main countries-importers.

Because of erosion of purchasing power, the Russians do not consider juice as an essential commodity and try to save on their expenditures. The share of juice sales by the promo offers has increased: the share of promo in juice sales was 34% in 2014; it has already reached 46% in January-November 2015. This is one of the highest figures at the market FMCG\(^{26}\).

However, the experts expects a stabilization of the Russian juice market from 2017 on, because of the lower rate of the slowdown of the juice market in general in the Russian Federation.

\(^{26}\) Reference source: «Nielsen Russia»
IMPORTS

The volume of imports and exports of fresh and frozen hard and soft fruits in volume and value terms is represented in chapter 1.3.

In this chapter the volume of imports by the main products of fruit processing is reported. The fruit products imported to the Russian Federation are mainly raw materials for food production.

Jams include both finished jams for retail sales and jams for the confectionery (dairy, bakery) industry, concentrated fruit puree for juice, nectar, jam production and infant food.

The share of imports of finished jams and infant food for retail sales is 22% (according to the data by 2015). The volume of imports of finished jams and infant food in 2017 was 25 mln. USD from 113 mln. USD of total imports of fruit jams and puree.

The juice import consists mainly of juice concentrates. The import of «juices of any other single fruit and vegetable»27, h. e. juices of a Brix value28 exceeding 20°Bx, was 217 mln. USD in 2017 or 74% of total import in this category.

Table 33. Import of the main types of fruit products by the Russian Federation

<table>
<thead>
<tr>
<th>Type of products</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit and vegetable juices</td>
<td>thous. tons</td>
<td>243</td>
<td>238</td>
<td>170</td>
<td>182</td>
<td>185</td>
<td>76,1</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>460</td>
<td>410</td>
<td>268</td>
<td>285</td>
<td>295</td>
<td>64,1</td>
</tr>
<tr>
<td>Jams, fruit jellies, fruit and nut puree</td>
<td>thous. tons</td>
<td>124</td>
<td>138</td>
<td>105</td>
<td>70</td>
<td>98</td>
<td>78,9</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>166</td>
<td>173</td>
<td>122</td>
<td>85</td>
<td>113</td>
<td>68,1</td>
</tr>
<tr>
<td>Other fruits and nuts preserved</td>
<td>thous. tons</td>
<td>177</td>
<td>160</td>
<td>114</td>
<td>132</td>
<td>150</td>
<td>84,7</td>
</tr>
<tr>
<td></td>
<td>mln. USD</td>
<td>230</td>
<td>235</td>
<td>175</td>
<td>177</td>
<td>212</td>
<td>92,2</td>
</tr>
</tbody>
</table>


In the group «Other fruits and nuts preserved» the share of preserved hard and soft fruits covered by the research is insignificant – totally 9,2% (as of 2017):

- Pears – 1,9 mln. USD or 0,9%;
- Cherries and black cherries – 7 mln. USD or 3,3%;
- Strawberries – 5,5 mln. USD or 2,6%;
- Cranberries – 5,1 mln. USD or 2,4%.

67% in value terms and 76% in volume terms are accounted for by pineapples and peaches from the preserved fruits (without including nuts).

The Russian import ban for countries included in the sanction list is not applicable for the fruit processing products. There are quite a number of European countries exporting processed fruit products to the Russian Federation. The Netherlands contributes 9% or 21,3 mln. EUR (25,3 mln. USD) to the total Russian juice import in 2017.

27 CC FEA codes 200919, 200929, 200939, 200949, 200969, 200979, 200989
28 characterizes the content of soluble solids (mainly sucrose) in juice
MARKET VALUE

The market value in value terms is calculated by the main concerned fruit products. The cost of import is calculated on the basis of customs statistics. The market value was **433 mln. EUR** in 2017.

The share of import and the aggregate market value are not specified because raw material is mainly imported to produce the finished fruit products in the Russian Federation. Eventually the cost of raw material is included in the cost of products produced in the Russian Federation.

Table 34. Production and import of fruit products in the Russian Federation, mln. EUR

<table>
<thead>
<tr>
<th>Main types of fruit products</th>
<th>Production in the Russian Federation</th>
<th>Import (raw material and finished products)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>thou. tons</td>
<td>mln. EUR</td>
</tr>
<tr>
<td>Jams, fruit jellies, fruit and nut puree</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>166</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>259</td>
<td>95</td>
</tr>
<tr>
<td>Juices and nectars</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>759</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>567</td>
<td>248</td>
</tr>
<tr>
<td>Preserved fruits (CC FEA code 2008, without including nuts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>x</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>x</td>
<td>90</td>
</tr>
<tr>
<td>TOTAL, mln. EUR</td>
<td><strong>not less than 826</strong></td>
<td><strong>433</strong></td>
</tr>
</tbody>
</table>

Reference source: calculation of «Rusmarketconsulting»

MAIN MARKET PLAYERS AT THE FRUIT PRODUCTS MARKET

The juice market in the Russian Federation is characterized by the high level of concentration: three companies occupy 71% of the market (see the table 35).
There are strong market leaders in the category of frozen hard and soft fruits (the finished product in the consumer package).

There are many regional producers in the category of jams, including the companies (packers) of wild berries (chapter 1.1.3). Imported production is more frequent in this segment (without any leaders).

Production of preserved fruits is not developed in the Russian Federation, because the main preserved fruits (pineapples, peaches, apricots) are not grown in the Russian Federation at all or grown insufficiently. Imported products from China and Thailand are presented in this category. At the same time Russian companies can be brand holders. The most presented brands are the following:

- «Vegda», [http://vegda.ru/index.php?route=common/home](http://vegda.ru/index.php?route=common/home), the brand holder is the company «Vega», the Russian Federation, the products are produced at the plants in Spain, Thailand, China, Vietnam, Germany, India, Italy, and Israel;
- «Lorado», [http://www.lorado.org/about](http://www.lorado.org/about), the brand holder is the German company «Wünsche Handelsgesellschaft International MBH & Co KG». The producers and suppliers are in China, India, Italy, Greece, Thailand, Spain and Uzbekistan;
- «Mikado», [https://www.mikado-foods.de/startseite.html](https://www.mikado-foods.de/startseite.html), Germany.
- «Lutik», [http://www.lutik.ru/o-nas.html](http://www.lutik.ru/o-nas.html), the brand is owned by the holding «Eurovision LTD», USA;
- «Sun feel», the brand holder is a group of companies «SunFeel» (LTD Gamma Plius), the Russian Federation.

The segment of hard and soft fruits snacks only starts to develop in the Russian Federation.

The share of branded fresh hard and soft fruits is insignificant. The share of packaged fresh fruits is insignificant (except citrus fruits in the season); soft fruits in retail are sold packaging but rarely branded.

It is worth noting that the sales grow of fruit products with own brands in the retail chains. Producers of own brands can be foreign companies, for example from China or Thailand in respect to preserved pineapples or even frozen strawberries.

In general, in 2017 the share of own brands was 8% in volume terms. In some retail chains in 2016 the share of own brands was 16% («Diksi», [https://dixy.ru/](https://dixy.ru/)), 24% («Aushan», [https://www.auchan.ru/](https://www.auchan.ru/)).

Examples of fruit products by own brands (private labels) of the retail chains

---

**Examples of fruit products by own brands (private labels) of the retail chains**
### Table 35. The largest producers in the Russian Federation by the types of fruit products

<table>
<thead>
<tr>
<th>Producers</th>
<th>Brand names</th>
<th>Remarks</th>
<th>Web-site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Juices</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frozen hard and soft fruits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>«HORTEX Russia»</td>
<td>«HORTEX»</td>
<td>Polish company. LTD «Ortika Frozen Foods» is the representative in the Russian Federation. There are agreements with two production sites in Moscow and Moscow region.</td>
<td><a href="http://hortexr197.nicwebsite.ru/">http://hortexr197.nicwebsite.ru/</a></td>
</tr>
<tr>
<td>LTD «KHLadokombinat Zapadnyi»</td>
<td>«4 sezona»</td>
<td>Frozen hard and soft fruits as well as vegetables, mushrooms, ready-made meals. The main production site is in Moscow region, the branch is in the Republic of Adygeya. 2000 ha of vegetable crops.</td>
<td><a href="http://www.4sezona.ru/">http://www.4sezona.ru/</a></td>
</tr>
<tr>
<td>«Miratorg»</td>
<td>«Vutamun»</td>
<td>Frozen soft fruits, soft fruit smoothies, and mixed fruits for tea. The agroholding is one of the leaders in meat production in the Russian Federation.</td>
<td><a href="https://miratorg.ru/">https://miratorg.ru/</a></td>
</tr>
<tr>
<td><strong>Jams, jellies etc.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Producers</td>
<td>Brand names</td>
<td>Remarks</td>
<td>Web-site</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>«Pikanta»</td>
<td>«Pikanta»</td>
<td>It specializes in vegetable preserves but produces hard and soft fruit desserts (puree) and syrups.</td>
<td><a href="http://www.pikanta.ru/">http://www.pikanta.ru/</a></td>
</tr>
</tbody>
</table>

**Products of vacuum and sublimated drying**

| PJSC «Sibirskii gostinets» | «Sibirskii gostinets» | Production is in Pskov region, the processing capacity is 6 thous. tons of raw material. Sublimated forest soft fruits. | [https://www.siberiangostinets.ru/](https://www.siberiangostinets.ru/) |

*Reference source: data from the companies, mass media, retail audit*
2.9. INTERMEDIATE CONCLUSIONS

The most perspective segments for the Netherlands companies are determined on the basis of:
- the segment market value and the import share;
- the current position of the Netherlands companies in the segment.

Table 36. Summary table of market value and import share in regard to segments

<table>
<thead>
<tr>
<th>Product categories</th>
<th>Market value, million EUR</th>
<th>Including imports</th>
<th>Market prospects for 3-5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit propagation material (i.e. young plants, fruit bushes and trees)</td>
<td>45</td>
<td>43%</td>
<td>19</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>3.4</td>
<td>4%</td>
<td>0.1</td>
</tr>
<tr>
<td>Crop protection</td>
<td>2.6</td>
<td>70%</td>
<td>1.8</td>
</tr>
<tr>
<td>Orchard machinery and equipment</td>
<td>8.2</td>
<td>48%</td>
<td>3.9</td>
</tr>
<tr>
<td>Cleaning, sorting and packaging lines</td>
<td>3.3</td>
<td>90%</td>
<td>3.0</td>
</tr>
<tr>
<td>Storage, cooling and freezing facilities</td>
<td>6.0</td>
<td>90%</td>
<td>5.4</td>
</tr>
<tr>
<td>Processing, heating, drying, canning and filling lines and packaging material for fruit and fruit products</td>
<td>17.3</td>
<td>90%</td>
<td>15.6</td>
</tr>
<tr>
<td>Fruit products available on the local market (incl. information on their brand names, producers and countries they originate from)</td>
<td>not less than 826*</td>
<td>x</td>
<td>not less than 433*</td>
</tr>
</tbody>
</table>

* by the main types of fruit products (excluding fruit raw material for b2b): juices, nectars, jams, preserved fruits

On the basis of this undertaken study the most perspective segments for the Netherlands companies are the following:

- fruit propagation material is the most promising segment with good growth prospects; the leading positions of Dutch companies in the innovative technologies, for example seedlings «knipp-baum»;
- cleaning, sorting and packaging lines – leading positions at the market for Dutch companies and good growth prospects;
- storage, cooling and freezing facilities - strong positions at the market for Dutch companies and good growth prospects.

The market value of the segment «fruit products» is much higher than all concerned segments. Import of fresh hard and soft fruits covered by this research is no less than 550 mln. EUR (655 mln. USD), chapter 1.3. However, nowadays import of hard and soft fruits (including dried, heat treated and frozen) from the sanction list countries, including the Netherlands, is banned. At the same time, the import ban does not apply to the import of juices and juice concentrates. The Netherlands share in this category of imports was 9% in 2017 (in value terms).
The lack of raw material and investment hamper the development of hard and soft processing in the Russian Federation.

Import of compound fertilizers for hard and soft fruit production is perspective (high-tech fertilizers for foliar application and organic promoting agents). However, fertilizer import is small in general - 4% in terms of market value.

As for the crop protection agents their dependence on import and the prospects consequently are higher: the share of import is 70%. The companies-leaders in this segment are the multinationals. It is not easy to compete with them. Probably, there are some prospects for some specialized products only for hard and soft fruit crops.

The segment «processing, heating, drying, canning and filling lines and packaging material for fruit and fruit products» is relatively large, but the market is quite conservative. It is mainly presented by the large companies which are reluctant to change equipment suppliers. The equipment producers with whom Russian fruit processors work are mainly from Italy, Germany and Poland.

Orchard machinery and equipment is a perspective segment as well. The medium and large enterprises will raise their level of technical equipment. However, the leading companies in this segment which work at the Russian market for quite some years are mainly from Italy and Poland.
3. GUIDE TO MARKET ENTRY

According to market experts’ estimates, entering as a new player into the hard and soft fruit market in the Russian Federation is a difficult task, because the market is relatively small and the competition is high. But it will be possible if the new player is offering a product which is competitive price-wise and quality-wise.

**Perspective directions of production by types of hard and soft fruits**

The main volume of fruit production in the Russian Federation is accounted for by apples (91%), so equipment, machinery and other resources to apple growing, storage and processing have the largest market potential.

The large producers as an addition to their main areas of apple orchards plant the orchards with the alternative crops, like pears, black cherries, etc. The competition of the specialized companies / suppliers in this segment of less widespread fruits is low. Even the world leading companies are underrepresented here.

The most perspective soft fruits from the standpoint of the production growth and the demand for fruit as raw material consequently are strawberries and raspberries. However, the projects of commercial blueberry growing are rather rare in the Russian Federation.

**Characteristics of consumers**

The producers of hard and soft fruits in the Russian Federation are different.

There are only few hard fruit producers. They have large orchards with areas of 300-500 ha and more. The leading enterprises are mainly vertical-integrated companies with own nurseries, storages and recently also processing. These are the most competitive and financially reliable enterprises. They have possibilities to develop. They need new equipment, machinery, means to enhance production, etc.

There are a lot of soft fruit producers, mainly farmers. The soft fruit plantations in the farms and agricultural enterprises are small 1-2 ha and 5-10 ha respectively. It is related to the fact that the producers sell soft fruits mainly fresh so the overall production is limited by the sales market. As a result even the large companies produce soft fruits on a small volume. It is known some large projects in the Russian Federation are foreseen, however they have not reached the high volume of production yet.

The large projects of soft fruit production orient to sales either to the retail food chains or to processing plants (drying, freezing, jam production etc.) which only start to establish. The retail chains buy soft fruits which should store their marketable appearance after delivery to the distribution center minimum 5 days. Soft fruits should deliver not only in the season (1-2 months per year) but even during 6 months. Nowadays the majority of Russian producers cannot provide these requirements. Additionally, the sales prices in the retail chains are lower than the independent sales to the ultimate clients.
The modern technologies (tunnel growing, soft fruit cooling lines after harvesting) allows to organize production with extended periods of harvesting berries and their storage. The limitation for their intensive introduction is the high volume of investment, the limited experience of such projects implementation in the Russian Federation and the competition from the imported products. During the soft fruit harvesting period the imported products, firstly from Belarus, are cheaper.

Nevertheless, some soft fruit projects in the Russian Federation are being implemented. They are different on scale and technology level. There is a growing interest in soft fruit projects on the side of the investors from other (not agriculture) sectors of economy.

**Specific character of management structure in different agricultural enterprises**

The specific character of management structure must be considered at the beginning of co-operation with agricultural enterprises and during the products and services promotion.

The soft fruit producers in the Russian Federation are the farms or the small enterprises. The farmer or the head of the enterprise are an owner, a manager, and a decision-maker in all aspects of current and investment activities.

At the agricultural enterprises (large farms) the situations can be different. In some enterprises a director makes decisions by himself or herself, in other cases the director delegates a part of decisions to specialized professionals.

The uncertainty of a decision-maker is typical for large vertically-integrated enterprises (agricultural holdings) (fig. 34). So it is more difficult to work with agricultural enterprises than with separate individual enterprises.

In fig. 34 the participants of organizational structure making decisions are highlighted in green.

**Fig. 34. Management structure in different types of agricultural enterprises**

<table>
<thead>
<tr>
<th>Family farm</th>
<th>Agricultural enterprise</th>
<th>Agroholding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of family farm (= owner*)</td>
<td>Owner / Owners</td>
<td>Owner / Owners</td>
</tr>
<tr>
<td>Employees</td>
<td>Director (can be owner wholly or partially)</td>
<td>Management company</td>
</tr>
<tr>
<td></td>
<td>Chief specialists (chief agronomist, chief engineer etc.)</td>
<td>Director</td>
</tr>
<tr>
<td></td>
<td>Middle ranking specialists</td>
<td>Chief specialists (chief agronomist, chief engineer etc.)</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Middle ranking specialists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Workers</td>
</tr>
</tbody>
</table>

* in most cases
Additionally, in the agricultural holdings the decision about suppliers choosing is often made by the purchasing department, oriented mainly to product price and to possible saving. In this case, the "cost-results" ratio is often ignored.

**Perspective regions**

Because the Russian Federation is a very large country territorially, the choice of main regions for commercial activities is necessary, at least at the initial stages of entrance to the market.

The most perspective regions for working with the fruit producers (mainly apples) are Southern regions of the Russian Federation, including North Caucasus. Commercial gardening is actively developing there.

The regions of the Russian Federation – the leaders where the overall fruit production is more than 14 thous. tons per year (for more details see fig. 6) are provided below:

- **Krasnodar Krai** (42% of fruit production on the agricultural enterprises),
- the Kabardino-Balkarian Republic,
- Volgograd region,
- Voronezh region,
- Lipetsk region,
- Stavropol Krai,
- the Republic of Adygeya,
- Belgorod region.

The objective cause of such fruit producers' distribution is the climatic conditions. In Leningrad region (Northwestern Federal District) the effective heat sum (above 10°C) is maximum 1900°C, in Krasnodar Krai it is 3400-3600°C and more.

At the same time in Southern regions of the Russian Federation it is necessary to provide obliging irrigation, in many regions of North Caucasus – obliging hail suppression / protection.

According to data from the surveyed sector experts holding by the investment company «Vostock Capital» (about 200 respondents), the most perspective regions of the Russian Federation for commercial gardening are mainly Southern regions and North Caucasus.

**Fig. 35. Results of the sector experts polling about the most perspective regions of the Russian federation for commercial gardening, %**

Reference source: «Vostock Capital»
The surveyed engineering companies working with the fruit storage projects emphasized if you want to work with the fruit producers you should live in Krasnodar Krai. This means visit the enterprises, strengthen informal ties with specialists of the enterprises and the representatives of the administrations.

Many dealers and service organizations specialized in goods and services for commercial gardening are situated in Krasnodar Krai, the Kabardino-Balkarian Republic or have their branches or partners there.

The soft fruit producers are located mainly around the sales markets – megapolis (Moscow, Saint-Petersburg) or the largest cities in the regions. So it is incorrect to promote only in one region or neighbor group of regions as in case of hard fruit.

**Success stories of implementation in existing enterprises**

All surveyed experts mentioned as a main tool the success stories in the existing enterprises for equipment, machinery and other resources supporting fruit production in the Russian Federation.

The number of hard and soft fruit producers in the Russian Federation is significantly less than for example the dairy producers, so data communication between enterprises is more easy and the success stories are spread quicker.

The agricultural producers/farmers are quite conservative when choosing suppliers. There are quite a number of agricultural enterprises which work with one equipment model or a particular product for a long time and not ready to change it even they can save costs.

It is connected to the crucial role of human factor. Long-standing relationship between the agricultural enterprise’s specialist/manager and the company-supplier’s representative can overrule other arguments, including lower price of another company.

The enterprises of hard and soft fruit presales training and processing are more conservative. The cleaning, sorting, packaging and processing lines are bought by the companies which work with retail chains. In this segment the damages lead to late products deliveries and heavy fines.

So choosing a dealer or company’s representative in a region it is meaningful to choose a company or an individual which has work experience in the region (even in related products categories) and have direct contacts with the managers and specialists of agricultural enterprises.

If the equipment producer does not have examples of his product implementation in Russia then the variant to entry to the market can be:

- Work with companies which have working experience at the Russian market. For example, with an integrated company like «Plattenhardt + Wirth GmbH» (turn-key storage projects). Or work with local companies (projects, construction, etc.), which worked already for a long time in this segment. For example, the construction company «Ruki Mastera» which built the fruit storages for sector leaders.

- The creation of experimental-demonstration plots is suitable for fertilizers, plant protection agents, young stock and/or producers and suppliers of technology solutions (for example tunnel technologies for soft fruit production). In 2007 with support of the «Association of fruits, berries and propagation (planting) material producers», Polish and Israel companies established at the territory of «Federal scientific
center named after Michurin» an experimental-demonstration plot on «Integrated technology of strawberry production». It allows acquainting the specialists and farmers with innovative technology for strawberry growing and at the same time promoting machinery, equipment, seedlings and plant protection agents involved in this technology.

Additionally, Dutch companies have a high authority in the sphere of equipment delivery, resources and consulting for greenhouse projects. This can be an option to entry to Russian market as well. In other words the promotion of related goods for fruit production through the suppliers or the service companies for greenhouses.

The surveyed soft fruit producers from Leningrad region pointed out that they bought black plastic film and the irrigation system through the company «Schetelig Rus» (http://schetelig.ru/). This company is representative of the concern «Schetelig Oy» (www.schetelig.com). The company is dealing with greenhouse projects and delivers goods produced by Dutch companies.

Promotion tools

The majorities of companies, working at the Russian market, conduct active marketing policy and use all kind of promotion tools:

- Participation in exhibitions;
- Participation in specialized seminars;
- Advertising, mainly through the Internet;
- Direct sales (including visits to agricultural enterprises);
- Providing consultancy.

Nevertheless, the most effective promotion tools are the direct sales.

Participation in exhibitions is important, because if the agricultural enterprise has never seen potential supplier at the exhibitions / sector events, it will trust in it less, at least initially.

The surveyed sector experts emphasize that to promote goods and services for commercial gardening it is more important to participate in the foreign specialized exhibitions, like in Germany and Italy, and not in the Russian Federation. For example, «Fruit Logistika» in Germany.

There are two main federal exhibitions in the Russian Federation for hard and soft fruit producers and processors:

- «Golden Autumn», http://goldenautumn.moscow/ - equipment for production and presales training is presented;

Additionally, an important regional exhibition is «YugAgro», http://www.yugagro.org/ru-RU, Krasnodar. This exhibition is important because the main fruit producers are located in Southern region of the Russian Federation.

Additionally, for each segment there are important specialized exhibitions, for example, «RosUpack» for producers of packaging lines and materials.
The detailed list of exhibitions is presented in Addendum 2.

Furthermore, a specially focus on social media as an important promotion tool for working together with farmers. The surveyed farmers check the customers’ feedback and communicate with nurseries for example through social media.

**Possibilities for localization**

At the present time in Russia there is a general trend to support Russian production. Such trend is not only for agricultural products, but also for infrastructure elements for example. So one of the variants to promote equipment and machinery to the Russian market is locally production of foreign brands in the Russian Federation (localization).

As for specialized machinery and equipment for the commercial gardening, the Russian market is relatively small. There are no examples of localization. As for planting material, there are examples of joint enterprises, which are quite successful.

**Arrangements with federal and regional authorities responsible for agro-industrial complex**

One more aspect for introducing and promoting technology and products at the Russian market is the arrangement with administration (regional Committees on agriculture), the promotion of the producers/suppliers of plant material, equipment and other resources for fruit production at the level of the government institutions (with participation of the embassies, consulates, business-missions etc.).

For example, the success of Italian companies at the Russian market was the result of such work. It was organized:

- on the one hand, visits via business-missions of Italian entrepreneurs to Russian regions with support of the Embassy of the Republic of Italy in the Russian Federation and the «ICE: Italian Trade & Investment Agency» ([https://www.ice.it/it](https://www.ice.it/it)).
  
  Moreover, the «Italian Trade & Investment Agency» organized the representative offices not only in Moscow but also in Krasnodar.

- on the other hand, business missions of Russian companies and the representatives of the regional authorities to Italy. They visited the agricultural enterprises, got acquainted with the experience of hard and soft fruit production in Italy and looked after the partners for further cooperation.

In the Russian Federation the partners for such work can be specialized organizations which are interested in attracting investment to their regions. For example, «The North Caucasus Development Corporation», [http://krskfo.ru/home](http://krskfo.ru/home).
THE REPUBLIC OF KAZAKHSTAN

4. FRUIT SECTOR SITUATION

4.1. STRUCTURE OF FRUIT PRODUCTION

4.1.1. REGIONAL STRUCTURE OF FRUIT PRODUCTION

The main share of local fruit production in Kazakhstan is provided by rural population. The farms take second place. The agricultural enterprises have an insignificant share in the overall production (apples - 6% in 2017). See Fig. 36 for more detailed information.

Further in this market research the commercial fruit production by the agricultural enterprises and farms are taken into account, because there are official reliable statistics by these types of producers in Kazakhstan.

Fig. 36. Share of types of producers in total fruit production in Kazakhstan, % (from overall production in tons)

Reference source: based on the data from statistics digests «Total production of agricultural crops in the Republic of Kazakhstan» during 2013-2017
http://stat.gov.kz/faces/wcnav_externalId/homeNumbersAgriculture?_afrLoop=4988841425491955#%40%3F_afrLoop%3D4988841425491955%26_adf.ctrl-state%3D4d70efm6x_38
In the table 37 listed below there are similar data but in tons per year and not in percentage terms.

**Table 37. Total production of fruits by all types of producers in Kazakhstan in 2013 and 2017, tons**

<table>
<thead>
<tr>
<th>Type of producer</th>
<th>2013</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>apples</td>
<td>pears</td>
</tr>
<tr>
<td>agricultural enterprises</td>
<td>4 930</td>
<td>67</td>
</tr>
<tr>
<td>farms</td>
<td>76 450</td>
<td>3 457</td>
</tr>
<tr>
<td>rural population</td>
<td>62 480</td>
<td>10 656</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>143 860</td>
<td>14 180</td>
</tr>
</tbody>
</table>

The commercial production in particular by farms replaces gradually the production of fruits produced by rural population. Strawberry is an exception: production by rural population increased from 88% up to 92% in 2017.

**Fig. 37. Dynamics of total production of fruits in Kazakhstan during 2013-2017, tons**

Reference source: based on the data from statistics digests «Total yield of agricultural crops in the Republic of Kazakhstan» during 2013-2017

According to the Terms of Reference blueberry/bilberry is in the list of soft fruits to be studied. Naturally bilberry grows mainly in northern regions — in pine forests and marshlands. There are no such conditions within the territory of Kazakhstan. As a consequence, there is no gathering of wild berries.

There is no data on commercial blueberry production available in official statistics of Kazakhstan. There is also no indication in public information about blueberry producers. As a consequence, all blueberry/bilberry products in Kazakhstan are imported. However, their volume is small. Further on in
the chapter on «Import» it will be presented that the fresh berry import (equal to market value) is not more than 7 tons\textsuperscript{29}.

Although the blueberry seeds and seedlings are provided on the Internet, for example in the online shop bekker.kz.

It may be concluded that the demand for blueberries is low in Kazakhstan. As a consequence, in this research minimum attention will be given to blueberry analysis. Potential for Dutch companies to provide equipment, technologies, service for blueberry production and processing is minimal in Kazakhstan.

Import (equal to market value) of CC FEA code 0810405000 «Fresh fruit of the species Vaccinium Macrocarpon and Vaccinium Corymbosum» (h. e. cranberry and blueberry) to Kazakhstan has increased from 0,6 to 8,7 tons, or from 14 to 90 thous. USD. Detailed data on only blueberries is very rare.

However, it may be noted that the interest in commercial blueberry production is growing slightly. For example, LLP «ALGABAS AGRIFUD» plans to plant 50 ha of blueberries (see chapter 4.5. LARGE PRODUCERS for more detailed information).

Let us note for reference only the dynamics of total yield of other hard and soft fruits. Most of all apricots are produced on an industrial scale (farms and agricultural enterprises) – 7,8 thous. tons in 2017.

The share of commercial produced fruits is low as well:

- raspberries 4%;
- plums 28;
- cherries 1%;
- apricots 45%.

During 2013-2017 the total production of plums has increased 3,2 times and apricots - 1,8 times. The total yield of raspberries and cherries has declined. See Table 38 and Fig. 38 for more detailed information.

<table>
<thead>
<tr>
<th></th>
<th>2013, tons</th>
<th>2017, tons</th>
<th>2017 / 2013, tons</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raspberries</td>
<td>450</td>
<td>354</td>
<td>- 96</td>
<td>- 21%</td>
</tr>
<tr>
<td>Plums</td>
<td>570</td>
<td>1 850</td>
<td>+ 1 280</td>
<td>+ 225%</td>
</tr>
<tr>
<td>Cherries</td>
<td>167</td>
<td>117</td>
<td>- 50</td>
<td>- 30%</td>
</tr>
<tr>
<td>Apricots</td>
<td>4 276</td>
<td>7 759</td>
<td>+ 3 483</td>
<td>+ 81%</td>
</tr>
</tbody>
</table>

Reference source: based on the data from statistics digests «Total yield of agricultural crops in the Republic of Kazakhstan» during 2013-2017

\textsuperscript{29} As it is shown in one of the following paragraphs only fresh blueberries was imported in 2017. There is no CC FEA code for frozen or processed blueberries in custom statistic.
4.1.2. FRUIT AREA

Horticulture in Kazakhstan is developing:

✓ the area of apple orchard of agricultural enterprises and farms has increased by 116% (by 3479 ha) over a period of 2013-2017;

✓ the area of pear orchard of agricultural enterprises and farms has increased by 6% (by 52 ha);

✓ the area of strawberries of agricultural enterprises and farms has decreased by 23% (by 94 ha).

Table 39. Dynamics of fruit area in all types of producers in Kazakhstan during 2013-2017, ha

<table>
<thead>
<tr>
<th>Type of producer</th>
<th>2013</th>
<th>2017</th>
<th>2017 / 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>apples</td>
<td>pears</td>
<td>strawberries</td>
</tr>
<tr>
<td>agricultural enterprises</td>
<td>5 300</td>
<td>100</td>
<td>22</td>
</tr>
<tr>
<td>farms</td>
<td>16 600</td>
<td>800</td>
<td>377</td>
</tr>
<tr>
<td>rural population</td>
<td>8 400</td>
<td>1 300</td>
<td>828</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30 300</strong></td>
<td><strong>2 200</strong></td>
<td><strong>1 227</strong></td>
</tr>
</tbody>
</table>

Reference source: based on the data from statistics digests «Total yield of agricultural crops in the Republic of Kazakhstan» during 2013-2017

It can be said that on the average 870 ha of apple orchards and 13 ha of pear orchards are planted annually and 24 ha of strawberries are left. However, there are no data whether the new orchards are intensive (probably yes).
4.1.3. FRUIT YIELD

Although the apple and pear yield has increased over the last few years (see. Fig. 39), it is still rather low as compared to other countries (Table 40). The apple yield in the agricultural enterprises in Kazakhstan was 2.7 tons per ha in 2017, in the farms – 7 tons per ha while the apple yield in the countries, leading in apple export, is usually more than 20 tons/ha.

An increasing figure of fruit yield (mainly apples) in agricultural enterprises in Kazakhstan can be explained by intensive orchards planting over the last few years.

There are no evident trends among other fruits; we just show approximate level of its yield.

Level of fruit yield on private farms is higher than the yield on agricultural enterprises.

Fig. 39. Dynamics of fruit yield in the agricultural enterprises and farms in Kazakhstan, tons/ha

Reference source: based on the data from statistics digests «Total yield of agricultural crops in the Republic of Kazakhstan» during 2013-2017
Table 40. Apples yield in the main exporting countries of apples and in the Russian Federation

<table>
<thead>
<tr>
<th>Country</th>
<th>Yield, tons per 1 ha, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main countries, leading in apple export 30</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>20</td>
</tr>
<tr>
<td>Italy</td>
<td>44</td>
</tr>
<tr>
<td>China</td>
<td>19</td>
</tr>
<tr>
<td>USA</td>
<td>36</td>
</tr>
<tr>
<td>Chile</td>
<td>49</td>
</tr>
<tr>
<td>France</td>
<td>37</td>
</tr>
<tr>
<td>Some countries, leading in the yield 31</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>44</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>43</td>
</tr>
<tr>
<td>Germany</td>
<td>33</td>
</tr>
<tr>
<td>The Russian Federation</td>
<td>14 (agricultural enterprises)</td>
</tr>
<tr>
<td></td>
<td>25 (leading regions)</td>
</tr>
</tbody>
</table>

For reference only compare fresh apple sectors in the Russian Federation and Kazakhstan.

It can be seen that the share of commercial apple production in Kazakhstan (65%) is higher than in the Russian Federation (45%).

The apple consumption in Kazakhstan is higher as well: 13,4 kg/cap./year compared to 9,7 kg/cap./year in Russia. Although taking into account production by rural population the consumption is almost the same: 15,4 and 16,8 kg/cap./year.

---

30 Reference source: Analysis of UN Commodity Trade Statistics Database (comtrade.un.org)
Table 41. Comparison of fresh apple sector figures in the Russian Federation and Kazakhstan

<table>
<thead>
<tr>
<th></th>
<th>The Russian Federation</th>
<th>Kazakhstan</th>
<th>Difference, times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>mln.</td>
<td>147</td>
<td>18</td>
</tr>
<tr>
<td>Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>commercial 32</td>
<td>thous. tons</td>
<td>716</td>
<td>118</td>
</tr>
<tr>
<td>rural population 33</td>
<td>thous. tons</td>
<td>1 575</td>
<td>181</td>
</tr>
<tr>
<td>Share in the total yield</td>
<td>commercial</td>
<td>thou. tons</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>rural population</td>
<td>thou. tons</td>
<td>55%</td>
</tr>
<tr>
<td>Import</td>
<td>thou. tons</td>
<td>709</td>
<td>125</td>
</tr>
<tr>
<td>Export</td>
<td>thou. tons</td>
<td>18</td>
<td>0,2</td>
</tr>
<tr>
<td>Market value</td>
<td>commercial</td>
<td>thou. tons</td>
<td>1 425</td>
</tr>
<tr>
<td></td>
<td>rural population</td>
<td>thou. tons</td>
<td>2 266</td>
</tr>
<tr>
<td>Per capita consumption</td>
<td>commercial</td>
<td>kg/year</td>
<td>9,7</td>
</tr>
<tr>
<td></td>
<td>rural population</td>
<td>kg/year</td>
<td>15,4</td>
</tr>
<tr>
<td>Self-sufficiency</td>
<td>commercial</td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>rural population</td>
<td></td>
<td>70%</td>
</tr>
</tbody>
</table>

4.1.4. MAIN GROWING REGIONS

Analysis of fruit overall production in the agricultural enterprises and farms by regions of Kazakhstan showed that almost 100% of total production accounts for 3 regions:
- Almaty;
- Zhambyl;
- South Kazakhstan.

Table 42. Share of some regions in apple, pear and strawberry production, in volume terms

<table>
<thead>
<tr>
<th>Region</th>
<th>agricultural enterprises</th>
<th>farms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>apples</td>
<td>pears</td>
</tr>
<tr>
<td>Almaty</td>
<td>52%</td>
<td>59%</td>
</tr>
<tr>
<td>Zhambyl</td>
<td>3%</td>
<td>8%</td>
</tr>
<tr>
<td>South Kazakhstan</td>
<td>42%</td>
<td>30%</td>
</tr>
<tr>
<td>TOTAL 3 regions</td>
<td>97%</td>
<td>97%</td>
</tr>
</tbody>
</table>

Reference source: based on the data from statistics digests «Total yield of agricultural crops in the Republic of Kazakhstan» during 2013-2017

These regions are situated in the south of Kazakhstan.

32 Means a summary production in the agricultural enterprises and farms.
33 Means a summary production in the agricultural enterprises and farms and rural population.
Reasons for concentration of production in the south of Kazakhstan:

- **43% of population** of Kazakhstan lives in these regions (7.8 mln. from 18 mln. people)\(^{34}\), i.e. almost half of the Kazakh consumer market;

Fig. 40. Map of Kazakhstan with regions

- **Environmental, soil and climatic conditions** (temperature conditions, precipitation, soil, etc.) in these regions are the most favorable for fruit growing.

The climate is strongly continental in the biggest part of Kazakhstan, with large temperature amplitudes and relatively arid. Around 90% of Kazakhstan is unsuitable for horticulture (steppe and desert).

The average annual precipitation is in most parts of Kazakhstan — 100 - 500 mm. To provide fruit trees with a sufficient amount of water, 700-800 mm of precipitation annually\(^{35}\) is required.

The climate on the foot of the mountains regions in the south and south-east has an obvious advantage. There are spacious plots with relatively soft winter conditions and a high level of precipitation. Precipitation is more uniform during the year than in the other regions of Kazakhstan. However, even the level of precipitation in these regions is not enough, so irrigation systems are practically in all orchards.

The altitudinal zonality is well-defined on the foot of the mountains regions. The zones 700-900 meters above sea level are the best for apple tree growing\(^{36}\).

---

\(^{34}\) Reference source: data analysis [https://www.zakon.kz/4871019-chislennost-naselenija-respubliki.html](https://www.zakon.kz/4871019-chislennost-naselenija-respubliki.html), 01.06.2017

\(^{35}\) Reference source: [http://asprus.ru/blog/page/3/?s=схема+посадки+яблони](http://asprus.ru/blog/page/3/?s=схема+посадки+яблони)

The Ministry of Agriculture of the Republic of Kazakhstan in close cooperation with the specialized scientific institutions and local executive authorities prepared a «Recommended scheme of regional specialization for optimal usage of agricultural lands for agricultural production». The most favorable regions and districts are:

- Practically all districts of Almaty region;
- Practically all districts of Zhambyl region;
- Practically all districts of South Kazakhstan region;
- 2 districts of Atyrau region;
- 2 districts of West Kazakhstan region are recommended for apple production.
There is no information about pear orchards and strawberry planting locations in the «Recommended scheme of regional specialization for optimal usage of agricultural lands for agricultural production» (Reference source: http://mgov.kz/ru/karta-spetsializatsii-regionov/).

4.1.5. LARGE PRODUCERS

The agriculture in Kazakhstan is small-scale, i.e. the main share of agricultural producers consists of farmers.

Fig. 43. Agricultural enterprises and farmers (as of January 1, 2018, according to economic activity "Crop production, animal production, hunting"), numbers and percentage

Reference source: Agricultural enterprises and farmers (as of January 1, 2018) the Ministry of the National Economy of the Republic of Kazakhstan, Statistics Committee

Some short profiles of the largest and well-known companies are given below.

1. AMAL BIO

Address: 041611 Almaty region, Talgar district, Guldalinskii rural area
E-mail: info@amal-bio.com
Phone: +7 727 393 51 06, 393 51 18
Web-site: http://amal-bio.com/

This company is a large market player in the agriculture of Kazakhstan.

Orchard: first 50 ha were planted in spring 2013. Nowadays it has an intensive fruit orchard with an area of 150 ha – more than 500 thous. trees, 14 apple varieties. It has a prospect to expand the orchard to 300 ha in 2019-2020.

Storage: fruit storages with the capacity of 3700 tons without controlled climate atmosphere and 2300 tons with controlled atmosphere. Furthermore, the company has sorting and packaging lines and processing equipment. The storages were built within the project of a German company, Plattenhardt + Wirth GmbH.
The company grows the following varieties of apples: Golden Delicious, Fuji, Granny Smith, Braeburn, Mirack, Gala, Red Delicious, Jonaprince, Pinova and Idared.

**It produces apple juice using the «technology of direct pressing»**.

**Partners:**

- GRUBER GENETTI (Italy) – seedlings;
- SALVI VIVAI S.S. (Italy) – seedlings of fruit trees, stocks and strawberries;
- Advice & Consulting – consulting services;
- SORMA GROUP – sorting lines;
- MAS AGRO – new technologies implementation in the agricultural sector;
- BAB BAMPS NV (Belgium) – grass-cutters (Hercules);
- PLATTENHARDT + WIRTH GMBH.

2. **LLP «ALGABAS AGRI-FOOD»**

Akmola region, SHortandinskii district and village Damsa.

Nurlan Apushev is the director of the company.

In 2014 the company imported soft fruits to Kazakhstan. Then it decided to grow soft fruits. There is 1 ha of **strawberries** now. Farm «Pick your on». It has plans to grow 5 ha of strawberries and raspberries and uses European varieties of seedlings.

Furthermore, the company plans to grow blueberries and is looking for a suitable land plot with an area of minimum 50 ha for planting blueberries ([http://atameken.kz/ru/news/23584-yagodnyj-biznes-ekonomista-s-kanadskim-obrazovaniem](http://atameken.kz/ru/news/23584-yagodnyj-biznes-ekonomista-s-kanadskim-obrazovaniem)).

LLP «ALGABAS AGRI-FOOD» is an official agent of one of the largest European nursery Viveros Campiñas (Spain) and supplies is the strawberry variety «Albion» ([http://lenta.inform.kz/ru/yagodnuyu-fermu-moschnost-yu-3-tonny-pro dukcii-v-god-otkryli-bliz-astany_a3001173](http://lenta.inform.kz/ru/yagodnuyu-fermu-moschnost-yu-3-tonny-produkcii-v-god-otkryli-bliz-astany_a3001173)).

3. **PRODUCTION COOPERATIVE «APK «BIRLIK»**

South Kazakhstan region, Kazygurtskii district

This company was established in 2016.

The area of irrigated lands is 86 ha and the area of intensive apple orchard is 70 ha with a capacity of 200 thous. fruit trees.

The orchard is equipped by Italian equipment.

The capacity is 50-60 tons of products /ha and the apple varieties are: Golden Delicious, Red Delicious, Gala, Fuji and Granny Smith.

The total investment value of the intensive orchard was around 2,7 mln EUR (1 bln. KZT) ([https://www.zakon.kz/4857939-ploshchad-intensivnyh-sadov-v-yuko.html](https://www.zakon.kz/4857939-ploshchad-intensivnyh-sadov-v-yuko.html)).
4. **LLP «AGRO FUD KAZAKHSTAN»**

Thus enterprise is one of the largest fruit producers in South Kazakhstan region.

The orchards were planted in 2016. The total area is 250 – 270 ha (according to different data) including 92 ha of apples, 70 ha of peaches, 22 ha of cherries and 13 ha of apricots. The estimated yield is about 60 tons of apples per ha. Drip irrigation is used.


5. **LLP «ALMA GREEN FIELDS»**

Almaty region, 150 km of Almaty

The project was financed in 2016 by JSC «Agrarnaia kreditnaia korporatsiia» 37. The enterprise got the total borrowed funds in the amount of more than 5,4 mln EUR (2 bln. KZT) for the period up to 7 years.

The orchard area is 278 ha (the local administration of Almaty region in 2016 reported that 250 ha has already been planted - [http://www.zhetsu.gov.kz](http://www.zhetsu.gov.kz)).

The project capacity is 10.720 tons of production including 9.820 tons of apples, 600 tons of plums, and 300 tons of cherries.


6. **LLP «APPLE WORLD»**

Almaty

[http://appleworld.kz/](http://appleworld.kz/)

«Apple World» is a subcompany which specializes in horticulture. It has approximately 1.940 ha of orchards, mainly of the traditional type.

In 2016 around 78 ha of intensive orchards were planted ([official web-site of the local administration of Almaty region](http://www.zhetsu.gov.kz)).

The company grows apples, plums, peaches, apricots, raspberries and blackberries.

The subcompany «Agro Processing» produces juices and is using the «technology of direct pressing» and has its own brand.

---

37 Or JSC «Agrarian Credit Corporation» - subsidiary of JSC «National managing holding «KazAgro» is engaged in financing in agriculture.
4.2. INVESTMENT PROJECTS

4.2.1. GOVERNMENT POLICY IN FRUIT SECTOR

As of 2017, the total area of grapes and hard and soft fruit crops in all types of fruit producers of Kazakhstan is 59,9 thous. ha, the total production is 335 thous. tons.

According to the «State program of Kazakhstan agriculture and food development for 2017-2021» the total area is meant to be 65 thous. ha (5,1 thous. ha more) and the total production is meant to be 421 thous. tons by the year of 2021.

It appears that:
- 900 ha of pome and stone fruit orchards,
- 60 ha of soft berry plantations,
- 315 ha of vineyards
are meant to be planted annually during the period 2018 - 2021.

4.2.2. PROJECTS UNDER DEVELOPMENT/ IMPLEMENTING PROJECTS/ ONGOING PROJECTS

If in the Russian Federation investors try to implement «full chain» projects, while in Kazakhstan these are mainly small enterprises with an orchard area of 30-50 ha. Often this is not only one producer but an agricultural cooperation of 10 or more owners with 5-20 ha. Also the projects consider only orchard planting, without including storage.

There are only a few large projects with the area of hundreds ha. For example:

1. **Company «QAZAQ FRUIT»**

   Almaty region.

   [http://qazaqfruit.kz/](http://qazaqfruit.kz/)

   It was established in 2015. The company has the largest enterprise in Kazakhstan - 1100 ha of intensive orchards.

   The project is an example of a «full chain», consisting of fruit growing, processing (juice, canned and frozen production) and selling of natural products.

   The company plans to create its own identical trade mark and develops a project with a national brand.

   The company works together with the Kazakh Research Institute of Horticulture and Viticulture.

   The project consultants are agronomists mainly from Italy and Moldova.

---

38 Table «Crop areas in 2021 taking into account diversification and reclamation of long-fallow lands and usage of abandoned lands» from « State program of Kazakhstan agriculture and food development for 2017-2021»
It plans to grow 31.5 thous. tons of fruits by the year of 2020:

<table>
<thead>
<tr>
<th></th>
<th>thous. tons</th>
<th>tons/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ apples</td>
<td>25.4 (81%)</td>
<td>50</td>
</tr>
<tr>
<td>✓ cherries</td>
<td>3.6</td>
<td>20</td>
</tr>
<tr>
<td>✓ peaches</td>
<td>1.4</td>
<td>40</td>
</tr>
<tr>
<td>✓ plums</td>
<td>1.1</td>
<td>14</td>
</tr>
</tbody>
</table>

Furthermore, it plans to construct a fruit storage together with the German company Plattenhardt:
- ✓ the foreseen capacity with future extension is 15 000 tons;
- ✓ equipment – dynamic storage rooms and storage rooms with controlled climate atmosphere;
- ✓ storage room volume – 185 and 155 tons.

It is planned to install sorting apple lines with a capacity of 12 tons per hour. Systes are built-in video cameras providing apple sorting by color, diameter and quality.

Below are given descriptions of companies which have projects on intensive orchards. Generally these are companies which offer services for «turn-key term» orchard planting. In this chapter the companies are mentioned from the point of view of projects. They will be described in more detail in chapter II about the main market players in Kazakhstan.

2. **FTC EQUITY**

[https://ftcagro.kz/](https://ftcagro.kz/)

Almaty
Phone: +7 705 701 83 83

LLP «FTC Equity» was established in 2014 with the participation of a Polish group of companies (ARNO) and a Kazakh group of companies (Logistar).

«FTC Equity» cooperates actively with Research Institutes of Horticulture in different countries and it has the support and accreditation of government institutions.

Business profiles:
- ✓ **Engineering — Turn-key orchards**
  From 2014 to 2017 7 orchards were planted with a total area of 389 ha. 815 000 fruit trees were planted.

  ✓ **Machinery and equipment for orchards**;

  ✓ **Elite planting material** from Polish certified nurseries;

  ✓ **Training and holding of seminars**.

39 There is no data about trees spices on the web-page of the company. But one can suppose that significant part of these seedlings were apple trees.
Table 43. Completed and foreseen projects of the company «FTC Equity»

<table>
<thead>
<tr>
<th>Name</th>
<th>Region</th>
<th>Year of orchard planting</th>
<th>Area of intensive orchard, ha</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural cooperative «Shaikoryk Bauy»</td>
<td>Zhambyl</td>
<td>2016</td>
<td>50</td>
<td>Varieties Golden Delicious, Idared, Gala. The designed orchard capacity is 3 thous. tons per year. Storage: planned Project cost - 710 mln. KZT (1.9 mln. EUR)</td>
</tr>
<tr>
<td>Ltd. «Sady vostoka»</td>
<td>Zhambyl</td>
<td>2015</td>
<td>50, of which 5 ha for soft fruit plantation</td>
<td>Fruit storage in Taraz with an capacity of 1600 tons</td>
</tr>
</tbody>
</table>

Total: 100 ha

Projects implemented in 2017

<table>
<thead>
<tr>
<th>Name</th>
<th>Region</th>
<th>Year of orchard planting</th>
<th>Area of intensive orchard, ha</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agro-park «Kulan» - details are listed below, because this project in Kazakhstan is the largest in the fruit sector</td>
<td>Zhambyl</td>
<td>2018-2020</td>
<td>1 000 ha and cherry orchard 100 ha</td>
<td>The contract with their main investor has been signed</td>
</tr>
<tr>
<td>Farm «Kaz Eco Fruit»</td>
<td>Zhambyl</td>
<td></td>
<td>50</td>
<td>Storage: planned</td>
</tr>
<tr>
<td></td>
<td>South Kazakhstan</td>
<td></td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zhambyl</td>
<td></td>
<td>70</td>
<td>Negotiations</td>
</tr>
</tbody>
</table>

Total: 1 255 ha

Center of agricultural consulting ARNO is opening

<table>
<thead>
<tr>
<th>Name</th>
<th>Region</th>
<th>Year of orchard planting</th>
<th>Area of intensive orchard, ha</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is planned to open 3 more centers of agricultural consulting</td>
<td>Kazakhstan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AGRO-PARK «KULAN»

The largest project in the fruit sector in Kazakhstan.

The project implementation is designed for 3 years (2018 – 2020).

The main participants:
- JSC «Agrarnaia kreditnaia korporatsiia» - financing;
- Agricultural cooperative «Taraz» - providing of land plots and project infrastructure;
- Support from the Kazakh Research Institute of Horticulture and Viticulture.

Desired investment of the projects will be 50 mln. USD
(https://bnews.kz/ru/news/proizvodstvo_yablok_v_kazahstane_ne_dostigaet_i_30_ot_obshchego_potrebleniya)/

---

Reference source: http://abctv.kz/ru/last/na-yuge-kazakhstana-realizuetysya-6-proektov-po-sadovodstvu-
It will be a family farm investment plot. Each person can take the plot with an area of 20-30 ha. The infrastructure for fruit storage and processing will be constructed.

The idea is to plant:
- 650 ha of intensive apple orchards;
- 270 ha of stone fruits;
- 80 ha of soft fruit plantation;
- nursery for fruit trees (13 ha);
- nursery (7 ha).

It is planned to export grown products to Russia (http://www.inti.kz/ru/news/specialisty-obsudili-perspektivy-promyshlennogo-sadovodstva).

3. **ALATAU FRUITS ENGINEERING**

http://www.alataufruits.kz/

Business profiles:
- **Intensive «turn key» orchards**

The company helps to design orchard projects and to implement them. At the stage of harvesting it actively participates in the sales of grown production by repurchasing fruit products and gives also recommendations concerning storage, processing, packaging and logistics.

- **Fruit frame systems**
- **Drip irrigation**
- **Nursery of seedlings**

From 2014 company Alatau Fruits Engineering works closely with nursery «Verbeek Almaty», a joint Kazakh-Dutch enterprise.

- **Agronomical maintenance**

**Table 44. Completed projects of company «Alatau Fruits Engineering»**

<table>
<thead>
<tr>
<th>Name</th>
<th>Region</th>
<th>Year of orchard planting</th>
<th>Area, ha</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive apple orchard</td>
<td>Almaty region</td>
<td>2015</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Farm «Ismida»</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>«Semeinye sady»</td>
<td>South Kazakhstan region</td>
<td>2015</td>
<td>50</td>
<td>10 farms (each 5 ha) with further orchard maintenance</td>
</tr>
<tr>
<td>«Semeinye sady»</td>
<td>Zhambyl region</td>
<td>2016</td>
<td>50</td>
<td>10 farms (each 5 ha) with further orchard maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>173 ha</td>
</tr>
</tbody>
</table>

During 2017 the Kazakh government has financed 3 projects for orchard planting in Almaty and Zhambyl regions with a total area of 170 ha and a capacity of 8,6 thous. tons.
Nowadays there are 7 projects with a total area of 411 ha and a capacity of 16 000 tons in Almaty, Zhambyl and South Kazakhstan regions under consideration (according to data from JSC «Agrarnaia kreditnaia korporatsiia», April 2018).

Table 45. Projects for orchard planting in Kazakhstan

<table>
<thead>
<tr>
<th>№</th>
<th>Name of the borrower</th>
<th>Region</th>
<th>Total square of garden, ha</th>
<th>Production, ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LLP «Alma mater fields»</td>
<td>Almaty region</td>
<td>125</td>
<td>6 875</td>
</tr>
<tr>
<td>2</td>
<td>Farm «Kungei»</td>
<td>Jambyl region</td>
<td>5,2</td>
<td>183</td>
</tr>
<tr>
<td>3</td>
<td>LLP «Bakdala»</td>
<td>Almaty region</td>
<td>40</td>
<td>1 600</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>170,2</strong></td>
<td><strong>8 658</strong></td>
</tr>
<tr>
<td>4</td>
<td>LLP «Unifruit»</td>
<td>Almaty region</td>
<td>63</td>
<td>3 780</td>
</tr>
<tr>
<td>5</td>
<td>Farm «Malin Almaty»</td>
<td>Almaty region</td>
<td>35</td>
<td>525</td>
</tr>
<tr>
<td>6</td>
<td>LLP «Jammat»</td>
<td>Jambyl region</td>
<td>20</td>
<td>1 000</td>
</tr>
<tr>
<td>7</td>
<td>LLP «ARNO AGRO»</td>
<td>Jambyl region</td>
<td>84</td>
<td>1 680</td>
</tr>
<tr>
<td>8</td>
<td>LLP «Kazygurt Baktary»</td>
<td>South-Kazakhstan region</td>
<td>106</td>
<td>5 830</td>
</tr>
<tr>
<td>9</td>
<td>LLP «Amankeldi»</td>
<td>South-Kazakhstan region</td>
<td>70</td>
<td>2 200</td>
</tr>
<tr>
<td>10</td>
<td>Farm «Ushata»</td>
<td>South-Kazakhstan region</td>
<td>33</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>411</strong></td>
<td><strong>15 915</strong></td>
</tr>
</tbody>
</table>


4.3. IMPORT AND EXPORT OF FRESH FRUITS

Analysis of import and export of fresh fruits was made by the following CC FEA codes:

- 080810 – fruit, edible; apples, fresh
- 080830 – fruit, edible; pears, fresh
- 081010 – fruit, edible; strawberries, fresh
- 0810403000 - fruit of the species Vaccinium myrtillus (blueberries)
- 0810405000 - fruit of the species Vaccinium Macrocarpon (cranberry) and Vaccinium Corymbosum (blueberries)

based on the data of the custom database https://comtrade.un.org/data/.

Kazakhstan is a net-importer of fresh apples, pears, strawberries and blueberries.
4.3.1. IMPORT

Table 46. Dynamics and structure of fresh fruits import by Kazakhstan

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017/ 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apples</strong></td>
<td>thousand tons</td>
<td>130</td>
<td>147</td>
<td>190</td>
<td>99</td>
<td>125</td>
<td>96%</td>
</tr>
<tr>
<td></td>
<td>mn. USD</td>
<td>65</td>
<td>66</td>
<td>76</td>
<td>42</td>
<td>51</td>
<td>78%</td>
</tr>
<tr>
<td><strong>Pears</strong></td>
<td>thousand tons</td>
<td>17</td>
<td>23</td>
<td>16</td>
<td>11</td>
<td>14</td>
<td>84%</td>
</tr>
<tr>
<td></td>
<td>mn. USD</td>
<td>10</td>
<td>14</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>91%</td>
</tr>
<tr>
<td><strong>Strawberries</strong></td>
<td>thousand tons</td>
<td>0,7</td>
<td>0,5</td>
<td>2,9</td>
<td>0,3</td>
<td>0,2</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>mn. USD</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0,5</td>
<td>33%</td>
</tr>
<tr>
<td><strong>Bilberries</strong></td>
<td>tons</td>
<td>0,3</td>
<td>0,9</td>
<td>0,4</td>
<td>0,5</td>
<td>0,3</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>thousand USD</td>
<td>9</td>
<td>22</td>
<td>5</td>
<td>5</td>
<td>1,9</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Blueberries</strong></td>
<td>tons</td>
<td>0,6</td>
<td>0,9</td>
<td>2,5</td>
<td>5,2</td>
<td>8,7</td>
<td>1450%</td>
</tr>
<tr>
<td></td>
<td>thousand USD</td>
<td>13,9</td>
<td>4,9</td>
<td>16,4</td>
<td>37</td>
<td>79,6</td>
<td>573%</td>
</tr>
</tbody>
</table>

Reference source: - for apples, pears and strawberries [https://comtrade.un.org/data/](https://comtrade.un.org/data/) (including all countries)

In general, the volume of apple, pear and strawberry imports in 2017 is lower than in 2013. The volume of bilberries (see table 46) imports keeps at the level of 2013; however blueberries became cheaper in 5 times.

The volume of imports increased in 2014-2015 as compared to 2013. It was likely related to the introduction of the food import embargo by the Russian Federation in 2014. Fruits, which had to be exported to the Russian Federation, were redirected partly to Kazakhstan in 2014 - 2015.

The main exporters of fresh fruits to Kazakhstan:
- apples – Poland, 72%,
- pears – Belgium and the Netherlands, per 34%,
- strawberries - the Netherlands, per 52%,
- blueberries - the Netherlands, per 96%,
- bilberries, blueberries and cranberries - the Netherlands, per 100%.

Fig. 44. Structure of fresh apples import by Kazakhstan, 2017, in USD
Fig. 45. Structure of fresh pears import by Kazakhstan, 2017, in USD

Fig. 46. Structure of fresh strawberries import by Kazakhstan, 2017, in USD

Fig. 47. Structure of fresh blueberries import by Kazakhstan, 2017, in USD
So almost all imported blueberries in 2017 were from the Netherlands.

Import of frozen fruit products is considered in this chapter as well. As in the Russian Federation, only frozen strawberries are imported to Kazakhstan. If the volume of imported frozen strawberries exceeds the volume of imported fresh strawberries in the Russian Federation, then in Kazakhstan these volumes are comparable. Frozen strawberries have no significant impact on the market.

CC FEA code 081110 – strawberries, frozen

Table 47. Dynamics of frozen strawberry import during 2013-2017

<table>
<thead>
<tr>
<th>Frozen strawberries</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>tons</td>
<td>11</td>
<td>95</td>
<td>151</td>
<td>141</td>
<td>149</td>
</tr>
<tr>
<td>thous. USD</td>
<td>218</td>
<td>176</td>
<td>187</td>
<td>24</td>
<td>275</td>
</tr>
</tbody>
</table>
4.3.2. EXPORT

The volume of fruit exports by Kazakhstan is insignificant as compared to production and import. For example, export of fresh apples is less than 1% in volume and in value (see figures in the chapter 4.5. MARKET VALUE AND FRESH FRUIT CONSUMPTION).

Table 48. Dynamics and structure of fresh fruits export from the Republic of Kazakhstan

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Unit of measurement</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>apples</td>
<td>tons</td>
<td>86</td>
<td>459</td>
<td>20 045</td>
<td>404</td>
<td>1 078</td>
<td>1 253%</td>
</tr>
<tr>
<td></td>
<td>thousand USD</td>
<td>66</td>
<td>17</td>
<td>4 267</td>
<td>109</td>
<td>227</td>
<td>344%</td>
</tr>
<tr>
<td>pears</td>
<td>tons</td>
<td>0,4</td>
<td>5</td>
<td>743</td>
<td>52</td>
<td>439</td>
<td>109 750%</td>
</tr>
<tr>
<td></td>
<td>thousand USD</td>
<td>0,3</td>
<td>7</td>
<td>134</td>
<td>2</td>
<td>141</td>
<td>47 000%</td>
</tr>
<tr>
<td>strawberries</td>
<td>tons</td>
<td>0</td>
<td>4</td>
<td>1 847</td>
<td>0</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>thousand USD</td>
<td>0</td>
<td>5</td>
<td>781</td>
<td>0</td>
<td>32</td>
<td>-</td>
</tr>
<tr>
<td>bilberries, blueberries and cranberry</td>
<td>tons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no export</td>
</tr>
<tr>
<td></td>
<td>thousand USD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference sources: - for apples, pears and strawberries https://comtrade.un.org/data/ (including all countries)

98-100% volume of products export to the Russian Federation.

4.3.3. CUSTOMS AND IMPORT REGULATIONS

Kazakhstan is a member of Eurasian Economic Union (EEU).

Throughout the EEU the unified customs tariffs are valid – rates of import customs duties applying to commodities, imported into the customs territory of EEU from Third Countries.

Table 49. Customs duties and VAT rates for a number of key fresh fruits originating outside the EEU

<table>
<thead>
<tr>
<th>CC FEA Code</th>
<th>Kind of fruits</th>
<th>VAT, %</th>
<th>Customs duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>0808 10</td>
<td>apples</td>
<td>12%</td>
<td>from 0,015 to 0,06 EUR per 1 kg depending on the period and variety</td>
</tr>
<tr>
<td>0808 30</td>
<td>pears</td>
<td>12%</td>
<td>5%</td>
</tr>
<tr>
<td>0810 10</td>
<td>strawberries</td>
<td>12%</td>
<td>5%</td>
</tr>
<tr>
<td>0810 40</td>
<td>blueberries, bilberries</td>
<td>12%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Between EEU member-states goods, including fresh fruits, can circulate free. This means that there are in principle no customs inspection at the EEU inner frontiers and no customs duties.
4.4. MARKET VALUE AND FRESH FRUIT CONSUMPTION

4.4.1. MARKET VALUE

The market value of different types of products is calculated on the bases of the official statistical data on production (taking into account only commercial production: agricultural enterprises and farms) and on data of the custom service on imports and exports volume.

Fig. 49. Calculated market value of apples in Kazakhstan in 2017

Production 118 thous. tons

+ import 125 thous. tons

- export 1 thous. tons

Market value 242 thous. tons

The share of imported products is 52%.

Fig. 50. Calculated market value of pears in Kazakhstan in 2017

Production 6,2 thous. tons

+ import 14,2 thous. tons

- export 0,4 thous. tons

Market value 20 thous. tons

The share of imported products is 71%.
4.4.2. CONSUMPTION

According to the official statistical data, the per capita fruit consumption in Kazakhstan is 48 kg. Apple is the most popular fruit in Kazakhstan as well as in the Russian Federation. Apples contribute to a third part of the total fruit consumption.
Apple consumption

According to the Order of the Minister of the National Economy of the Republic of Kazakhstan of December 9, 2016 № 503 «On the approval of scientifically founded physiological standards of food consumption» the recommended standard of apple consumption is 50 kg, i.e. population consume apple 3 times less.
Table 50. Recommendations for per capita fruits consumption

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Standard of consumption, kg/cap./year</th>
<th>Actual consumption in 2017, kg/cap./year</th>
<th>Calculated consumption in 2017, kg/cap</th>
<th>taking into account production by rural population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>50</td>
<td>15,4</td>
<td>13,4</td>
<td>16,8</td>
</tr>
<tr>
<td>Plums, pears, apricots, peaches, persimmon, pomegranate</td>
<td>15</td>
<td>4,7</td>
<td>1,1 - pears</td>
<td>1,5 - pears</td>
</tr>
<tr>
<td>Soft fruits (grapes, cherries, currants, raspberries, blueberries, strawberries, blackberries, gooseberries, cranberries, cowberries, sweet briar, sea buckthorn)</td>
<td>8</td>
<td>3,9</td>
<td>0,04 - strawberry</td>
<td>0,37 - strawberry</td>
</tr>
<tr>
<td>Fruit juice</td>
<td>18</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


The calculation of consumption in 2017 was carried out by the experts of LTD «Rusmarketconsulting» using a formula: the market value (see the chapter above) was divided into population of Kazakhstan as of 2017 (18 mln. https://www.zakon.kz/4871019-chislennost-naseleniya-respubliki.html).

4.5. GOVERNMENT SUPPORT

The «State program of Kazakhstan agriculture and food development for 2017-2021» is the leading acts in Kazakhstan.

The main goals for the development of horticulture and viticulture are:
- planting and recovering of hard and soft fruit orchards,
- application of water-efficient technologies,
- support planting and growing apple orchards with the variety «Aport»,
- purchasing of mineral fertilizers and herbicides

will be subsidized.

Subsidizing agricultural cooperatives is a priority in Kazakhstan 41.

41 Reference source: https://docviewer.yandex.ru/view/16656950/?*=rDHChKl6nq4CxeHEa4hIJYi8gLqN7InVybCl6nIhLWJyb3dzZXI6Ly80RFQdxVhFUJgSjLYb6VFBg2V3cnVDWToZDFWc1TVU1dmtlYkw3O684MEFHa0ZSaE9peFZJRGZFBY1pYjVkaKnRoS2JRX3NqXzZGRGFad1RQ3Y2UzRUBTM3aUwdncwYjhVRmpJUmtBaDJoTZaZzZTRTvT3VxVHRsc0g0WmlaaDrFrIWEGRaZFBzdW4VzVzAtaHIKdWg3TXc9PT9zaWdU9wPV3xWkpMRHv5tZxXNZFRG9vcTgVjGJYHjQOE0VF宁5LU40TmJrQT9liwidGi0bGuOUnmClHYXBlTE1LjIyLjI3LjIc5bc2MLHCJ1aWQOIXkNjY1Nj1MCIs1MiIjOiMTg0MTlzNJg5MTUwNTc0NzU0NysIm5vavWzyYW1l
jpmYWxZSxWdHM0jE1MjEwMjI4MjI0OBt8
The following types of government support are available for horticulture in Kazakhstan:

1. **SUBSIDIES FOR PERENNIAL PLANTING AND GROWING**
The order of the Minister of Agriculture of the Republic of Kazakhstan of February 27, 2015 № 4-1/168 «The rules of cost value subsidizing for planting and growing (including recovering) of perennial hard and soft fruit crops and grapes», as reworded by the order of the Minister of Agriculture of the Republic of Kazakhstan of 27.01.2017 № 33.

**Conditions for subsidy payment**
1. Till 40% of the expenses for planting and growing of hard and soft fruit crops and grapes are subsidized, excluding expenses for seedlings.
2. Subsidies are not paid in the year of the foundation of the orchard (the first year of use of the orchard); subsidies are paid from the 2-nd to the 7-th year of use of the orchard.
3. These rules do not apply to intensive apple orchard planting (no less than 2000 trees/ha).
4. Producers must have at least 1 trained specialist with a degree in Agronomy or Horticulture.

The expenses for young stock are subsidized according to the «Regulation for subsidizing of seed production development».

The subsidies are based on:
1. 70% from the total costs of elite young stock – for varieties included in the «National register of selective breeding results recommended for using in the Republic of Kazakhstan» (taking into account recommended regions);
2. 30% from the total costs of elite young stock – for varieties not included in «National register of selective breeding results recommended for using in the Republic of Kazakhstan» as well as for varieties not recommended for particular region.

Reference source: [https://zakon.uchet.kz/rus/docs/V14F0010190](https://zakon.uchet.kz/rus/docs/V14F0010190)

**Requirements for planting of perennial hard and soft fruit crops and grapes**
1. The land plot for planting of perennial hard and soft fruit crops and grapes should be situated in the recommended region.
2. The total area should not be less than 5 ha for hard fruit and not less than 2 ha for soft fruit.
3. Availability of drip irrigation systems of a commercial prototype owned or on lease.
4. Availability of installed fruit frames.
5. Availability of approved plan of perennial planting with the indication of:
   - the planting system,
   - the variety assortment,
   - the management of traffic network, irrigation network and windbreakers.

Furthermore, there is a special requirement for the apple variety «Aport», for example the land plot should be above sea level and be pointed out in the project plan.

Reference source: [https://tengrinews.kz/zakon/pravitelstvo_respubliki_kazahstan_premer_ministr_rk/selskoe_hozyaystvo/id-V1500011151/](https://tengrinews.kz/zakon/pravitelstvo_respubliki_kazahstan_premer_ministr_rk/selskoe_hozyaystvo/id-V1500011151/)
### Table 51. Standards for subsidies in Kazakhstan

<table>
<thead>
<tr>
<th>Position</th>
<th>Share subsidies 40%, but no greater (per 1 ha)</th>
<th>thous. KZT</th>
<th>thous. EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation of fruit frames</td>
<td>1 200</td>
<td>3,3</td>
<td></td>
</tr>
<tr>
<td>Hail suppression or sun-protective nets</td>
<td>1 100</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Drip irrigation systems</td>
<td>500</td>
<td>1,4</td>
<td></td>
</tr>
<tr>
<td>Tractor with a capacity to 65 h.p.</td>
<td>2 000</td>
<td>5,4</td>
<td></td>
</tr>
<tr>
<td>Sprayers</td>
<td>1 400</td>
<td>3,8</td>
<td></td>
</tr>
<tr>
<td>Cultivators</td>
<td>500</td>
<td>1,4</td>
<td></td>
</tr>
<tr>
<td>Cutters</td>
<td>500</td>
<td>1,4</td>
<td></td>
</tr>
<tr>
<td>Fertilizer equipment</td>
<td>200</td>
<td>0,5</td>
<td></td>
</tr>
</tbody>
</table>


### 2. PRIVILEGED CREDITS

The producers can receive credits at a rate of 5,5% or less per annum and for 5 years for agricultural machinery.

The subsidy can be from 1 mln. KZT (2,2 thous. EUR) up to 25% of total the own capital cost.

The Memorandum of this support system was signed in September 2017 by four parties: the Agrarian Credit Corporation, Association of Credit Cooperatives, Association of Leasing companies and Association of Mechanical Engineers of Agricultural Machinery.

*Reference source: [https://abctv.kz/ru/last/fermeram-planiruyut-vydvavit-lgotnye-kredity-dlya-pokupki-s](https://abctv.kz/ru/last/fermeram-planiruyut-vydvavit-lgotnye-kredity-dlya-pokupki-s)*
### 4.6. SWOT–ANALYSIS OF THE FRUIT SECTOR

**Table 52. SWOT–analysis of the fruit sector in Kazakhstan**

<table>
<thead>
<tr>
<th>Internal factors</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✓ Some regions in Kazakhstan with favorable soil and climatic conditions for hard and soft fruit growing.</td>
<td>✓ Low share of large agricultural enterprises in hard and soft fruit production, low share of commercial production, h. e. production for retail and processing (b2b).</td>
</tr>
<tr>
<td></td>
<td>✓ Government support for the fruit sector and preferential tax treatment for agricultural enterprises.</td>
<td>✓ Low share of enterprises using modern high-intensive technologies.</td>
</tr>
<tr>
<td></td>
<td>✓ Low share of large agricultural enterprises in hard and soft fruit production, low share of commercial production, h. e. production for retail and processing (b2b).</td>
<td>✓ Deficit of irrigated lands which are distributed among small-scale producers.</td>
</tr>
<tr>
<td></td>
<td>✓ Low share of enterprises using modern high-intensive technologies.</td>
<td>✓ Deficit of modern storages.</td>
</tr>
<tr>
<td></td>
<td>✓ Deficit of irrigated lands which are distributed among small-scale producers.</td>
<td>✓ Most of the agricultural enterprises have lack of funding.</td>
</tr>
<tr>
<td></td>
<td>✓ Deficit of modern storages.</td>
<td>✓ Lack of skilled staff in the fruit sector.</td>
</tr>
<tr>
<td></td>
<td>✓ Most of the agricultural enterprises have lack of funding.</td>
<td>✓ Low level of processing capacity in use.</td>
</tr>
<tr>
<td></td>
<td>✓ Lack of skilled staff in the fruit sector.</td>
<td>✓ Underdeveloped infrastructure of fruit growing, storage, processing and wholesaling.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External factors</th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✓ Development of import phase-out due to commercial fruit production and implementation of export potential in the fruit sector.</td>
<td>✓ Adverse climate changes both short-term and long-term (global warming, growth of deficit of water resources etc.).</td>
</tr>
<tr>
<td></td>
<td>✓ Possibilities to produce ecological products.</td>
<td>✓ Increased competition with imported production.</td>
</tr>
<tr>
<td></td>
<td>✓ The fruit market value is on a minimum level during 2013-2017. The growth of market value is possible if local production will develop.</td>
<td>✓ Outrunning growth in the prices of raw material.</td>
</tr>
<tr>
<td></td>
<td>✓ The pear market capacity keeps at the same level. Import reduction was compensated by growth of local production.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The market capacity of more expensive hard and soft fruits (strawberries, raspberries, plums, apricots) has decreased because of reduction of volume of imports. The growth of local production is not enough for market capacity recovery.</td>
<td></td>
</tr>
</tbody>
</table>

\[42\] Data analysis of import-export and local production during 2013-2017 indicated general reduction in hard and soft fruit market capacity. The reason is reduction of the volume of imports resulting from rising cost of production. This situation stimulates local production. Apples and pears are the cheapest fruits (in import). The apple import in 2017 was at the level of 2013. The apple market capacity has increased due to local production development (as the cheapest and the most popular fruit). The pear market capacity keeps at the same level. Import reduction was compensated by growth of local production. The market capacity of more expensive hard and soft fruits (strawberries, raspberries, plums, apricots) has decreased because of reduction of volume of imports. The growth of local production is not enough for market capacity recovery.
4.7. INTERMEDIATE CONCLUSIONS

- The main share of local fruit production in Kazakhstan is provided by rural population. This production is unavailable for retail or processing (b2b).
  Blueberry is not produced in Kazakhstan, consequently all blueberries are imported.

- The share of commercial producers (agricultural enterprises and farms) has reached 65% of apple production, 44% of pear production, 9% of strawberry production in 2017.

- The volume of hard and soft fruit commercial production in 2017 was:
  - apples 118 thous. tons,
  - pears 6,3 thous. tons,
  - strawberries 540 tons.

- The volume of apple commercial production has increased from 2013 to 2017: + 45% or 36 thous tons.
  The volume of pear commercial production increased during 2013-2015 and has stagnated from 2015 to 2017. In general during the period 2013-2017 total growth was 78% or 2,7 thous. tons.
  The volume of strawberry commercial production has decreased: - 33% or 265 tons.

- The per capita fruit consumption in Kazakhstan is 49 kg which is 53% lower than the recommended standard of consumption (104 kg).
  Apples contributes to a third part of the fruit consumption – 16,8 kg per year (taking into account production by rural population; standard of consumption is 50 kg) which is about the same level as in Russia - 15,4 kg/cap/year.

- The low level of self-sufficiency by domestic products: apples 49% (without including production by rural population) and pears 31%. As a consequence, there is a high demand for imported products both fresh and processed.

- The volume of apple, pear and strawberry import increased in 2014-2015, which probably was connected with redistribution among other sales markets because of the food import embargo imposed by the Russian Federation in 2014. In 2016-2017 the volume of import of fruit has decreased again. The apple import reduction was 4%, for pears 16% and 33% for strawberries.
  The import of blueberry in volume terms is at the level of 2013; however blueberries became 5 times cheaper.

- The volume of export of hard and soft fruits by Kazakhstan is insignificant and has no impact on the market capacity.

- The main hard and soft fruit production is concentrated in 3 regions: Almaty, Zhambyl and South Kazakhstan. 43% of the population of Kazakhstan lives in these regions. The climatic conditions of these regions are the most favorable for horticulture and strawberry growing. The main investment projects are implemented there.

- The fruit sector in Kazakhstan is small-scaled, i.e. the main share of fruit producers consists of farmers. This makes the introduction of modern production technology difficult and limits the fast development of better quality fruits in the sector.
Usually the investment projects in Kazakhstan are designed to small enterprises with an orchard area of 30-50 ha, and often this is not only one producer but a cooperation of 10 or more owners with 5-20 ha. Most of the investment projects are also only focused on orchard planting and without storage.
5. PRODUCT CATEGORIES

5.1. FRUIT PROPAGATION MATERIAL

According to the Director General of the Kazakh Research Institute of Horticulture and Viticulture Gulshariia Kairova, Kazakh nurseries are ruined now and not able to cover the existing demand for high quality propagation material.

All surveyed sector experts point out that the large producers prefer buying the imported young stock, which is 2 times more expensive than the local ones, but of better quality. Also foreign nurseries are able to supply the necessary volumes of young stock to the fruit producers.

Italy, The Netherlands and Germany are the first group of Western European, which supply high quality young stock, followed by other West and East European countries like Poland and Turkey. Propagation material from CIS countries (like Russia, Caucasus and Ukraine) carry little credibility.

The main consumers of Kazakh-produced young stock are the small family farms.

5.1.1. ANALYSIS OF FRUIT CROPS SLIPS MARKET

The analysis of the import of fruit propagation material is based on the CC FEA codes 0602209000 (2013-2016) and 0602202000 (2017).

The import has increased from 2013 to 2016 by 2,4 times in volume terms and by 4,6 times in value terms. In 2017 there was a fall down and more than twice in volume terms in comparison with 2013.

Taking into account the strong differences from year to year, for further calculation we accept the average value in 2013-2017: 3 658 thous. mln. units of young stock per year priced at 5 968 thous. EUR.

Fig. 54. Dynamics of import of fruit young stock by Kazakhstan in 2013-2017

* hereinafter recalculation USD (currency of customs statistics) to EUR by the rate of exchange 1 USD = 0,84 EUR over the years

Reference source: data processing http://kgd.gov.kz/ru/exp_trade_files
The customs value of fruit young stock imported in 2013-2017, was 1,93 USD or 1,62 EUR per unit. It is worth noting that in 2016-2017 the fruit young stock got 2 times more expensive: in 2013-2015 the average custom value of 1 unit was 1,16 EUR, in 2016-2017 – 2,3 EUR.

The customs value which is used in the market value calculation is the average for all crops. According to data from the sector experts the imported apple plant material (the most popular crop for orchard planting) cost 5 - 8 USD per unit (4,5 - 6,7 EUR per unit).

According to official statistics on average 870 ha of apple commercially orchards and 13 ha of pear commercially orchards are planted annually in Kazakhstan. About 2,2 mln. units of young stock are needed for commercial production.

If the volume of import (3,658 mln. units) is taken from the requirement for commercial orchards (2,2 mln. units) = 1,458 mln. units of young stock were bought by the rural population.

According to Tanabai Shyntasov, the founder of the largest nursery in Kazakhstan LLP «Saryagash zher siy», his enterprise occupies about 20% of Kazakh market of fruit and grape young stock, which mean about 1 mln. units of plant products per year. The total market value is about 5 mln. pieces of young stock.

In this case the share of Kazakh producers is 1,342 mln. units of fruit propagation material (5 mln. minus 3,658 mln).

Table 53. Average market value of fruit young stock in Kazakhstan during 2013-2017

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Kazakh production</th>
<th>Import</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young stock, mln. units</td>
<td>1,3</td>
<td>3,7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2,2 – for commercial production</td>
<td>2,2 – for commercial production</td>
<td>2,8 – for rural population</td>
</tr>
<tr>
<td></td>
<td>1,5 – for rural population</td>
<td>1,5 – for rural population</td>
<td>2,8 – for rural population</td>
</tr>
<tr>
<td>Market structure in volume terms, %</td>
<td>27%</td>
<td>73%</td>
<td>100%</td>
</tr>
<tr>
<td>Price, EUR/unit</td>
<td>1,62</td>
<td>1,62</td>
<td>x</td>
</tr>
<tr>
<td>Market value, mln. EUR</td>
<td>2,2</td>
<td>5,9</td>
<td>8,1</td>
</tr>
<tr>
<td>Market structure in value terms, %</td>
<td>27%</td>
<td>73%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The analysis of import shows that in 2017 a minimum value of young stock import was observed - 1 mln. units. So, the market value can decline almost 2 times to 2,4 mln. pieces of propagation material, 4 mln. EUR.

Taking into account the peak of import in 2016 the potential market value can reach 7,8 mln. units or 12,6 mln. EUR in value terms.

In LTD «Rusmarketconsulting» experts’ opinion, the reasons of the strong differences in the volume of import can be:

1. In 2017 CC FEA codes have changed. Probably, more products positions were counted in the old CC FEA code;

---

43 Cost without customs duties and VAT
2. Because of increased young stock prices the «grey»/«shadow» suppliers of plant material has grown;
3. In 2017 there was no young stock import from Uzbekistan, though in 2013-2016 its share was 36-65% (1.7-2.3 mln. units) of the total volume of import.

It is worth noting that not only the young stock for the commercial orchards but also the planting material for rural population are included in the market value calculation.
As noted at the beginning of this chapter, the commercial producers prefer imported propagation material mainly from European producers.
Imported propagation material from Uzbekistan, Serbia and Turkey is likely used by rural population.

The main country-supplier of fruit young stock to Kazakhstan (as to the Russian Federation) is Italy: 69% in value terms and 44% in volume terms.

**Fig. 55. Structure of import of fruit young stock by Kazakhstan in 2017, %**

![Diagram showing the structure of import by value and volume.](http://kgd.gov.kz/ru/exp_trade_files)

*Reference source: data processing http://kgd.gov.kz/ru/exp_trade_files*

The surveyed market players confirm the leading position of Italian producers at the market of propagation material in Kazakhstan. There are some reasons:
- historically Italian companies occupied the local market first;
- they offer the high quality young stock.

The share of the young stock import from The Netherlands has grown from 1.5% to 13.7% in 2013-2016 or from 39 to 884 thous. units of young stock. However, there were no supplies in 2017.  

The surveyed producers pointed out the growing interest for the frost resistant stocks. This means frosts till -30°C in combination with less snow, like in Eastern Kazakhstan.

The export of propagation material from Kazakhstan is insignificant and was only in 2016: 12 thous. units with a total value of 6,7 thous. USD. The main destination is Tajikistan.

---

45 There is no data for import from Kazakhstan in 2017. Kazakhstan imported propagation material just from 4 countries: Greece, Italy, Poland, Serbia – see Fig. 55.  
5.1.2. ANALYSIS OF STRAWBERRY SEEDLINGS MARKET

The market value of strawberry seedlings comes after the market value of fruit young stock. Let us consider it briefly.

The analysis of strawberry seedlings import is based on the CC FEA code 0602903000.

Import of strawberry seedlings in 2017 was 620 thous. units, the total cost was 72 thous EUR and the average price of one seedling 0,12 EUR.

Fig. 56. Dynamics of strawberry seedlings import by Kazakhstan during 2013-2017


In 2017 the growth of soft fruit plantation was 165 ha. It required about 8.25 mln. seedlings of strawberries.

In other words, the market value of strawberry seedlings for commercial production is 8.25 mln. units or 1 mln. EUR per year.

Table 53. Market value of strawberry seedlings in Kazakhstan in 2017, mln. units / mln. EUR

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Kazakhstan production</th>
<th>Imports</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seedlings, mln. units</td>
<td>7,63</td>
<td>0,62</td>
<td>8,25</td>
</tr>
<tr>
<td>Market structure in volume terms, %</td>
<td>92%</td>
<td>8%</td>
<td>100%</td>
</tr>
<tr>
<td>Price, EUR/unit</td>
<td>0,12</td>
<td>0,12</td>
<td>x</td>
</tr>
<tr>
<td>Market value, mln. EUR</td>
<td>0,9</td>
<td>0,1</td>
<td>1</td>
</tr>
<tr>
<td>Market structure in value terms, %</td>
<td>90%</td>
<td>10%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note for Table 53: The wholesale prices of strawberry seedlings in Kazakhstan are quite different, from 0,24 EUR/unit to 1,46 EUR/unit. Because of absence of correct data for average prices we calculate the market value for local seedlings based on the same minimal price, as for imported ones according custom statistics – 0,12 EUR/unit.

46 In 2013-2016 the area of strawberry has decreased in Kazakhstan.
The high share of domestic production, can be, explained by the fact that the producers firstly buy foreign seedlings and then get propagation material themselves (by runners). The seedlings for rural population are not included in the calculation. The production of propagation material by rural population is carried out in the same way (by runners).

The main suppliers of strawberry seedlings to Kazakhstan are Italy and Spain.

**Fig. 57. Structure of import of strawberry seedlings by Kazakhstan in 2017, %**

![Diagram showing the structure of import of strawberry seedlings by Kazakhstan in 2017, with Italy, Spain, Poland, and Turkey as suppliers.]

*Reference source: data processing http://kgd.gov.kz/ru/exp_trade_files*

Import of strawberry seedlings from the Netherlands has decreased from 350 thous. units till 2 thous. units during 2013-2016 (in value terms from 43 thous. EUR to 1 thous. EUR). Probably it is linked with the price increase for seedlings (3,5 times). According to the official statistical figures there were no supplies in 2017.

Furthermore, there was no strawberry seedlings export from Kazakhstan during the period 2013 - 2017.

There is hardly any commercial production of **blueberries**. For that reason, data to calculate the volume and value of seedlings import for blueberries are not available.

### 5.1.3. MAIN MARKET PLAYERS AT THE MARKET OF PROPAGATION MATERIAL

#### 1. LOCAL NURSERIES

Over the last couple of years the joint venture companies has been created in Kazakhstan: famous European companies have transferred their experience and innovative technologies of young stock growing to Kazakhstan.

Examples:

1.1. **LLP «SARYAGASH ZHER SYIY»**

South Kazakhstan region, Saryagashskii district

The private nursery is established in 2002 and it positions itself as the largest nursery in Kazakhstan for production of elite fruit and grape young stock around 1 mln. units of slips are produced per year, including 700-750 thous. units for grape and 250-300 thous. units for fruit.
The area of nursery is 96 ha of which 65 ha are fitted with the system of drip irrigation. The company cooperates with specialists of 5 research institutes. It carries out research and the introduction of the innovative technologies for young stock growing. Nowadays Dutch technology of fruit crops growing «knip baum» introduced in the nursery the compression method by the patent of Kazakh scientists. The orchard grown using semi dwarf stocks, start to bear already for third year. Trees don’t need to be tied up and during the first 4 years they don’t need to be cut. However, the difficulty is that each bush should be treated by hand. Nevertheless, this technology has been introduced already in Almaty (5 ha) and South Kazakhstan (13 ha of apple orchards). And number of producers, interested in such technology, is increasing.


1.2. ALATAU FRUITS ENGINEERING

http://www.alataufruits.kz


1.3. SOFT FRUIT NURSERY «DRAGAN»

040400, Almaty region, Esik, Sportivnaia street, 30
Tel.: +7 (702) 303-33-22
Web-site: https://rdragan.kz
Email: dragan_@mail.ru

This company is established in 2013 and their main activities are:
- ✓ import of soft fruits seedlings for commercial production (strawberry seedlings «frigo» and ever bearing raspberry), seedlings and young stock for the wholesale and retail market;
- ✓ turn-key soft fruit planting.

Nursery’s partners:
- ✓ group of companies AIK (drip irrigation);
- ✓ Italian company «Mazzoni» (strawberry «frigo»);
- ✓ Israel company «Tevatronic» (systems of independent irrigation);
- ✓ LLP «KosAgroKommerts» (agrichemical analysis of soil and water).

Some market players point out that at the first stage large projects are focused on the establishment of production only. After 4-5 years production and further extension of the area, they decide to have their own nursery discussions start about the need of an own nursery.

Over the last few years in Kazakhstan some projects of dwarf stocks have appeared. But it will need 2-3 years to get first seedlings (reference source: https://raimbek.com/news/public/66-sochnyj-frukt/, October 2016). According agronomist M. Rakhatzhano’s opinion, there is no point to trust to local nurseries quality, because «it needs years of experience, and the only foreign nurseries have such long experience».
2. FOREIGN COMPANIES

According to analysis of the data available and the market experts’ survey, the following companies, which sell **fruit** young stock in Kazakhstan, are identified:

- **GRUBER GENETTI**  [https://www.gruber-genetti.it](https://www.gruber-genetti.it), **SALVI VIVAI S.S.**  [http://www.salvi.it/salvi-vivai](http://www.salvi.it/salvi-vivai) (Italy);
- Group of companies **ARNO**  [http://arno.agro.pl](http://arno.agro.pl) (Poland).

According to analysis of data available and the market experts’ survey, the following companies, which sell **strawberry seedlings** in Kazakhstan, are identified:

- **SALVI VIVAI S.S.** (Italy);
- **Viveros Campiñas**  [http://www.viveroscampinas.com](http://www.viveroscampinas.com) (Spain);

5.1.4. PROCEDURE OF NEW VARIETIES REGISTER

The new varieties of fruit crops should be registered in the «National register of selective breeding results admitted for using in the Republic of Kazakhstan».

The test and register proces of the new variety are carried out by:


To register a new variety it is necessary to apply via the «National Institute of Intellectual Property».

The variety field tests take 2-3 years on average (depending on the species of plants from 1 to 10 years).

After the testing and the confirmation of the usability of the variety, it is included in the «National register of selective breeding results admitted for using in the Republic of Kazakhstan».
5.1.5. CONTROL OF DISEASES, PESTS AND CONFIRMATION OF PRODUCTS CLEARANCE

When imported to the country:

According to the Decree of the President of the Republic of Kazakhstan of 29 April 2010 № 980 the Republic of Kazakhstan is committed to the International Plant Protection Convention (IPPC) whereby one of the main activities of the national plant protection service is, the obligate analysis of pest risk.

The state phytosanitary quarantine control is carried out by the Committee of State Inspection in the Agroindustrial Complex of the Ministry of Agriculture of the Republic of Kazakhstan.

Imported fresh hard and soft fruits, their processed products, propagation material during cross-border of Eurasian Customs Union countries should have a declaration of conformity given by the accredited laboratory of the country of origin.

To confirm the products clearance the phytosanitary certificate are issued. It is a document, provided by phytosanitary control according international standards, which approves that plant products are safe for producers in Kazakhstan.

Inside the country:

The activities in the field of plant protection inside Kazakhstan are carried out by the quarantine inspectors through the control of the hard and soft fruit producers and the nurseries.
5.2. FERTILIZERS AND (SUSTAINABLE) CROP PROTECTION

5.2.1. FERTILIZERS

5.2.1.1. EXTERNAL TRADE, MARKET VALUE

The general structure and market trends are examined on the general Kazakhstan fertilizer market. Based on that the capacity of the fertilizer market for fruits and berries production is calculated.

Nitrogenous and phosphorous fertilizers are mainly produced in Kazakhstan. Kazakh producers of nitrogenous fertilizers are mainly oriented to the domestic market and cover about 78% of the domestic market, 22% is accounted for by import. As for phosphorous fertilizers the producers cover 100% of the domestic demand. Potassic and compound fertilizers are almost not produced; their share of import reaches 100%.

In this chapter, some data for 2017 will not be given, as official statistic doesn’t have it at the time of preparation of this study. Accordingly, the available data for 2016 will be taken for analysis.

The growth of the market value is provided by the increase of local production in 2011-2016 – from 290 to 459 thous. tons or in terms of market value from 66 to 108,9 mln. EUR (from 25 to 41,4 bln. KZT). The volume of export in 2011-2016 was about 200 thous. tons priced at 40,3 mln. EUR in 2016 (45 mln. USD). The volume of import has decreased from 350 to 265 thous. tons, which is equal to 59 mln. EUR (65,6 mln. USD).

The market value of mineral fertilizers in Kazakhstan in 2016 was approximately 527 thous. tons or 127,6 mln. EUR (141,8 mln. USD).

The share of import was 46% in value terms and 50% in volume terms.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Kazakhstan production, net of export</th>
<th>Import</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral fertilizers, thous. tons</td>
<td>259</td>
<td>265</td>
<td>527</td>
</tr>
<tr>
<td>Market structure in physical terms,%</td>
<td>50%</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>Market value, mln EUR</td>
<td>68,6</td>
<td>59</td>
<td>127,6</td>
</tr>
<tr>
<td>Market structure in value terms,%</td>
<td>54%</td>
<td>46%</td>
<td>100%</td>
</tr>
</tbody>
</table>

In production (as in the import) nitrogenous fertilizers dominate - 76% respectively 79%.

---


49 Production is 41 392 mln KZT which in case of USD/KZ exchange rate equal to 342 in 2016 was about 121 mln. USD, plus import 65,6 mln. USD minus export 44,8 mln. USD.
The main customer of mineral fertilizers from Kazakhstan is Ukraine (30% in value terms in 2016). Kyrgyzstan is in second place (18% of the export); the Russian Federation is in the third place with 14% of the export.

The largest supplier of mineral fertilizers to Kazakhstan is the Russian Federation, 58% of total import in value terms. Uzbekistan imports 2 times less, 29%.

Nitrogenous fertilizers are imported mainly from the Russian Federation and Uzbekistan. Potassic fertilizers are imported from the Russian Federation and Israel and compound fertilizers from the Russian Federation and Uzbekistan and far less from Spain.

Generally the share of European countries in the import of mineral fertilizers by Kazakhstan is insignificant.
Table 55. Share of European countries in the import of mineral fertilizers by Kazakhstan, 2017

<table>
<thead>
<tr>
<th>Fertilizers</th>
<th>in value terms</th>
<th>in volume terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogenous</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Phosphorous</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Potassic</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Other (compound)</td>
<td>22%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Reference source: data processing of customs statistics https://comtrade.un.org/data/

In 2017 516 tons of fertilizers were imported from the Netherlands in the amount of 615 thous. EUR, almost all compound (or complex) fertilizers.

5.2.1.2. CONSUMPTION IN KAZAKHSTAN

Kazakhstan is a country with the lowest mineral fertilization per hectare of agricultural lands.

According to data from the Statistics Committee of Kazakhstan in 2016 **113,8 thous. tons of mineral fertilizers were applied by the agricultural enterprises or 68,9 kg per 1 ha** of fertilized area. It was around **25,7 mln. EUR** (30,6 mln. USD) in value terms.

Fig. 61. Dynamics of mineral fertilization under agricultural crops *

53% of mineral fertilizers were applied for growing grain crops (maximum crop area). The vegetable crops, 23%, are in second place.

The share of fertilizers applied under perennials is less than 1% of total volume or about 700 tons, which equal to approximately 158 thous. EUR (188 thous. USD).
The larger part of fertilizers – 70% - is accounted for by nitrogenous fertilizers. 80 thousands tons were applied.
Phosphorous fertilizers are in second place with 28% or 31.5 thousands tons.
The share of potassic fertilizers is only 2% from total fertilization under agricultural crops, 2.3 thousands tons were applied.

Mineral fertilizers can be applied by 2 methods:

- through irrigation – fertigation;
- soil application.

The first method is on irrigation systems, which is suitable for mineral fertilization. The installation cost of the irrigation system and pump station can vary from 600 to 4 500 EUR per 1 ha. It depends on source of water, distance to the orchard, water sources, etc.).

In such a case only water-soluble fertilizers can be applied. As a rule, they are European-produced and more expensive (according to the value they can be ten times more expensive than granulated ones).

In case of soil application of fertilizers (granules, powder) it is necessary to buy the specialized machinery. For example the cost of a spreader for fertilizers costs vary from 1 100 to 3 800 EUR.

Manure is applied before planting and the cost for a manure spreader is almost the same as a spreader for mineral fertilizers.

**5.2.2. CROP PROTECTION**

As for the chapter 5.2.1. FERTILIZERS some data for crop protection products for 2017 will not be given, just the available data for 2016 will be analysed.

Official statistics does not give data about the overall production of pesticides (the plant protection agents) in Kazakhstan.

According to the Executive Director of the «Association of Kazakh producers of crop protection agents» Boris Tsoktoev the production of pesticides has increased 9,5 times since 2010, from 0,9 thous. tons to 8,6 thous. tons in 2016. Such volume (8 600 tons) is equal to 55% of the total demand of the pesticides in Kazakhstan. The assortment of pesticides in Kazakhstan has increased 14,5 times from 4 to 58 brands.

The share of Kazakh local components has increased from 6% to 53%, on average.

The foreign investors take an interest in Kazakh market. Nowadays a project for plant protection agents in Almaty region is discussed. With the support of the national company «Kazakh Invest» in cooperation with a Turkish investor – holding Agrobest Grup – a factory for the production of plant protection agents will be built in 2019. The investor invest 25,2 mln. EUR (30 mln. USD).

The investment project is implemented under the auspices of the Embassy of Kazakhstan in Turkey. The production capacity will be 12 thous. tons pesticides per year.

---


52 Reference source: [https://abctv.kz/ru/last/tureckaya-agrobest-group-postroit-v-kazahstane-zavod-po-pro](https://abctv.kz/ru/last/tureckaya-agrobest-group-postroit-v-kazahstane-zavod-po-pro)
Fig. 64. Dynamics of pesticides production in Kazakhstan in 2010, 2016 and plan for 2019, thou. tons

Fig. 65. Dynamics of external pesticides trade in Kazakhstan during 2013-2017, mln. EUR

Reference source: data processing of customs statistics https://comtrade.un.org/data/
The market value of pesticides in Kazakhstan can be estimated by different sources from 15.6 thous. tons to 21.2 thous. tons or on average around 105-145 mln. EUR.

Table 56. Market value of pesticides in Kazakhstan in 2016

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Production</th>
<th>Import</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticides, thous. tons</td>
<td>8.6</td>
<td>12.7</td>
<td>21.3</td>
</tr>
<tr>
<td>Market structure in physical terms,%</td>
<td>40%</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>Market value, mln EUR</td>
<td>77.4</td>
<td>68.4</td>
<td>145.8</td>
</tr>
<tr>
<td>Market structure in value terms,%</td>
<td>53%</td>
<td>47%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The share of imported products at the market is 47% in value terms and 60% in volume terms.

2.8 tons of pesticides with a market value of 36.8 thous. EUR (0.02% from the total value) were imported from the Netherlands in 2017.

The raw material for the pesticides production and the finished pesticides are imported by Kazakhstan from the Russian Federation (28%), Germany (18%), China (16%) and France (13%).

96% of Kazakhstan pesticides export finds its destination in Ukraine.

Fig. 66. Main countries-suppliers of the pesticides to Kazakhstan in 2017, in value terms

Reference source: data processing of customs statistics https://comtrade.un.org/data/

---

53 Based on the data from «Association of Kazakh producers of crop protection agents» that Kazakh production is 55% from the needs.
54 Based on the data from «Association of Kazakh producers of crop protection agents» and the external trade volume.
55 Because about 53% of Kazakh pesticides are produced from the imported raw material, this volume (8.6 thous. tons * 53%) was taken from the volume of import.
The market value of plant protection agents for fruit production only, can be estimated by the share of the orchard area.

The total crop area of agricultural enterprises and family farms is 21 638 thous. ha, the area under orchards of pome and stone fruits is 30 thous. ha (fruit bearing and non-fructifying). Their share is 0,14%.

So, this means the market value is estimated at 30 tons (21,2 thous. tons * 0,14%) production and its value 203 mln. EUR (145,8 mln. EUR * 0,14%).

Table 57. The market value of plant protection agents only for fruit in Kazakhstan

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The total crop area in the agricultural enterprises and family farms, thous, ha</td>
<td>21 638</td>
</tr>
<tr>
<td>The total area under orchards of pome and stone fruits (fruit bearing and non-fructifying), thous. ha</td>
<td>30</td>
</tr>
<tr>
<td>Orchards share, %</td>
<td>0,14%</td>
</tr>
<tr>
<td>The market value of plant protection agents — total, tons</td>
<td>21 300</td>
</tr>
<tr>
<td>The market value of plant protection agents — total, mln EUR</td>
<td>145,8</td>
</tr>
<tr>
<td><strong>The market value of plant protection agents only for fruit, tons</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td><strong>The market value of plant protection agents only for fruit, thous. EUR</strong></td>
<td><strong>203</strong></td>
</tr>
<tr>
<td>including import (47%)</td>
<td>95</td>
</tr>
<tr>
<td><strong>Kazakhstan production (53%)</strong></td>
<td>108</td>
</tr>
</tbody>
</table>

The application of pesticides in the orchards requires buying specialized machinery – the sprayer. Russian, Belorussian, Kazakh sprayers cost between 2 300 and 6 800 EUR. Turkish or European sprayers are more expensive (9 100 to 13 600 EUR).

5.2.3. MAIN MARKET PLAYERS

FERTILIZERS PRODUCERS

Kazakh producers:

According to data from the Statistics Committee of Kazakhstan 45 enterprises produce mineral fertilizers in 2017 in Kazakhstan, of which:

- 1 large enterprise LLP «KAZAZOT» [http://www.kazazot.kz];
- 1 medium sized enterprise LLP «EVROKHIM-KARATAU» [http://www.eurochemgroup.com];
- the others are small.

It is worth paying attention to the «Kazakh commercial and industrial agrochemical company «KosAgroKommerts» [http://kosagro.kz]. It is one of the largest supplier and producer of potassic fertilizers in Kazakhstan. It is a distributor and partner of many world fertilizers producers.
The fertilizers of **Russian producers** achieved a strong position at the Kazakh market:

- «URALKHIM» [http://www.uralchim.ru](http://www.uralchim.ru) and has a representative office in Kostanay;
- «Buiskii Khimicheskii Zavod» [https://www.bhz.ru](https://www.bhz.ru);
- «Uralkali» [www.uralkali.com](http://www.uralkali.com), during the World Expo «Expo-2017» in Astana, the general director mentioned that his company is ready to expand partnership in Kazakhstan.

At the Kazakh market the following **European producers** are represented:

- Yara International ASA (Norway) [https://www.yara.com](https://www.yara.com) (formerly KEMIRA);
- Valagro [https://www.valagro.com](https://www.valagro.com) (Italy);
- Lima [https://www.lima-europe.eu](https://www.lima-europe.eu) (Belgium);
- Puccioni S.p.A [http://puccioni.it](http://puccioni.it) (Italy);
- Agafert S.r.l. [http://www.agafert.com](http://www.agafert.com) (Italy);
- Tessenderlo Group [https://www.tessenderlo.com](https://www.tessenderlo.com) (Belgium);
- Prayon [http://www.prayon.com](http://www.prayon.com) (Belgium);
- Vellsam [http://www.vellsam.com](http://www.vellsam.com) (Spain);
- Daymsa [http://daymsa.com](http://daymsa.com) (Spain);
- Puccioni [http://puccioni.it](http://puccioni.it) (Italy) – biostimulators, antistress products and growth promoters.

**PESTICIDES PRODUCERS**

**Kazakh producers:**

1. LLP «Astana nan»
[https://astana-nan.kz](https://astana-nan.kz).

The company is established in 1999 and is specialized in plant protection agents' supplies as well as carrying out of field tests.

Since 2010 the company has its own plant – the daughter enterprise to produce the chemical plant protection agents LLP «Astana-Nan Chemicals».

The annual volume of production is 50 mln. liters.

The company offers a wide range of plant protection agents for all crops and cooperates with producers from Germany, USA, Switzerland, Russia, Austria and France.

2. LLP «Agrokhimiia»
[http://agrochemicals.kz](http://agrochemicals.kz)

This enterprise produces plant protection agents.

**Russian producers:**

Since Russia is the main supplier of pesticides to Kazakhstan, the large Russian producers are well represented in the Kazakh market and have representative offices / branches, like:

- LLP «Shchelkovo Agrokhim-KZ» - the company started in 2009 and has branches;
- LLP «Avgust-Kazakhstan» [http://www.avgust.kz](http://www.avgust.kz);
European producers:

In the last 5 years an active consolidation of the world leaders producing plant protection agents took place. These enterprises are represented in many countries, including Kazakhstan.

- **Bayer** [https://www.bayer.com](https://www.bayer.com) (Germany), Bayer Kaz - the representative office in Kazakhstan formerly **Monsanto** [https://monsanto.com](https://monsanto.com) (USA), Bayer bought it in 2016;


- **FMC** [http://www.fmc.com](http://www.fmc.com) (USA) formerly **Cheminova** (Denmark), FMC bought it in 2015;

- **DuPont** [www.dupont.com](http://www.dupont.com) (USA), which has a representative office in Kazakhstan [www.dupont.kz](http://www.dupont.kz).

Fertilizers and pesticides can be found in specialized shops (sites) which offer a wide range not only fertilizers and pesticides but also seeds, drip irrigation, etc. For example «POLEVOD» [http://polevod.com](http://polevod.com) or «KosAgroKommerts» [http://kosagro.kz](http://kosagro.kz).

The sector specialist note that all fertilizers and pesticides on the Kazakh market have a wide range, so they can be used on many types of agricultural plants, including orchards. The surveyed specialists are interested in information about small, highly specialized companies that produce plant protection products especially for fruit trees and berries.
5.3. ORCHARD MACHINERY AND EQUIPMENT

5.3.1. TRACTORS

5.3.1.1. GENERAL SITUATION

As of October 2017 the share of field machinery in Kazakhstan with a lifetime more than 17 years (i.e. very old-fashioned and in bad conditions) was:

- tractors – 65%;
- harvesters – 46%.  

The renewal rates by the main types of agricultural machinery are:

- tractors – 1.6% with a minimum level of 6%;
- harvesters – 2.7% with a minimum level of 8%.

In general, the agricultural machinery park depreciation is about 80%, according to some data even 90-95%. Although the sector experts believe that these data are too high and the share of old-fashioned machinery is lower.

However, the agricultural machinery park renewal rate in Kazakhstan is quite slow. It is limited by demand of agricultural enterprises, which has been declined even more as a result of the devaluation of the KZT and high share of imports.

The Government of Kazakhstan plans to promote the agricultural machinery park renewal and to provide subsidies for machinery to 650 mln. EUR (240 bln. KZT) in the period till 2022. It heightens the world producers' interest to open new assembly enterprises and slows down solves the agricultural machinery park depreciation.

From 2017 producers can get subsidies for credits and leasing for buying and using equipment and agricultural machinery.

The decrease in demand for agricultural machinery in Kazakhstan can be inferred by the dynamics of production and import (see fig. 66 and 67 below).

---


For reference only: useful lifetime is 8-10 years.


60 Reference source: [http://www.kazagro.kz/documents/16882/1721083/Лизинг%20rus_50+от%201.02.2017.pdf/2e9ee333-448a-4ce0-8a30-edc5e67a2bc7](http://www.kazagro.kz/documents/16882/1721083/Лизинг%20rus_50+от%201.02.2017.pdf/2e9ee333-448a-4ce0-8a30-edc5e67a2bc7)
5.3.1.2. TRACTORS. DOMESTIC PRODUCTION

Fig. 67. Dynamics of production of tractors for agriculture in Kazakhstan during 2011-2017, units


There is agricultural machinery production in Kazakhstan, which is mainly machinery for grain production. This segment (grain-harvesters, pickup presses and seeders) is more developed than other sectors of crop production.

Furthermore, the production in Kazakhstan is mainly assembling production of the leading agricultural machinery producers (including tractors), like:

- OJSC «Minskii traktorny zavod» [http://www.belarus-tractor.com](http://www.belarus-tractor.com) (the Republic of Belarus). 90% of all tractors in Kazakhstan were produced by «SemAz» («Semipalatinskii avtosborochnyi zavod»), [http://www.semaz.kz](http://www.semaz.kz) 61;
- OJSC «Rostselmash» [https://rostselmash.com](https://rostselmash.com) (the Russian Federation);

These enterprises have all representative offices in Kazakhstan:

- «Minskii traktorny zavod» [http://belarus-tractor.kz](http://belarus-tractor.kz);
- «Rostselmash» [https://kz.rostselmash.com](https://kz.rostselmash.com);

It is being noted that the existing joint assembly enterprises:

- are working insufficiently;
- the level of localization in most cases is less than 35%, leading to the direct dependence of the price for local machinery on the cost of imported components.

5.3.1.3. TRACTORS. IMPORT

Fig. 68. Dynamics of import of tractors for agriculture in Kazakhstan during 2011-2017, mln. EUR

Reference source: data processing of customs statistics https://comtrade.un.org

Since 2014 the establishment of a plant of the American company John Deere www.deere.com in Kazakhstan has been discussed. It was expected that the plant and 4 service and production centers were opened in 2016.

Nowadays at the territory of Kazakhstan there are 14 points of sale and service maintenance of machinery of John Deere, the authorized distributor is LTD «Eвразия групп Kazakhstan» http://www.eurasia.kz.

The main importers of Kazakh tractors in 2017 were Germany (28%), the Russian Federation (21%) and Tajikistan (21%).

Kazakhstan imports tractors from Belarus (25%), the Russian Federation (18%), Germany (12%) and USA (12%). The share of import from the Netherlands is 10% (2017).

According to more detail analysis of the Russian custom statistics, foreign tractors (CC FEA 8701) which are imported to the Russian Federation from the Netherlands on reality are trucks (DAF TRUCKS N.V. and SCANIA CV AB), but not tractors for agriculture.

So it is quite possible, that the import from the Netherlands to Kazakhstan consists of such trucks as well.

5.3.1.4. TRACTORS. MARKET VALUE

Here and after the available data for 2016 will be analysed. There is no such a detailed available data for 2017.

The market value in 2016 was 136 mln. EUR.

It was calculated as a volume of 941 tractors produced plus 3 089 tractors imported minus 168 tractors exported and is equal 3 862 units.

---

62 During the research the site is under development.
Average price of 1 produced and exported tractor was 43,5 thous. EUR \(^{63}\), and 33,1 thous. EUR per imported one.

### Table 58. Calculation of market value of tractors in Kazakhstan in 2016

<table>
<thead>
<tr>
<th></th>
<th>The market value</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number of tractors</td>
<td>mln. EUR per 1 tractor, aver.</td>
</tr>
<tr>
<td>Local production</td>
<td>941</td>
<td>43,5</td>
</tr>
<tr>
<td>Export</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Import</td>
<td>3 089</td>
<td>33,1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3 862</td>
<td></td>
</tr>
</tbody>
</table>

The market value of the tractors only for fruit production can be estimated by the share of production area:
- the total crop area in the agricultural enterprises is 21 638 thous. ha;
- the pome and stone orchard area is 30 thous. ha (bearing and nonbearing). Its share is 0,14%.

**Market value in 2016:**
- 3 862 tractors * 0,14% = 5,4 tractors;
- 136 mln. EUR * 0,14% = 190 thous. EUR.

### Table 59. Market value of tractors for fruit orchards in Kazakhstan in 2016

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>total crop area in the agricultural enterprises, thous. ha</td>
<td>21 638</td>
</tr>
<tr>
<td>pome and stone orchard area (bearing and nonbearing), thous. ha</td>
<td>30</td>
</tr>
<tr>
<td>Share of orchards, %</td>
<td>0,14%</td>
</tr>
<tr>
<td>Tractor market value - total, units</td>
<td>3 862</td>
</tr>
<tr>
<td>Tractor market value - total, mln. EUR</td>
<td>136</td>
</tr>
<tr>
<td><strong>Market value of tractors for fruit orchards, units</strong></td>
<td>5,4</td>
</tr>
<tr>
<td><strong>Market value of tractors for fruit orchards, thous. EUR</strong></td>
<td>190 including import (80%) 152</td>
</tr>
<tr>
<td></td>
<td>Kazakh, assembly production of foreign producers (20%) 38</td>
</tr>
</tbody>
</table>

The estimations of the sector experts about the share of domestic agricultural machinery production in Kazakhstan are different. But all experts point out the high dependence of Kazakhstan on import in this category.

For example, according to Seitkaza Keshuov's calculation, director general of «Kazakh Research Institute of Rural Mechanization and Electrification», domestic production of machinery and equipment for A.I.C. in Kazakhstan is **1% of annual demand, excluding «assembly»** (h.e. minimal assembly mainly from imported components).

According to Dinara Zhanguzhekova’s estimation, the expert of «Kazakh Human and Political Environment Center», the share of import of foreign agricultural machinery is 90%, **10% is covered by Kazakh-produced machinery**.

\(^{63}\) There are no data about the volume of domestic production in value terms in official statistics. So the tractor cost for is taken as the cost of export product.
According to the data from the Statistics Committee of Kazakhstan, which pooled the results of the State Program of Industrial-Innovative development in its report, the share of domestic production is lower than 5%.

In the «State Program for Development of Agroindustrial Complex of the Republic of Kazakhstan for 2017-2021» it was stated that at the end of 2015 the share of Kazakh assembly enterprises was on average 30% from the number of bought agricultural machinery in Kazakhstan.

5.3.2. TILLAGE, SOWING, IRRIGATION AND FERTILIZER MACHINERY AND EQUIPMENT

Tillage, sowing, irrigation and fertilizer machinery and equipment is mainly imported (see table 59 below).

The volume of export as compared to import is insignificant and has no impact on the total market capacity.

In this market research the share of orchard machinery and equipment is 0,14% from total market value of orchard machinery and equipment (as for the tractors).

Table 59. Dynamics of import of tillage, sowing, irrigation and fertilizer machinery and equipment for orchards in Kazakhstan during 2013-2017, thous. EUR

<table>
<thead>
<tr>
<th>CC FEA codes</th>
<th>Type of machinery and equipment</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Main countries-exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>843230 till 2016, 843231 and 843239 from 2017</td>
<td>Seeders, planters and transplanters; no-till direct seeders, planters and transplanters</td>
<td>8,6</td>
<td>5,3</td>
<td>6,1</td>
<td>6,8</td>
<td>8,1</td>
<td>Russia, USA, Germany</td>
</tr>
<tr>
<td>843240 till 2016, 843241 and 84342 from 2017</td>
<td>Spreaders and distributors; for manure and fertilizers, for agricultural, horticultural or forestry use; manure spreaders</td>
<td>1,9</td>
<td>2,1</td>
<td>1,1</td>
<td>2,1</td>
<td>2,1</td>
<td>Russia, In particular years Belarus, Canada and Germany</td>
</tr>
<tr>
<td>843210, 843221, 843229</td>
<td>Ploughs; for soil preparation Harrows; disc harrows Harrows; (excluding disc), scarifiers, cultivators, weeder and hoes</td>
<td>28</td>
<td>25</td>
<td>23</td>
<td>20</td>
<td>28</td>
<td>Russia, Germany and USA</td>
</tr>
<tr>
<td>842481 till 2016, 842449 and 842482 from 2017</td>
<td>Mechanical appliances; agricultural or horticultural sprayers; other than portable sprayers</td>
<td>34</td>
<td>36</td>
<td>44</td>
<td>28</td>
<td>32</td>
<td>USA and Israel. In 2015 The Netherlands took second place after USA, 17%</td>
</tr>
</tbody>
</table>

TOTAL: | 72 | 68 | 74 | 57 | 70 |

Reference source: data processing of customs statistics https://comtrade.un.org
Official statistics of Kazakhstan has no data about such machinery production. But there are some producers in Kazakhstan, for example:

- «Borona.kz» https://www.borona.kz;

Decided is to set the share of domestic production at 20% from the market value (as for the tractors).

It is impossible to find out more detailed data about orchard machinery and equipment in the customs statistics.

However, one can found in Kazakhstan internet portals e.g. the orchard platforms Hercules, produced by the Belgian company BAB BAMPS NV http://www.babbamps.com and offered by local traders. It is likely that such equipment was bought by large fruit producers. The reasons why imports are limited is because imported equipment is relatively more expensive and such equipment is not in the list to get subsidies.

Intensive orchard planting in Kazakhstan is impossible without an efficient irrigation system. In Kazakhstan there are some companies which carry out turn-key work. For example, such services are offered by the company «FTC Equity» https://ftcagro.kz. At the company web-page there are some partners:

- AZUD Group http://www.azud.com, Italy – irrigation and water cleaning;
- Soldrip http://soldrip.pl, Poland - irrigation.

At the soft fruit nursery «DRAGAN» site (the largest Kazakh nursery) the following partners are mentioned:

- «AIK AGRO SISTEMS» http://www.aikltd.com, Russia – design and delivery of drip irrigation systems, consulting services of experts from Israel and The Netherlands are possible;

The large Kazakh producers install irrigation systems, like:

- the drip irrigation system «Drip Line», Greece, LLP «KERUEN»;
- in the orchards of the company JSC «SAT & Company» drip irrigation «Rain-Tal» Ltd. www.rain-tal.com (Israel) has been installed. It was chosen because its references at the market is very well and their service maintenance very good.

Kazakh companies offer the components to the irrigation systems. As a rule, the complicated components are imported, mainly from Israel companies. For example, JERUSALEM Hi http://farmgarden.biz or Amiad http://www.amiad.com, Metzerplas https://www.metzer-group.com.

The less complicated components – drippers or pipes – are both imported and Kazakh-produced, for example company «VokKHaus» http://workhouse.kz offer drippers and LLP «Trans Polimer» http://transpolymer.kz pipes.

An important group of specialized machinery are the sprayers. They are mainly imported, for example from:

- Italy («Maschio Gaspardo SpA» http://www.maschio.com);
- Turkey («AGROTURK Machinery Co.» http://www.agro-turk.com).
There are also sprayers of local producers: like «AVAGRO» [http://avagro.kz].

5.3.3. TOTAL MARKET VALUE OF ORCHARD MACHINERY AND EQUIPMENT

Table 60. Market value of orchard machinery and equipment in Kazakhstan in 2016

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market value of orchard machinery and equipment, thous. EUR</td>
<td>247</td>
</tr>
<tr>
<td>including import (80%)</td>
<td>198</td>
</tr>
<tr>
<td>Kazakh (20%)</td>
<td>49</td>
</tr>
</tbody>
</table>
According to the research carried out by the journal «Expert Kazakhstan», there are a lot of offers to rent vegetable and fruit storages in Kazakhstan. Many storages are empty or half full. However, the main problem of fruit and vegetable sector in Kazakhstan is the lack of modern and well equipped storages.

According to the Chairman of the Management Board «KazAgro» Nurlybek Malelov, the storage capacity in Kazakhstan is around 1,2 mln. tons for fruits and vegetables, while the deficit of storage capacity is 417 thous. tons. To cover the deficit it is necessary to enlarge the storage capacity of fruit and vegetable products to 1,5 mln. tons in 2020.

According to data from the Statistics Committee of Kazakhstan in 2017 there were 20 storages of large producers with a total capacity of 21 566 tons.

Table 61. Fruit storages of large producers in Kazakhstan

<table>
<thead>
<tr>
<th>Buildings and facilities</th>
<th>of which permanent</th>
</tr>
</thead>
<tbody>
<tr>
<td>number, units</td>
<td>capacity, tons</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>20</td>
</tr>
<tr>
<td>Almaty region</td>
<td>10</td>
</tr>
<tr>
<td>Zhambyl region</td>
<td>1</td>
</tr>
<tr>
<td>South Kazakhstan region</td>
<td>7</td>
</tr>
</tbody>
</table>


The commercial producers in 2017 harvested 118 thous. tons of apples. The storage capacity is only 18% of the total production which is insufficiently even taking into account that many producers sell part of their fruit in autumn during harvesting.

To analyze the data about the cost of fruit storages (see the table 61 above) 1 ton of storage costs is 160 EUR on average in Kazakhstan. The permanent buildings and facilities cost 232 EUR (to 439 EUR in Almaty region).

It is expected that in general these storages don’t have high-tech equipment (cooling and freezing).

An exception are 2 storages, equipped by the modern technological and climate control devices (see the table 62 below). It is the fruit storage of the company «Keruen» and of the company «AMAL BIO». Both are situated in Almaty region.

This conclusion is confirmed by the chairperson of the Association of Individual Entrepreneurs and Legal Entities «Association of the gardeners», M. Abdukarimov: “there are enough storages, but they are old-fashioned and not built specially for fruits. Only the large producers have their own storages, consider the sales channel. Only 5 producers have large storages wit a capacity of more than 1 thous. tons and with climate controlled atmosphere. The producers create a closed-chain from fruit growing, harvesting, storage and supplies to shops.
The small producers, farmers and small re-sellers store apples in adapted basements or in rented storages. The rented storages are in most cases small, adapted building spaces for a few producers, seldom with controlled atmosphere, more often temperature-controlled refrigerated storerooms».

The fact that small enterprises do not want to establish own storage is confirmed by the producer «Integratsiia-Turgen» (Almaty region, around 10 ha of intensive orchards and a capacity in 2018 of 60 - 90 ton per ha «We sell our products through the intermediate sellers. It is more convenient despite we get less profit: the intermediate seller provides harvesters, guarantees for payments and organizes product transport, load and sales. All small producers work according to the same scheme»".

In table 62 below there are data of some companies which have already fruit storages with modern technologies and companies which plan to establish storages.

Table 62. Large fruit storages in Kazakhstan

<table>
<thead>
<tr>
<th>Year</th>
<th>Company, region</th>
<th>Description of storage</th>
<th>Additional information</th>
<th>Implementor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>farming company «Keruen» Almaty</td>
<td>Fruit storage for 2000 tons, cooling and freezing facilities with controlled atmosphere, including sorting line for fruits 2 tons per hour and packaging department</td>
<td>It was built by LLP «Kazakh Cool». Now the fruit storage is belonging to the farming company «Keruen» which stores in it its own apples and apples of other producers, for example Alma Prodex (Raimbek Group). It has free storage chambers for 300 tons</td>
<td>Plattenhardt + Wirth GmbH</td>
</tr>
<tr>
<td>2013-2014</td>
<td>LLP «Fresh Fruit Kazakhstan» It is included in «AMAL BIO» Almaty</td>
<td>Storages with controlled atmosphere (ULO) for 3700 tons of fruits and vegetables</td>
<td>12 cold storage chambers with the total capacity 2000-2300 tons of apples with controlled atmosphere</td>
<td>Plattenhardt + Wirth GmbH</td>
</tr>
<tr>
<td>2017</td>
<td>LLP «Sady Vostoka» Zhambyl region, Taraz</td>
<td>Fruit storage for 1600 tons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>LLP «DALA-FRUIT.KZ» South Kazakhstan region</td>
<td>Fruit storage for 8 200 tons with controlled atmosphere, sorting line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>LLP «AGROS BT» Almaty</td>
<td>Fruit and vegetable storage for 1 200 tons with ULO</td>
<td>There are two freezers.</td>
<td></td>
</tr>
</tbody>
</table>

64 Reference source: https://the-steppe.com/news/business/2016-09-12/apple-business
<table>
<thead>
<tr>
<th>Year</th>
<th>Company, region</th>
<th>Description of storage</th>
<th>Additional information</th>
<th>Implementor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agricultural Production Cooperative «Shaikoryk Bauy» Zhambyl region</td>
<td>When leaving the full capacity it is planned to store to 5 thous. tons of apples per year. For their storage it is expected to build a fruit storage with using modern technologies which allow storing products till a year and a half. Yet it has stored the yield in the containers in the usual storage for 3 thous. tons with rigid temperature control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farm «Kaz Eco Fruit» Zhambyl region</td>
<td>Products storage: planned</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Company «QAZAQ FRUIT» Almaty region</td>
<td>fruit storage for 5 000 + 15 000 tons with controlled atmosphere</td>
<td>C Plattenhardt + Wirth GmbH. Chambers for 155 and 185 tons.</td>
<td></td>
</tr>
</tbody>
</table>


5-10 years ago entrepreneurs in Kazakhstan started to build vegetable and fruit storages as a separate business, without connection with the vegetable and fruit producers. Now in spite of availability to store the agricultural products (including fruits) in a professional way the storages are not fully used. It is apparent from the table above that company «Keruen» offers its storages to other producers.

The same situation is typical for the vegetable storages as well:

- for example, the vegetable storage with Dutch technologies for 3,6 thous. tons in Almaty region is empty and find renters. «We need large producers or farmers’ cooperative which can use all capacity. But they believe more often how to sell the yield quickly to get money but not how to store it during off-season», — the owners of the storage describe the situation.
- the new vegetable storage for 2 thous. tons not far from Almaty built in 2015, is offered for sale — their owners (LLP «Ul-ai») decided to sell this business because could not find renters.
It may be concluded that two types of companies are interested in building vegetable and fruit storages equipped with modern technology and climate control equipment:

✓ **large producers** having sufficient volumes of production,

✓ **wholesale and distribution centers** having large volumes of vegetables and fruits for distribution. Nowadays in Kazakhstan the program for organizing such centers is developing.

Nowadays in Kazakhstan the promotion of food products from the producers to the consumers is carried out by small wholesales. The products go to the final customers through many intermediate sellers. It increases the expenses and leads to a relative high percentage of losses (mechanical injuries, the losses can exceed 40%).

To provide for Kazakh vegetable and fruit producers access to the selling points and to such technological operations as storage, packaging, sales and transport of agricultural and food products under the State Program for Development of Agroindustrial Complex, whole-sale and distribution centers are planned to be established.

The national chamber of entrepreneurs of Kazakhstan «Atameken» has developed «The map of creation of the whole-sale and distribution centers». Atameken introduced a legal ban for the sales just from trucks and to encourage the switch to professional sales through the whole-sale and distribution centers 67.

The main functions of the whole-sale and distribution centers are:

1. formation of parties: consolidation of small shipments and bulk breaking;
2. batching of products;
3. **storage** and post-harvesting (cleaning, sorting, etc.) of products;
4. packaging and labeling of products;
5. quality, veterinary and phytosanitary control;
6. other services: transport, loading and discharging operations and sales.

The functions № 3 and 4 are available in modern fruit storages.

The economist of the Investment Center FAO Andrei I Armak is convinced that the relevance of the introduction of modern the whole-sale and distribution centers will grow and in particular for products, which will be selected, sorted, packed and delivered.

The high-tech vegetable and fruit storages and the whole-sale and distribution centers can offer products corresponding to these requirements: with constant quality, equally deliveries throughout the year, branded and conveniently packaged for retail sales.

---

The main sales channel which require such products are:

<table>
<thead>
<tr>
<th>Name of channel</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>retail chains</td>
<td>The market saturation of the retail chains in Kazakhstan is only 16% of the total volume of retail account for the large retail chains. According to data from the Information agency «Kazakh-Zerno», the retail food chains «prefer large suppliers of Kazakh products, or sometimes of imported products». There are only few such large local suppliers.</td>
</tr>
<tr>
<td>export</td>
<td>Pear and apple export in 2017 was only 1.5 thous. tons, while import was 125 thous. tons.</td>
</tr>
</tbody>
</table>

Looking for the comments above, one can see that demand of such products is relatively low now.

However, the whole-sale and distribution centers in Kazakhstan are developing. The State Program for Development of Agroindustrial Complex of the Republic of Kazakhstan during 2017–2021 plans to increase fruit and vegetable export. These factors promote the demand for more standardized, qualitative, packed and sorted fruit products.

Within 5-8 years it is planned to establish a network of whole-sale and distribution centers in each administrative center of Kazakhstan. The whole-sale and distribution centers will be establish on the principles of public and private partnership, land grants which will be allocated, investment subsidies, loans and the supply of infrastructure will be granted also.

In February 2017 in Almaty the center «Mizam» became operational – the first whole-sale and distribution center in Kazakhstan.

The investment in the whole-sale and distribution center «Mizam» was about 8,4 mln. EUR (3,1 bln. KZT).

There is fruit storage for 600 tons.

A large part of the storage capacity of the whole-sale and distribution centers (according to Russian experience) is usually used for vegetables; the share of fruits is about 20-30%.

In this market research the share of fruits is set at the level of 20% of a modern storage with controlled atmosphere. Taking into account the average cost of technological and climate control equipment 170 EUR per ton of storage (see the same chapter 2.4. for the Russian Federation) the cost of storage is 20 400 EUR for an average whole-sale and distribution center.

Reference sources:
68 About 45% of the total volume of retail accounts for the markets, 39% for the medium and small trade enterprises (https://www.kursiv.kz/news/tendencii-weekly/ritejl-ziv-obzor-roznicnoj-torgovli-v-kazahstane/).
72 Reference source: https://www.kt.kz/rus/economy/v_almaty_vpervie_zapushten_rinok_s_oficialjnimi_nalogami_i_rabochimi_mesta mi_1153634781.html
To calculate the market value of fruit storage equipment for this market research the following data were set:

- based on the data about existing fruit storages (of the producers, not under the whole-sale and distribution centers) it has been set that 1000 tons of storage are put into operation every year on average;
- in terms of plans for the establishment of whole-sale and distribution centers it has been set that 2 whole-sale and distribution centers with the storage capacity 120 tons of fruits put into operation every year;
- the cost of storage are set at the level of 170 EUR per ton of storage (see the same chapter 2.4. for the Russian Federation).

### Table 63. Market value of technological and climate control equipment for fruit storages in Kazakhstan

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit storages putting into operation, thous. tons per year</td>
<td>1 240</td>
</tr>
<tr>
<td>Cost of climate control and technological equipment, EUR/tone of stored fruits</td>
<td>170</td>
</tr>
<tr>
<td>Market value of climate control and technological equipment, mln. EUR</td>
<td>210,8</td>
</tr>
</tbody>
</table>

- **including imported equipment (90%)** 190-210,8
- **Russian components (10%)** up to 21,1

So, the market value of the technological and climate control equipment for fruit storages in Kazakhstan is estimated at **211 thous. EUR** per year.

In Kazakhstan, as in the Russian Federation, the share of imported equipment is significant. The sector specialists estimate it at 90%-100% or 190 - 211 thous. EUR.

As in the Russian Federation, the market leader in designing and building fruit storages is the company **«Plattenhardt + Wirth GmbH»**, [http://plawi.de/en/](http://plawi.de/en/), Germany. «Plattenhardt» is not a producer of equipment but works actively both at the Russian and Kazakh market as an integrator (intermediair) implementing turn-key projects for fruit storage building.

The fruit storages of such large fruit producers as AMAL BIO, «QAZAQ FRUIT», ALMA PRODEX (holding Raimbek Bottlers), LLP «KERUEN» were projects of «Plattenhardt + Wirth GmbH».

**The following companies provide freezing facilities including for fruit storages:**

1. **Intercool** [www.intercool.kz](http://www.intercool.kz)

The company is active in assembling of cooling and freezing facilities from partners’ equipment:

- **Climaveneta** [climaveneta.com](http://climaveneta.com) (Italy);
- **Copeland** [www.emersonclimate.com/europe](http://www.emersonclimate.com/europe) (Germany);
- concern **Alfa Laval** [www.alfalaval.com](http://www.alfalaval.com) (Sweden);
- **Friga-Bohn** (Franco-American company).
2. LLP «Titan Almaty» www.titan-almaty.kz
This enterprise is active in assembling and maintenance service of cooling and freezing chambers.

It is an authorized distributor of companies’ equipment (compressors), like:

- **TECUMSEH** (France);
- **BITZER** (Germany);
- **EMBRACO** (Brazil);
- **SECOP** (Austria);
- **THERMOWAY, FRITERM** (Turkey).

The consumable materials and components are also imported from:

- **Eliwell** (microprocessors, Italy);
- **Ziehl-Abegg** (ventilators, Germany);
- **DeNa** (filters, Germany);
- **Arkema** (freon, Spain);
- **Sarkuysan** (copper pipes and fittings, Turkey);
- **Imamoglu** (locks, hinges and curtains, Turkey).

3. Company «KazRefGroup» www.too-krg-kazrefgroup.satu.kz

The main partner of LLP «KazRefGroup» is the company «OSTROV» http://ostrovcomplete.com – one of the largest European producers of complete cooling and freezing facilities (the Czech Republic).

The components of cooling and freezing facilities are also imported: For example:

- compressors, repair parts and oil **BITZER** (Germany);
- heat-exchange equipment **Guentner** www.guentner.ru (Germany) and **Alfa Laval** www.alfalaval.com (Sweden);
- automatics **Danfoss** www.danfoss.com (Denmark).

In Kazakhstan there is a representative office of company **Danfoss** www.danfoss.kz.

**The following companies deliver both cooling and freezing and climate control facilities:**

4. **Kalugin & K** www.kalugin.kz
http://www.sandwichpanel.kz

Company’s partners:

- **Mooij Agro** www.mooij-agro.com (the Netherlands) – ventilation and climate control equipment;
- **Isolcell** www.isolcell.com (Italy) – controlled atmosphere for fruit storages.

Also it offers own-produced sandwich panels.
5. **Snabkholod** [snabholod.kz](http://snabholod.kz)

This company offers designing, delivering and assembling of fruit and vegetable storages. The chambers have controlled atmosphere.

Furthermore, Snabkholod cooperates with both Kazakh and foreign producers and offers Russian-produced sandwich panels.

6. **IFT Project Development** [http://iftpd.com](http://iftpd.com)

IFT Project Development is a representative office of **Celtic Cooling**, [http://www.celtic.nl](http://www.celtic.nl) in Kazakhstan, opened in 2009.

The company’s partner is **Dalsem**, the Netherlands.

In table 64 some projects which were implemented by the company IFT Project Development. The supplier of cooling and climate control facilities was **Celtic Cooling**.

The projects have a volume of 250 - 500 tons on average.

**Table 64. List of projects of IFT Project Development, the supplier of cooling and climate control facilities is Celtic Cooling**

<table>
<thead>
<tr>
<th>Entry date</th>
<th>Company</th>
<th>Region</th>
<th>Description</th>
<th>cost of project</th>
<th>Total investment to project</th>
<th>Region</th>
<th>Description</th>
<th>cost of project</th>
<th>Total investment to project</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>«Dolan-Agro Invest»</td>
<td>Almaty region</td>
<td>fruit storage with ULO 400 tons, vegetable storage 3 000 tons</td>
<td>280</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>«ARUL Communication»</td>
<td>Astana</td>
<td>fruit storage with ULO 450 tons, vegetable storage 3300 tons</td>
<td>400</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>«Agropromenergo»</td>
<td>Almaty</td>
<td>fruit storage with ULO 250 tons, vegetable storage 2500 tons</td>
<td>400</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>«Ralkov»</td>
<td>Almaty region</td>
<td>fruit storage 450 tons</td>
<td>100</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>«Amangeldy»</td>
<td>South Kazakhstan region</td>
<td>fruit storage ULO, 1000 tons</td>
<td>700</td>
<td>1 000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>«Amangeldy»</td>
<td>Astana</td>
<td>fruit storage 500 tons</td>
<td>150</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


7. **TechnoCool** [http://technocool.kz](http://technocool.kz)

The company is building storages, including fruit storages with controlled atmosphere.

Company’s projects:

- ✓ fruit storages for 2000 tons;
- ✓ cold storage for 2500 tons, the chambers are equipped with controlled atmosphere technology;
- ✓ cold storages for 1200 tons, the chambers are equipped with controlled atmosphere technology.

So in total **6 900 tons of storage, including 4 900 tons storage with** controlled atmosphere technology.
The gas analysis meters - equipment with components and software – are fully-developed, designed and made by the Italian company «Fruit Control Equipments» www.fruitcontrol.it, while the convertors of ethylene are produced by «SwingTherm» www.swingtherm.com.pl from Poland.

It may be concluded that the customers prefer European equipment. Although the market players point out that there is quite some Chinese equipment («chinese» means that equipment is produced in China but under European brands) on the market. European (mainly German and Italian) equipment is in general 30% more expensive than Chinese equipment.

In some cases local producers try to offer Kazakh equipment on the market. But it is «hand-made», not mass industrial production – so is not popular.
5.5. CLEANING, SORTING AND PACKAGING LINES AND PACKAGING MATERIAL FOR FRUIT

The main customers of cleaning, sorting and packaging lines for hard and soft fruits in Kazakhstan are the same as in the Russian Federation, this means:

- the large retail chains;
- the importers/exporters/wholesalers of hard and soft fruits;
- the large hard and soft fruits producers;
- the hard and soft fruit packers.

As well as in the Russian Federation, the market of presales preparation and/or hard and soft fruit package has only started to develop. But the market value in Kazakhstan is less because of:

- smaller population;
- lower level of sectors’ development.

Nowadays in Kazakhstan trade via market places is more developed. This segment does not require packaged products. By packaged products we mean the package for retail sales fruits, selected by sort and size. However, this may be done by the owner of the market place without special equipment.

Packed fruits (mainly apples) can be required by the retail chains.

- the retail chain stores in Kazakhstan are less developed than in the Russian Federation: they account for about 16% of total retail turnover, whereas in contrast this share is 30% on average in the Russian Federation.
- nowadays in the retail chains (practically in all supermarkets) apples are mainly sold by weight. The customers gather fruits into plastic bags and weight them. Packed fruits are an exception. Mainly on a tray covered by a plastic wrap.

The importers/exporters are in general not large customers of cleaning, sorting and packaging lines for hard and soft fruits:

- imported fruits are sold by crates and only their small part can be selected and sorted additionally before sales;
- Sorted and selected fruit products are required for export but the volume of export however is insignificant.

There are no large fruit producers in Kazakhstan such as OJSC «Sad-Gigant» in the Russian Federation with 1,9 thous. ha of orchards. Relatively large producers in Kazakhstan are for example «AMAL BIO» and «Agrofirma Keruen» - 100 - 150 ha of orchards and growing 2 000 - 3 000 tons of apples. Producers set the trend in the Kazakh fruit sector and have installed or plan to install sorting lines for fruits. But there are just a few of such companies.
Table 65. Large fruit producers having or planning to install sorting lines for fruits

<table>
<thead>
<tr>
<th>Producer</th>
<th>Description</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLP «Agrofirma Keruen»</td>
<td>110 ha of orchards</td>
<td>Sorting line Greefa, <a href="https://www.greefa.nl">https://www.greefa.nl</a> (the Netherlands) suitable for apple sorting by color, size and weight</td>
</tr>
<tr>
<td>AMAL BIO</td>
<td>150 ha of intensive orchards</td>
<td>Presorting lines for fruits SORMA GROUP (Italy)</td>
</tr>
<tr>
<td>Company «QAZAQ FRUIT»</td>
<td>1 100 ha including intensive orchards</td>
<td>It is planned to install a sorting line for apples Aweta <a href="http://www.aweta.nl">http://www.aweta.nl</a> (the Netherlands) with a system of built-in video cameras suitable for apple sorting by color, diameter and quality</td>
</tr>
</tbody>
</table>

There are still no independent company-packers in Kazakhstan. However, it is planned to establish a network of whole-sale and distribution centers providing storage, sorting, grading and packaging lines.

The existing vegetable and fruit storages in Kazakhstan, owned by independent company-packers are not effective. In chapter 5.4. «Storage, cooling and freezing facilities» it has been noted that many of these storages are empty and not working ([http://expertonline.kz/a14576/](http://expertonline.kz/a14576/)).

Conclusion is that the consumer package of fruits (apples) is not highly demanded by retail and other considered customers.

Concerning the large wholesale quantities of fruits (related to producers, importers, and exporters), the cardboard boxes or cardboard/plastic crates are mainly used as a packing material.

Soft fruits (mainly strawberries and raspberries), in contrast, are packed for the retail sector (with some minor exceptions). Generally they pack to the soft fruits in a plastic container with a cover (250 or 500 g.).

To sort and pack soft fruits, hand labor is still often used (non-automated processes), because the small-scale farms dominate among the producers in Kazakhstan. It is a similar situation as in the Russian Federation.

Like in the case of the Russian Federation, it has been decided to accept the equipment cost for the cleaning and sorting lines equal to 35 EUR per 1 ton processed product.

So, the market value of cleaning, sorting and packaging lines for hard and soft fruits in Kazakhstan is estimated at 463 thous. EUR per year.
Table 66. Market value of leaning, sorting and packaging lines for hard and soft fruits in Kazakhstan

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Putting in operation of fruit storages by fruit producers and whole-sale and distribution centers, tons per year</td>
<td>1240 (1000+2*120)</td>
</tr>
<tr>
<td>Share of the producers, whole-sale and distribution centers focussing on the installation of cleaning, sorting and packaging lines, %</td>
<td>50% of fruit storages and 100% of whole-sale and distribution centers</td>
</tr>
<tr>
<td>Capacity of fruit storages and whole-sale and distribution centers with of cleaning, sorting and packaging lines, tons</td>
<td>740 (500+2*120)</td>
</tr>
<tr>
<td>Purchase (upgrade) of cleaning, sorting and packaging lines by the importers (10% from volume of import), tons</td>
<td>12 500</td>
</tr>
<tr>
<td><strong>Total cleaning, sorting and packaging lines, tons of processed fruits</strong></td>
<td><strong>13 240</strong></td>
</tr>
<tr>
<td>Cost of the cleaning, sorting and packaging lines, EUR per 1 tone of processed fruits</td>
<td>35</td>
</tr>
<tr>
<td><strong>Market value of cleaning, sorting and packaging lines, thous. EUR per year</strong></td>
<td><strong>463,4 thous. EUR</strong></td>
</tr>
<tr>
<td>including imported equipment (90%)</td>
<td>417,1</td>
</tr>
<tr>
<td>Russian components (10%)</td>
<td>46,3</td>
</tr>
</tbody>
</table>

The import data by CC FEA code «8433600000 – cleaning, sorting or grading lines for eggs, fruits and other agricultural products» were analyzed additionally. The CC FEA code is combined and includes mainly the cleaning and sorting lines for vegetables, firstly potato. There is only import and no export.

There are only annual data by volume of import. There are no more complete data with the description of the lots of goods to separate exactly the share of equipment for fruits in Kazakhstan.

In the calculation of the share of the grading and sorting lines for hard fruits in the Russian Federation it was identified that it is unstable from year to year and vary from 13% to 30%.

The sorting, grading and packaging of fruits in Kazakhstan is developed less than in the Russian Federation. So, for calculating the equipment cost, the smaller figure of 13% of the Russian Federation is taken into account.

Based on this percentage of 13%, the calculated value of import of cleaning, sorting or grading lines for fruits in Kazakhstan was 520 thous. EUR in 2017.

The data in figure 68 indicate that the volume of import differs 3-4 times from year to year.
Nevertheless, the calculated market capacity, including import, is comparable with the customs statistics data and is statistically significant.

The main suppliers of concerned equipment to the Russian Federation are Dutch (the market leader) and German companies, in 2016 – Italian.

The equipment producers – the key players at the Kazakh market are:

- **AWETA**, [http://www.aweta.nl](http://www.aweta.nl), the Netherlands;
- **GREEFA**, [https://www.greefa.nl/](https://www.greefa.nl/), the Netherlands.

Both AWETA and GREEFA have neither representative offices no dealers in Kazakhstan. This information is confirmed by «Agropack», distributor of GREEFA in Russia, and also there is no available information in Internet.

Belarus company «AgroMechPark» [http://agromehpark.by](http://agromehpark.by) is also active in Kazakhstan. But its equipment is less advanced and less expensive than European equipment.

**Packaging material for fruits**

As it was noted in the section above, crates is the main type of package for fresh fruits wholesale shipments because the fruits are usually collected by hand (not mechanically) and are mainly sold by weight.

According to the sector experts’ estimates:

- the market value of packaging material for hard and soft fruits is insignificant because of the underdevelopment of this market segment,
- packaging materials from Russia and Kazakhstan have large market share, while imported materials are rather rare.
There are many companies, which produce and supply plastic films, tray packs, bags and plastic containers. It is difficult to define a market leader in this segment.

Some examples of companies in Kazakhstan which produce different packages:

- «Alma grafiks» http://almagraf.kz – cardboard package and plastic bags;
- «LOGOTAPE» http://www.logotape.kz – plastic food and shrink wrap;
- «Intellpack» http://intellpack.kz – plastic food wrap;
- «Upack» https://upack.kz - plastic package;
- «IUzhuralpak-Kazakhstan» https://yup.satu.kz – trays from polystyrene;

According to Sergei Kuchin, director of LIMPAK-PV (equipment for processing products: packaging equipment and package material), similar European packaging materials are of good quality, but not competitive in the market.

Crates and other packaging materials of local and Russian production are more common for the north of Kazakhstan. In the south - the share of Chinese products is larger.
5.6. PROCESSING, HEATING AND DRYING LINES AND PACKAGING MATERIAL FOR FRUIT PRODUCTS

5.6.1. PROCESSING, HEATING, DRYING, CANNING AND FILLING LINES

As has been seen in the same chapter for the Russian Federation, around 25% of the hard and soft fruits from the total volume of production in Kazakhsatn is processed. In European countries this figure can be even up to 50%.

In Kazakhstan only a few percent of fresh fruits are processed.

There is no data on the production of equipment for the food industry, including fruit and vegetable processing, in official statistics. In the Russian Federation in 2017 it was produced such equipment at the value of 20 000 EUR. It is realistic to assume that in Kazakhstan the production is even less, so we can ignore this data.

Refering to the situation in the Russian Federation, the share of imported processing equipment in Kazakhstan is almost 100%.

According to the results of 2017 the overall juice production in Kazakhstan was 19% from Russian volume, the overall production of processed and preserved fruits is 2% (in volume terms). It is set that on average the Kazakh market of juices and processed fruits is about 10% from the Russian market. Consequently the capacity of Kazakh market of equipment for hard and soft fruit processing is about 1,7 mln. EUR of which import is 1,5 mln. EUR.

Table 67. Value of the market of equipment for hard and soft fruit processing in Kazakhstan

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of the Russian market of equipment for hard and soft fruit processing, mln. EUR</td>
<td>1,7</td>
</tr>
<tr>
<td>including import (90%)</td>
<td>1,5</td>
</tr>
<tr>
<td>Kazakh production (10%)</td>
<td>0,2</td>
</tr>
</tbody>
</table>

As it will be noted in chapter 5.7 «Fruit and fruit products available on the local market», over the last few years a constant decrease of annual average production capacities of fruit and vegetable juices and preserved products from fruits is observed. It may be concluded that the new production capacity either is not being put into operation or it is being put into operation/upgraded on a limited volume.

In 2013 the Ministry of Agriculture of Kazakhstan published a «Master plan for the development of the processing industry in the Republic of Kazakhstan till 2020». It is suggested to modernize the existing enterprises and construct new ones. Particularly it is planned to build of 5 enterprises for fruit and vegetable processing till 2020.

73 The overall juice production in Kazakhstan during 2013-2017 has decreased by 11% whereas in contrast in the Russian Federation almost twice. In 2013, before volume reduction, the overall juice production in Kazakhstan was about 9% from Russian production.

In the following years the progress of the plan implementation concerning meat, milk grain and oil processing was mentioned in media. Fruit and vegetable processing was hardly mentioned. It is expected that the plans are not implemented and the new production capacities are not put into operation. The conclusion about it was drawn above.

According to data from the «Master plan for the development of the processing industry in Kazakhstan till 2020» the average value of an enterprise for fruit and vegetable processing is 8 400 thous. EUR (2 000 mln. KZT). Supposing that the share of specialized equipment is about 50%, which is equal to 4 200 thous. EUR.

Taking into account that in the sector of fruit and vegetable processing and canning in Kazakhstan only small enterprises are active75, so enterprises normally do not have enough financial resources to renew their production by modern equipment.

Even all calculated market value (1,7 mln. EUR) is not enough to buy 1 large processing line for fruit puree or juice concentrate production (about 2 and 7 mln. EUR consequently) – the market is quite small.

It is worth noting that till 2005 the share of processing and canning fruits and vegetables has decreased more than 2 times in the overall food production (from 16,4% to 7,4% in value terms). It means that this sector is not attractive for investments.

According to data from the surveyed sector experts the main suppliers at the market of equipment for fruit processing and canning are: Spanish, Italian, German and Dutch companies. Equipment of Russian and Kazakh producers is presented as well.

**Hard and soft fruit drying**

As it will be noted in chapter 5.7. «Fruit and fruit products available on the local market», dried fruits are not produced in Kazakhstan. Consequently the companies which offer the drying lines can be consider only on the basis of supply analysis from public information. The drying lines are offered by76:

- **Tauro Essiccatori** [http://www.tauroessiccatori.com](http://www.tauroessiccatori.com) (Italy);
- **Excalibur** (USA);
- Dongho Agrimecha Co. Ltd (South Korea).

The cost difference vary from 1,4 to 14,5 thous. EUR.

**Filling lines**

The market leaders in the filling lines production are Germany and Italy and more rarely USA and the Netherlands. Usually European producers offer high quality and resource saving equipment at a higher price. It is not always profitable for small and medium businesses, because it increases the

---

75 The small enterprises are the self-employed entrepreneurs and the legal bodies which have the Average annual number of employees no more 100 people and the average annual income no more 2 mln. EUR evro (721,5 mln. KZT as of 01.2018).

production cost and lengthens the payback period. Chinese producers deliver equipment at affordable prices, with less quality.

The surveyed sector specialists confirm that the market of juice production and filling lines in Kazakhstan is mainly handled by foreign producers, for example:

- **SIG Combibloc** [https://www.sig.biz](https://www.sig.biz) (Austria) – the companies «Astana Bottlers» and «GOLD PRODUKT» use the automated juice filling lines. There is no company’s office in Kazakhstan, but it operates in Kazakhstan already for decades. It supplies package as well.
- **Manzini** (Italy), is included in the group of companies CFT [https://www.cft-group.com](https://www.cft-group.com) - «Astana Bottlers», this company uses the juice filling line.

**Lines for the production of jam, etc.**

This market segment has a small capacity, so a detailed analysis has not been carried out. The low interest of Kazakh business in this kind of specialized equipment is confirmed by the fact that there is only 1 Chinese jam production line at the largest trading enterprise of Kazakhstan [https://satu.kz](https://satu.kz).

**5.6.2. PACKAGING MATERIAL FOR FRUIT PRODUCTS**

The market value of fruit juices in Kazakhstan is 79 mln. EUR (see chapter 5.7. in for more details). The processed and canned fruits and nuts are excluded from this calculation, because almost 100% of the products at the Kazakh market are imported and already packed. Accept the share of packaging material equal to 2% in the juice cost – similar to the figure for the Russian market calculation.

In other words, the juice package market value in Kazakhstan is at least 1,6 mln. EUR.

According to sector experts’ estimates, in 2015 Kazakh package producers provided no more than 35% of the market.

For the calculation of the import value, it has been decided that the share of import at the juice package market is similar to the total package market in Kazakhstan.

Thus, the share of import in the juice package market is 65% or 1 mln. EUR.

According to data from sector experts the main exporters to the Kazakh market are:

- **the Russian Federation**;
- **China**.

Such trend could be confirmed by the structure of the participants of the specialized exhibition «KazUpak-2017»: Russian companies are steadily made more than half from the total number of the foreign participants (meaning from Russia and other foreign countries).

The main kinds of package for juices and other fruit products are:

---

77 [http://eurasmedia.ru/2016/01/482/](http://eurasmedia.ru/2016/01/482/)

78 Reference source: the calculation according to the data [https://www.kazupack.kz/ru/katalog-sписок-участников/2017](https://www.kazupack.kz/ru/katalog-sписок-участников/2017)
✓ Package in a Box

✓ Cardboard pack

The main foreign companies-producers are:

- «Tetra Pak» [https://www.tetrapak.com](https://www.tetrapak.com) (Switzerland) – the web-site for the Russian Federation, Kazakhstan and Ukraine. It has juice production in the Russian Federation and is one of the world leaders and suppliers of package material for liquid products, like juices, milk, etc.
- «Elopak» (has production in the Russian Federation).

✓ PET bottles.

At the Kazakh market there are quite a number of PET bottles producers. It is impossible to identify a market leader. Kazakh PET bottles producers work with imported raw material.
- LLP «KazPetPolimer» [http://www.kazpetpolimer.kz](http://www.kazpetpolimer.kz);
- LLP «EUROPACK» [http://europack.kz](http://europack.kz);
- LLP «SDT GROUP» [http://www.sdt.kz](http://www.sdt.kz);

✓ Glass jars and bottles

- LLP «EvroKristall» [http://eurocrystal.kz](http://eurocrystal.kz) – the only glass jar and bottle producer in Kazakhstan.

For a significant period of time the only producer was «Stekolnaiia kompaniia SAF». About 85% of jars are imported from Uzbekistan, China and the Russian Federation.  

✓ Doy-pack

✓ Can

---

5.7. FRUIT AND FRUIT PRODUCTS AVAILABLE ON THE LOCAL MARKET

5.7.1. PRODUCTION IN KAZAKHSTAN

The total amount of processed and preserved fruits and vegetables in Kazakhstan in the period 2016 – 2017 was about 105 bln. KZT or 280 mln. EUR \(^{81}\), of which fruit juices approximately 51 mln. EUR \(^{81}\).

Some more production figures in 2017:

- 144 mln. litter of fruit juices, of which apple juices has a share of 33%;
- 3,2 thous. tons of processed and preserved fruits and nuts;
- dried fruits are not produced and are fully imported.

Over the last 5 years the volume of fruits and nuts processed and preserved has increased by 24%. The juice production had a negative growth in 2013-2017 – minus 13%.

**Fig. 70. Dynamics of production of processed and preserved fruits and nuts in 2013-2017, tons**

**Fig. 1. Dynamics and structure of fruit juice production in Kazakhstan, mln. l**

Reference source: Statistics Committee of RK, the statistics digest «The volumes of industrial production by the types of the economic activities in the regions of the Republic of Kazakhstan»

\(^{80}\) Reference source: Statistics Committee of RK, the statistics digest «The volumes of industrial production by the types of the economic activities in the regions of the Republic of Kazakhstan»

\(^{81}\) Reference source: the report «Production of fruit and vegetable juices in the Republic of Kazakhstan»

Over the last few years the constant decline of the annual average capacity of the processed and preserved fruits and the percentage of their usage are observed for:

- **production of fruit and vegetable juices**

**Fig. 72. Dynamics of annual average production of fruit and vegetable juices in Kazakhstan**

![Graph showing the decline in annual average production of fruit and vegetable juices in Kazakhstan.](image)

Reference source: Statistics Committee of RK, the statistics digests «Balance of production capacities at the industrial enterprises of the Republic of Kazakhstan» in 2012-2016

Fig. 72 shows that during last 5 years:
- total annual capacity (means maximum capacity) of processing and preserving of fruits falls;
- the percentage of usage of capacity falls too.

So as a result we can see decreasing of production volumes of finished products (fruit and vegetable juices).

- **production of preserved products**

**Table 68. Usage of annual average capacity for fruit processing by the enterprises in Kazakhstan, %**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit preserves</td>
<td>20</td>
<td>23</td>
<td>13</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Processed and preserved fruits and nuts</td>
<td>29</td>
<td>31</td>
<td>16</td>
<td>28</td>
<td>19</td>
</tr>
</tbody>
</table>

Reference source: Statistics Committee of RK, the statistics digests «Balance of production capacities at the industrial enterprises of the Republic of Kazakhstan» in 2013-2016

[82](http://stat.gov.kz/faces/wcnav_externalId/homeNumbersIndustry?_afrLoop=6118218075343164#%40%3F_afrLoop%3D6118218075343164%26_adf.ctrl-state%3Djx4gy64f1_46)
The reasons for the decline of the annual average production are the following:

- high share of old-fashioned (deteriorated) equipment, low level of mechanization and automation in the processing and preserving fruits and vegetables sector;
- fruit processors don’t have enough of available resources to buy new more productive equipment;
- problems with marketing of finished products.

Although the sector experts believe that these data are too high and the share is lower.

As a result, Kazakhstan products become less competitive compared to imports.

5.7.2. FOREIGN TRADE

Over the last couple of years the import of processed and preserved fruit products by Kazakhstan was around 75 thous. tons equal to 102 mln. EUR on average. The decline in volume of local production is not compensated by the volume of more import of fruit products. So, in general there is a downward trend.

![Fig. 73. Dynamics of import of processed/preserved fruit products by Kazakhstan during 2013-2017](https://comtrade.un.org/data/)

The main country-supplier is the Russian Federation (50-54%).

The Kazakh export of processed and preserved fruit products has a tendency to increase. However, the volume of export is one-tenths of its import.

---

83 While import analyzing the following CC FEA codes were taken into account: 2007 - jams, jellies, fruit or nut puree, 2008 – preserved fruits and nuts, 2009 – fruit juices.
Fig. 74. Dynamics of export of processed/preserved fruit products from Kazakhstan during 2013-2017

![Graph showing export dynamics](image)


### 5.7.3. MARKET VALUE

When calculating market value, we took into account volumes of production / import / export of products by groups «jams, jellies, fruit or nut puree» and «preserved fruits and nuts».

The overall value of such fruit product groups is calculated as follows: production volume 3,2 thous. tons of processed and preserved fruits and nuts is multiplied for the average cost of exported from Kazakhstan products.

#### Table 69. Market value of processed and preserved fruits and nuts and fruit juices in Kazakhstan in 2017

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Kazakhstan production, net of export</th>
<th>Import</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market value, mln EUR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processed and preserved fruits and nuts</td>
<td>2,7</td>
<td>65,4</td>
<td>68,1</td>
</tr>
<tr>
<td><strong>Market structure in physical terms, %</strong></td>
<td>4%</td>
<td>96%</td>
<td>100%</td>
</tr>
<tr>
<td>Fruit juices</td>
<td>50,5</td>
<td>28,5</td>
<td>79</td>
</tr>
<tr>
<td><strong>Market structure in value terms, %</strong></td>
<td>64% (0%)</td>
<td>36% (100%)</td>
<td>100%</td>
</tr>
</tbody>
</table>

Figures in quotes mean that practically all juices in Kazakhstan are produced by their reconstitution from the imported concentrates 84.

Taking this into account the share of imported products at the Kazakh market reaches almost 100%.

The share of products from the Netherlands is insignificant:

- the commodity group «jams, jellies, fruit or nut puree» - 2 500 EUR or 0,03% from the import in this market segment,

the commodity group «fruit juices» - 6 600 EUR or 0,1% from the import in this market segment.

In Table 70 it is shown, that share of such products (juices etc) from studied hard and soft fruits (apples, strawberry etc.) is rather high, 50%-64% from all imported processed products.

The only exception is preserved fruits, which are normally made from such local products – so their share are small. While more exotic preserved fruits (like pineapples) are mainly imported. Share of products from studied fruits are only 2,1%.

Table 70. Import of the products by Kazakhstan by commodity groups and the types of hard and soft fruits in 2017

<table>
<thead>
<tr>
<th>Commodity group</th>
<th>Hard and soft fruits</th>
<th>Thous. EUR by the types of hard and soft fruits</th>
<th>Thous. EUR by the commodity groups</th>
<th>Share from the total volume by the commodity group</th>
<th>Share of the leaders-suppliers in the import by Kazakhstan, in value terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>jams, jellies, fruit or nut puree</td>
<td>from apricots, cherries, black cherries, pears, strawberries, raspberries, apples</td>
<td>7 903</td>
<td>7 903</td>
<td>64%</td>
<td>1-Russia-48% 2-China-14% 3-Belarus-8%</td>
</tr>
<tr>
<td>preserved fruits and nuts</td>
<td>pears</td>
<td>33</td>
<td>33</td>
<td>2,1%</td>
<td>1-Ukraine-38% 2-Russia-31% 3-China-13%</td>
</tr>
<tr>
<td></td>
<td>cherries, black cherries</td>
<td>271</td>
<td>271</td>
<td>2,1%</td>
<td>1-Ukraine-38% 2-Russia-31% 3-China-13%</td>
</tr>
<tr>
<td></td>
<td>apricots</td>
<td>159</td>
<td>159</td>
<td>2,1%</td>
<td>1-Ukraine-38% 2-Russia-31% 3-China-13%</td>
</tr>
<tr>
<td></td>
<td>strawberries</td>
<td>666</td>
<td>666</td>
<td>2,1%</td>
<td>1-Ukraine-38% 2-Russia-31% 3-China-13%</td>
</tr>
<tr>
<td>juice fruits</td>
<td>apples</td>
<td>11 364</td>
<td>14 378</td>
<td>50%</td>
<td>1-Russia-48% 2-China-30%</td>
</tr>
<tr>
<td></td>
<td>cherries, black cherries, pears</td>
<td>3 014</td>
<td>3 014</td>
<td>2,1%</td>
<td>1-Ukraine-38% 2-Russia-31% 3-China-13%</td>
</tr>
</tbody>
</table>

Reference source: data processing https://comtrade.un.org/data/

Taking into account only these types of hard and soft fruits the market value of processed and preserved products is estimated at 10 mln. EUR and for fruit juices at 31 mln. EUR.

Table 71. Comparison of juice consumption in Kazakhstan with other countries

<table>
<thead>
<tr>
<th>Processed products</th>
<th>Standard of consumption, kg/cap./year</th>
<th>Calculated consumption in 2017, kg/cap.</th>
<th>Consumption in other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit juice</td>
<td>18</td>
<td>10 (179,2 mln. l / 18 mln. people)</td>
<td>USA – 70-80 l  Germany – 43-45 l  Russia – 16 l</td>
</tr>
</tbody>
</table>

Reference source: 1 - https://online.zakon.kz/document/?doc_id=34926220#pos=1:-170  
5.7.4. JUICE PRODUCERS

Below there are some examples of large and well-known juice producers and their brands in Kazakhstan.

The Kazakh juice market is at this moment underdeveloped. So both the market growth and the development of new products (juices enriched by vitamins and minerals, directly squeezed juices, etc.) are expected and probably new brands will appear.

There are a few market leaders, for example «RAIMBEK BOTTLERS» (is included into the «RAIMBEK GROUP») or RG Brands. Products of other producers are less known all over Kazakhstan. They are mainly presented locally or can be found in a narrower segment.

1. **RAIMBEK GROUP**
   [https://raimbek.com](https://raimbek.com)

Company **Raimbek Bottlers** is the leading juice producer in Kazakhstan. Its share at the market of juices and beverages in cardboard package is 32%.

The products are partly made from its own raw material (fruits) grown by the company ALMA PRODEX in Almaty region, or partly purchased from fruit producers in Kazakhstan or imported.

Raimbek Bottlers was established in 1998. Production equipment is bought from Tetra Pak.

It has 5 brands:

![Juicy JUNIOR](image1.png)  ![Frutta Life](image2.png)  ![Palma](image3.png)  ![Fantan](image4.png)  ![Palma Fruits](image5.png)

The juices Juicy JUNIOR and Palma are exported to the Russian Federation, Tajikistan, Turkmenistan, Kyrgyzstan, Mongolia, China and Georgia.

It is planned to increase the area of fruit orchards and to create better infrastructure for storage and processing of the fruit products.

2. **RG Brands**
   [http://www.brands.kz](http://www.brands.kz)

The company was established in 1994. Its production is sold in more than 19 cities in Kazakhstan and 9 cities in the Russian Federation.

RG Brands produces juices, beverages and milk and has 4 production sites in Kazakhstan with a total capacity of 750 mln. liters per year.
Furthermore, the company has the following juice brands:

3. «Astana Bottlers»
http://www.astanabottlers.kz

The company was established in 2003 and is active in the production and filling of juices, nectars and UHT-milk.

Brands:

- Juice drinks «Nektar Solnechnyi»
- Juices and nectars DaDa – first brand of the company
- Juices
- Juices for Infant food
- Juices Gracio

Production equipment of the leading world producers is installed at the enterprise:
- juice production line «Manzini» (Italy);
- automated filling lines of juice and milk products «Combibloc» (Austria).

The origin of their package material is Austria.

4. JSC «GOLD PRODUKT»
http://www.gold-product.com

This enterprise was established in 1998.
Juice products are filled on the Austrian line of the new generation of **SIG Combibloc**. The capacity of the line is 9 thous. liters per hour.

The segment of **directly squeezed juices has started to develop**. As a rule, the small companies produce them, for example,

- **AMAL-BIO**
  - [http://amal-bio.com](http://amal-bio.com)
- **LLP «APPLE WORLD»**
  - [http://appleworld.kz](http://appleworld.kz)
- **LLP «Agrofirma Keruen»**
  - [http://www.keruen.com](http://www.keruen.com)

### 5.7.5. PRODUCERS OF PRESERVED PRODUCTS

1. **«AGROS BT»**
   - [http://www.agros.kz](http://www.agros.kz)

The production lines were launched in 2015.
The company produces:
- directly squeezed juices, juice drinks and nectars;
- jams and compotes;
- canned vegetables.

It has its own fruit production: 106 ha of apple orchards, 8 ha of plums and 30 ha of vineyards. Additionally it purchases raw material in other regions of Kazakhstan.

### Juice

![Juice Image](image)

### Jam

![Jam Image](image)

---

2. **LLP «Agrofirma Keruen»**

[http://www.keruen.com](http://www.keruen.com)

It produces juices and jams.
5.8. CONSULTING SERVICES

In this chapter the research is focusing on consulting for hard and soft fruit producers and for fruit processors.

All surveyed sector experts point out that:

- the main part of consulting services is related to the producer or supplier and is provided as part of market promotion by suppliers of products and services from the company;
- independent consulting for fruit producers is not really developed yet in Kazakhstan.

For example, foreign nurseries invite agronomists from Kazakh enterprises for training. The large Kazakh companies organize seminars with the involvement of the foreign sector experts, for example LLP «Torgovyi dom «Darkan Dala»». It is one of the largest national suppliers of mineral fertilizers and plant protection agents. The company has organized seminars with leading Russian suppliers of fertilizers and agricultural machinery since 2017.

In general, according to sector experts the providing of consulting services in Kazakhstan has developed quite well: there are many companies providing equipment, goods and services in combination with consultancy. The point is the way consulting services are necessary and how much they cost.

Consultations on equipment application are necessary when equipment is delivered – the producer/supplier provides them automatically.

Consultations on fertilizer and plant protection agent applications are less required. Producers of these products apply according to the attached instruction and depending on the needs defined by the agronomist.

One surveyed sector expert takes a skeptical approach to the training of colleagues in Italian nurseries. He works in this industry for approximately 30 years and, according to him, «there is nothing completely new in apple growing. There are only some details taking into account such as new varieties young stock, equipment and fertilizer. Consulting cost money and should be of added value».

The following types of institutions deliver services for information and marketing support, financial matters and consulting in Kazakhstan:

1. government institutions;
2. sector associations;
3. private / foreign companies;
4. foreign / Kazakh producers and dealers.

Below 1-2 examples are provided from each group and some provided services are considered.

1. GOVERNMENT INSTITUTIONS

At the present stage the agrarian science in Kazakhstan has a significant number of scientific results. Their adoption and implementation theoretically could significantly increase of the effectiveness of fruit farming.
However, these results are quite rare used in practice. The main reason for this is the low development of knowledge transfer from the research institutions (like 1.1 and 1.2) to the agricultural enterprises, extension system and agricultural consultancy.

1.1. According to the Director General of the **Kazakh Research Institute of Horticulture and Viticulture** Gulshariia Kairova, «on Kazakh scientific background about 180 new varieties of hard and soft fruit crops and grapes are created. More than 40 varieties are recognized (adopted). In regards to the key qualities they are highly competitive with the best foreign varieties. In regards to the adaptiveness to the local conditions they are better. The research institutions are not included in practical interaction with existing fruit business, with producers. Although such institutions can provide such services, as testing of new varieties, their planting systems, best application of plant protection agents and fertilizers to the local conditions. Now all these issues are decided by farmers themselves».

1.2. **LLP «Kazakh Research Institute of Plant Protection»**

https://www.niizkr.kz/

The company offers turn-key intensive orchard projects and their implementation.

1.3. From 2006 on the subsidy program «The information support of AIC subjects on a free-of-charge basis» is realized by the Ministry of Agriculture.

11 Centers of transfer knowledge were established. In 2017 the Center of Excellence organized 188 seminars for 3 710 AIC subjects. The mass media coverage was conducted by the Center together with the national chamber of entrepreneurs of the Republic of Kazakhstan «Atameken» and the regional chamber of entrepreneurs. The article were published in all main social media, like: Facebook, Instagram, Twitter and LinkedIn.

The research and information portal farmers.kz and the call-center are working.

The different variants of knowledge transfer let to provide practical training, consulting and methodological support at the local level in all regions of Kazakhstan.

1.4. **THE NATIONAL CHAMBER OF ENTREPRENEURS OF THE REPUBLIC OF KAZAKHSTAN «ATAMEKEN»** has provided information and marketing support since 2016.

http://atameken.kz

The chamber of entrepreneurs represents the interests of small, medium and large business and covers all business areas including internal and external trade. The main task of «Atameken» is the protection of rights and interests of business and the provision of a wide coverage and involvement of all entrepreneurs and informing them about legislative and other normative rules of business work.

86 [https://www.niizkr.kz/kopiya-agro-analiz-1](https://www.niizkr.kz/kopiya-agro-analiz-1)
1.5.  «NATIONAL COMPANY KAZNEX INVEST» JSC

http://www.invest.gov.kz

Annually it supports the participation of Kazakh producers in the exhibitions abroad and promotes the outside activities.

1.6.  «KAZAGRO» NATIONAL MANAGEMENT HOLDING» JSC

http://www.kazagro.kz

JSC «National management holding «KazAgro» has the subsidiary companies which:

✓ finance under the «Program for Development of Agroindustrial Complex for 2017-2021» (credit and leasing activities);
✓ promote the animal products for export;
✓ implement the innovations to animal production;
✓ provide the analytical, consulting and maintenance services in AIC.

The subsidiary companies:

✓ JSC «Agrarian Credit Corporation»;
✓ JSC «Kazagrofinance»;
✓ JSC «Kazagroynim»;
✓ JSC «Fund of Financial Support of Agriculture»;
✓ JSC «Kazagromarketing»;
✓ JSC «Kazagrogarant»;
✓ JSC «National Company «Food Contract Corporation».

1.7.  AGROTECHNOLOGICAL HUB - AGRITECHHUB KAZAKHSTAN

http://agrohub.kz

A public and private partnership.
It was established based on the Kazakh National Agrarian University.
There are 7 research institutes, 31 research laboratories and innovative centers into the Agritechhub.
It searches, attracts, transfers and develops innovative technologies in agriculture and cooperates with foreign research institutes, international organizations for development and foreign agrarian universities, like:

![Eurasian Technological University](image1)
![Michigan State University](image2)
![USDA](image3)
![GODAN](image4)

**Green point marketing** (the subsidiary company AgriTechHub Kazakhstan, act from 2015) collects
and process data, gives information and marketing support, organizes training at foreign universities, agricultural enterprises, helps to design projects, to find partners and follow competition.

**SECTOR ASSOCIATIONS**

These associations give information and marketing support, collect and promote data, promote effective foreign technologies and represent the interests of the associate members towards the government.

1.8. **Association of individual entrepreneurs and legal entities «ASSOCIATION OF FRUIT PRODUCERS»**

It develops the sector, encourages the investments, protects the rights and interests and consults.

1.9. **KAZAKH ASSOCIATION OF FRUIT AND NUT PRODUCERS AND PROCESSERS**

www.kappoya.kz

The objectives of the association are:

- intensification of the development of the fruit sector in Kazakhstan;
- training of specialists in the agricultural sector, advanced vocational training of agronomists and the heads of enterprises;
- assistance in purchasing of new varieties of young stock;
- control in pesticides application;
- quality assurance of the output of fruit products.

Members are:

- representatives of all types of agricultural enterprises;
- owners of commercial orchards;
- nurseries;
- irrigation companies;
- orchard projectors, research institutions and international organizations.

2. **Foreign/Kazakh producers/dealers**

The companies consult as a part of their products delivery.

2.1. For example, there are some companies in Kazakhstan which offer turn-key orchard projects, agronomical support and consulting, holdings of seminars and training in leading European companies - «FTC EQUITY» и «ALATAU FRUITS ENGINEERING».

**FTC EQUITY**

https://ftcagro.kz

«FTC Equity» was established in 2014 with the participation of a Polish group of companies (ARNO) and a Kazakh group of companies (Logistar).
«FTC Equity» cooperates actively with the scientific horticultural institutes in different countries. It has support and accreditation within government institutions.

Directions:

✓ **Engineering — turn-key orchards**
7 orchards with a total area of 389 ha were planted from 2014 till 2017.

✓ **Machinery and equipment for orchards**
The company FTC offers a wide range of machinery and equipment for orchards, greenhouses, nurseries, the replacement components and consumable materials from leading European producers.

✓ **Elite planting material**
The sales of young stock in Kazakhstan — apples, cherries, black cherries, plums from Polish certificated nursery. Elite virus-tested planting material.

✓ **Training**
Holding of seminars, training in leading European companies, work experience internship for students.

Company’s partners — the world leaders in fruit production:

✓ [http://arno.agro.pl/](http://arno.agro.pl/) - production of planting material;
✓ [http://intermag.pl/o-firmie](http://intermag.pl/o-firmie) – fertilizers;
✓ [http://soldrip.pl/](http://soldrip.pl/) - irrigation;

It is planned to plant more than 1 thous. ha of orchards and to establish 4 centers of agricultural consulting.

**ALATAU FRUITS ENGINEERING**

[http://www.alataufruits.kz/](http://www.alataufruits.kz/)

Services and products:

✓ **Nursery**
From 2014 company Alatau Fruits Engineering manages the organization of the nursery «Verbeek Almaty», joint Kazakh-Dutch enterprise.

The young stock supplier is a Dutch company Verbeek Boomkwekerijen. It was established in 1960. Nowadays it is one of the most well-known companies in the sphere of elite virus-tested young stock. The nursery is designing with the direct involvement of experts of the Kazakh Research Institute of Horticulture and Viticulture – a large scientific center in the sphere of fruit production.

✓ **Turn-key intensive orchards**
The involved company helps to develop the project of orchard and implements it. At the stage of harvesting it participates actively in the sales of growing products. Furthermore, the company gives recommendations on production, storage, processing, packaging and logistics.
✓ Agronomical support
The support of turn-key projects: it provides the support on all stages of growing, training the personnel on how to use the innovative technologies.

✓ Frame systems and drip irrigation


This is a program for the development of small and medium business through grants to support business advices87. The program is realized by EBRD through financing from the Government of Kazakhstan via the Ministry of National Economy.

The support includes:

✓ the assistance in choosing the consulting company and consulting project organization;
✓ the compensated grant to 10 000 EUR which cover 25-75% of the expenses for services of the consulting company.

The requirements to the consultants according to the program of the EBRD are: non-resident of Kazakhstan, work experience more than 10 years and project experiences in more than two countries.

Generally the market of consulting services for fruit production in Kazakhstan is relatively small. It is hard to estimate it quantitatively.

---

5.9. INTERMEDIATE CONCLUSIONS

The feature of agriculture of Kazakhstan in general and fruit production in particular is that more than 60% of the producers are small enterprises and family farms. This is the key reason that the development of this industry is lagging behind.

For these enterprises it is difficult to implement modern agrotechnologies, for example drip irrigation or the storage of fresh fruits with controlled atmosphere, to apply completely the crop protection system, fertilizers, etc.

In terms of financing small producers suffer on shortage of permanent and current assets to develop production.

So the transfer of effective foreign technologies is carried out by the associations and foreign producers/dealers separately, under some investment projects. There is no systematic approach to distribute modern and innovative technology.

The big companies can implement the innovative technologies. For example JSC «SAT & Company» (the large Kazakh metallurgical company, invests in different sectors including fruit production) and plans to install in its orchard equipment of the company «AgroSense» [http://www.agrosense.com](http://www.agrosense.com) (Hungary):
- the meteorological stations which measure temperature and moisture and estimate when and how much should be irrigate;
- the traps for pests. It has only 35 ha of orchard and the agronomist can manage the whole orchard for pest surveillance. If the area of the orchard will be 50 ha and more, the traps for pests will be more effective when go the orchard around by foot.

The company «QAZAQ FRUIT» (one of the largest fruit producers in Kazakhstan) plan to install the sorting apple line Aweta with the system of built-in video cameras suitable for apple sorting by color, diameter and quality.

The most perspective segments for the Netherlands companies are determined on the basis of:
- the segment market value and import share,
- the current position of the Netherlands companies in the segment.
<table>
<thead>
<tr>
<th>Product categories</th>
<th>Market value, thousand EUR</th>
<th>Including imports</th>
<th>Market prospects for 3-5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit propagation material</td>
<td>8 100</td>
<td>73%</td>
<td>5 900</td>
</tr>
<tr>
<td>Fertilizers and crop protection</td>
<td>361</td>
<td>46%</td>
<td>168</td>
</tr>
<tr>
<td>Orchard machinery and equipment</td>
<td>247</td>
<td>80%</td>
<td>198</td>
</tr>
<tr>
<td>Cleaning, sorting and packaging lines</td>
<td>463</td>
<td>90%</td>
<td>417</td>
</tr>
<tr>
<td>Storage, cooling and freezing facilities</td>
<td>211</td>
<td>90-100%</td>
<td>190-211</td>
</tr>
<tr>
<td>Processing, heating, drying, canning and filling lines and packaging material for fruit and fruit products</td>
<td>1 730</td>
<td>90%</td>
<td>1 560</td>
</tr>
<tr>
<td></td>
<td>1 580</td>
<td>65%</td>
<td>1 000</td>
</tr>
<tr>
<td>Fruit and fruit products available on the local market</td>
<td>147 100</td>
<td>96% for fruit products, 100% for juices ¹</td>
<td>93 900</td>
</tr>
</tbody>
</table>

¹ – practically all juices in Kazakhstan are produced from imported concentrates. So, 100% of the juice market of Kazakhstan is import.

On the basis of this undertaken study the most perspective segments for the Netherlands companies are:

- fruit propagation material

According to survey, the producers point out that plant propagation material from the Netherlands is one of the most qualitative and promising in Kazakh market (as well as Italian and German).

There are some joint Kazakh-Dutch nurseries in Kazakhstan:

- «SARYAGASH ZHER SYIY» - implements Dutch technology of fruit crops growing «knip baum» using the compression method;

Import of fruit propagation material from the Netherlands during 2013-2016 has increased from 1,5% to 13,7% or from 39 to 884 thous. units. However, there were no deliveries in 2017.

The market strength of Dutch companies is possible through the development of projects.

The fruit propagation material purchase including imported is subsidized.
The sector experts are interested in freeze resistant stocks.

- cleaning, sorting and packaging lines
- storage, cooling and freezing facilities

The segments «cleaning, sorting and packaging lines» and «storage, cooling and freezing facilities» are small. The famous Dutch companies are represented in these segments:

- «cleaning, sorting and packaging lines» - companies AWETA and GREEFA have leading positions both in the Russian Federation and in Kazakhstan;
- «storage, cooling and freezing facilities» - Dutch company Celtic Cooling works through the representative office IFT Project Development.

As indicated below, these segments have the prospects to develop actively in 5 years.

Fruit production in Kazakhstan is developing, but with a delay of about 5 years in comparison with the fruit production in the Russian Federation.

At the first stage the producers plant the orchards and increase the production. 4-5 years later, when the orchards reach its planned capacity, the producers start to think about how to keep the yield, to sell it and to produce more high-margin products.

This stage has already come in the Russian Federation: the producers are building their production, storages actively, starting to sort and select products, considering a possibility to produce processed fruit products. etc.

In Kazakhstan the first orchards have just reached the maximum capacity. After several years Kazakh producers will reach the second development stage and start to create the demand for storage, cooling and freezing facilities, cleaning, sorting and packaging lines, processing, heating, drying, canning and filling lines.

These companies from both segments can promote each other at the Kazakh market and offer a joined plan for integrated projects.

The purchase of fertilizers, crop protection agents and agricultural machinery in Kazakhstan is subsidized. The fruit storage building is not subsidized.

The segment «processing, heating, drying, canning and filling lines» is sufficiently large as compared to other technology segments. It is mainly presented by the filling lines. The highly competitive – equipment is mainly German, Italian and Austrian. There is also Dutch equipment, but its share is relatively small.

The juices produced in Kazakhstan are practically imported because they are produced from imported concentrates.

The segment «packaging material for fruit and fruit products» is relatively large as well. However, it is highly competitive and depends on the import of raw material and the finished products:

- subsegment of cardboard package where the world market leader is «Tetra Pak»;
- subsegment of PET which works with imported raw material;
- subsegment of glass package, of which 85% of the market is import.
As it was noted in this market research the main reasons for a modest development of fruit processing sector (and consequently the segment «packaging material») are the deficit of local raw material and the financial resources of the producers.

Two considered segments - «processing, heating, drying, canning and filling lines» and «packaging material for fruit and fruit products» - would be interesting after 4-7 years if the government support will continue, when the fruit producers will produce sufficient volume of fresh fruits and will have opportunities to store them for processing.

In the segment «fertilizers and crop protection» import of compound fertilizers for hard and soft fruit production is perspective – fertilizers for foliar application, organic promoting agents. However, the share of such fertilizers in total volume is small (only a few percentages of the market). The share of the Netherlands in import of compound fertilizers was 5% (2017).

The dependence on import and consequently the prospects of the crop protection agents is higher: the share of import is 70%. The companies-leaders in this segment are the multinational companies. It is a challenge to compete with them. Probably, there are some prospects for some specialized products only for hard and soft fruit crops.

The industry experts point out that all fertilizers and pesticides presented at the market are wide-spectrum. They can be applied for many species of plants, including fruit crops. The entrance of new player to the market is possible. It can be:

- either highly specialized company which offer fertilizers and crop protection agents only for fruit production but not wide-spectrum products;
- or ordinary large and non-specialised company which offer fertilisers and pesticides also for fruit production, among others.

The segment «orchard machinery and equipment» is small as well, but has potential, because the commercial gardening in Kazakhstan is developing, and the investment projects are set. It will be necessary to compete either with Russian or Belarussian cheaper machinery and equipment or with well-known and gained the confidence market leaders: Germany, USA and Israel.

The segment «Fruit and fruit products available on the local market» by the market value is massively more than other considered segments. However, the lack of raw material (fresh hard and soft fruits with high quality) and the lack of financial resources to upgrade and organize new processing companies hamper this segment growth. Nowadays till 96% of the products on the shop shelves are imported. The share of the Netherlands is quite small.
6. GUIDE TO MARKET ENTRY

The market of products and services for fruit production in Kazakhstan is much smaller, then in Russia. However, from the standpoint of potential for sector development this market has perspective. Nowadays generally the enterprises have an inadequate machinery park, a weak high-tech technology implementation and an underdeveloped infrastructure to store and process fresh hard and soft fruits.

So the market of the corresponding products and services is unsaturated. The competition is low, and the potential for growth in demand and consumption is high.

According to sector experts’ the entrance of new player to the market of machinery/equipment/goods for fruit production (or the significant increase of the share by the existing players) is quite possible if the offering product will be competitive price-wise and quality-wise. Apart from some sectors where the producers are conservative when choosing the suppliers.

**Perspective directions of production by types of hard and soft fruits**

The commercial gardening in Kazakhstan, as in the Russian Federation, is specialized in apple growing (88%). So equipment, machinery and other resources to grow, store and process apples have the largest market potential.

Some projects offer only apple production. Some projects additionally produce or plan to produce other fruit crops like: plums, peaches and/or, apricots. The competition in this segment is low.

The most perspective soft fruits from the point of view of the commercial gardening and the demand for resources consequently are strawberries and raspberries. There is information about one project on blueberry growing in public available sources.

**Target segment of consumers**

The main potential customers are the medium and large fresh hard and soft fruit producers (from 20 to 500 ha) or the processers. These are the enterprises which have the possibility to implement the modern machinery and technology.

**Perspective regions**

The industrial fruit production is located in 3 regions of Kazakhstan: Almaty, Zhambyl and South Kazakhstan. They are characterized the most favorable climatic conditions to grow apples.

From the standpoint of sales of products the mentioned regions are the most perspective as well. 43% of Kazakhstan population is located there.

**Success stories of implementation in existing enterprises**

The surveyed sector specialists pointed out that the promotion of commodities for commercial gardening will be more successful with the experience of sales success and operating of
equipment/product in the existing enterprises. The example of the neighbor enterprise or regional leaders is a key factor for choosing the producer/supplier of equipment/product.

According to Bogdanov Igor, the director of company «Kalugin & K», «the best advertising is a good implemented project».

If there is no implemented project it is preferable to have a demo or show room. For example the company «Kalugin & K» - supplier of climate control and technological equipment for the fruit storages – has a show-room with an area of 2000 m².

**Promotion tools**

The majorities of companies, working at the market, conduct active marketing policy and use all kind of promotion tools:
- Participation in exhibitions;
- Participation in specialized seminar;
- Advertising in specialized mass-media – printed / electronic, etc.;
- Direct sales (including visits to agricultural enterprises);
- Partners projects with the enterprises-suppliers of related goods / services;
- Success stories of sales and operating of equipment/product in the existing enterprises.

**The main promotion tools are different types of advertising and success stories.**

There are a lot of international federal exhibitions in Kazakhstan, for example «KazAgro. KazFarm», «AgriTek/FarmTek», «AgroWorld Kazakhstan», «WorldFood Kazakhstan», etc. The detailed list of exhibitions is presented in Addendum 2.

Nowadays globally there is a trend to receive and disseminate information through the Internet, social media and messengers. The sector experts point out that a serious supplier should have a professional website. On the website should be either examples of projects preferably with an indication of a particular enterprise (the success story of implementation in an existing enterprise) or customer feedback. On the website should be different communication contacts.

**Sales through dealers, maintenance service**

The development of an own dealer network is important firstly for the equipment and machinery producers. The dealers can operate in more regions which is impossible by producer’s own efforts.

The head of the company «RDService», the supplier of climatic control equipment, draws attention to the level and quality of maintenance service as a factor to choose the supplier by the enterprise. According to him recently the customers have drawn attention to the increased guarantee period as well.

**Arrangements with federal and regional authorities responsible for agro-industrial complex**

One more aspect for promotion of products and technology at the market is the arrangement with administration.
It is important to form positive equipment / producer image in A.I.C. regional authorities to have an opportunity to participate in regional seminars, to be on the equipment list, which purchasing supporting the region, etc.

**The main criteria for agricultural producers during company-supplier choosing**

The main criteria for agricultural producers when making a selection of companies – suppliers:

- **Price.** Earlier the quality was in the first place, now after a significant increase of the currency rate the price is in the first place;
- **Quality;**
- **Authority of the country of origin.** Recognizability and trust to the brand (based on experience of the enterprises already used the product);
- **Convenience of service and maintenance support, time to solve the problems with the repair and the replacement of parts.**

The main criteria listed above were confirmed by the opinion of the sector experts.

Mostly all focus is on the price. But too large price reductions in comparison with the average market price will arise mistrust of the customers, because probably the product has the latent defects which in the future can lead to the heavier expenses.

The development strategy of the company, its financial resources and its products determine the importance of the other criteria. For example, according to the head of the marketing department of LLP «Astana nan», the largest Kazakh producers of plant protection agents, Myrzakhmetov Bakhytzhan, the market of crop protection agents is in comparison to other sectors, «more conservative. Here clients do not like to experiment (to try) with new suppliers and/or new pesticides». As a rule the producer has the long-term experience with certain suppliers, trusts them and prefers their products even if the price is higher.

For one surveyed producer during the purchasing of orchard machinery (tractor and sprayers), the key factor was the more easy process to go through the customs. The company wanted to buy European tractors, however the Belarussian tractors were also quite well to quality and the process to go through the customs was must easier and faster.

**The representatives of some companies (equipment delivery for food industry LLP «Harvest», LLP «TekhnoAgroServis», climate control equipment LLP «RDService») are interested in the cooperation with Dutch companies.** The contact details of these companies are listed in the Addendum 1 «List of key contacts» in the chapter «List of companies from Kazakhstan which expressed interest in cooperation with Dutch companies».

Generally it is apparent that the customers focus in Kazakhstan is on European machinery and equipment. The sector specialists emphasised that there is Chinese equipment at the market as well. This means equipment produced in China under European brands. European equipment (mainly German and Italian) is about 30% more expensive than Chinese equipment.

In some segments the share of Kazakh production is high, for example in «fertilizers and crop protection» or in «orchard machinery and equipment» where a significant share of the market is occupied by tractors from the Russian Federation and Belarus and planting equipment, spreaders for manure and fertilizers and tillage machinery from the Russian Federation.

The market leaders in the irrigation equipment and supplies of sprayers are USA and Israel.
The competition is different per segment. For example, in the segment «fruit propagation material» a new player or a player who is already on the market should compete with the large Italian players which have a good reputation and are at the market already for a long time. The share of Italy in the import of young stock is more than 40%.

The competition in the segment «storage, cooling and freezing facilities» is high because to build the storage can be done by a wide spectrum of Kazakh, Russian and European companies which build the storage for other products, such as for meat, vegetables, fish, etc.

The competition in the segment «climate controlled atmosphere» is low. This service can be offered only by the specialized companies. Consequently, the new player can gain a share of the market offering a top quality product with an attractive price.
REPUBLIC OF BELARUS

Information about the fruit sector in Belarus is provided for reference, mainly from the point of view of the general situation and influence on the Russian and Kazakhstan markets.

Production structure by types of fruit producers

The main volume of hard and soft fruit production is produced by rural population (as well as in the Russian Federation and Kazakhstan.
The main growth driver for hard and soft fruit production are the family farms. During 2013-2017 farms have increased the overall production by 3.7 times.
The share of the agricultural enterprises in hard and soft fruit production has decreased in Belarus. It was 20% in 2013 and 14% in 2017.

Table 73. Overall production of hard and soft fruits by types of producers in Belarus, thous. tons

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>farms</td>
<td>13</td>
<td>20</td>
<td>27</td>
<td>44</td>
<td>50</td>
<td>371</td>
</tr>
<tr>
<td>agricultural enterprises</td>
<td>91</td>
<td>81</td>
<td>77</td>
<td>102</td>
<td>67</td>
<td>74</td>
</tr>
<tr>
<td>rural population</td>
<td>352</td>
<td>528</td>
<td>448</td>
<td>559</td>
<td>356</td>
<td>101</td>
</tr>
<tr>
<td>Total</td>
<td>456</td>
<td>629</td>
<td>553</td>
<td>705</td>
<td>473</td>
<td>104</td>
</tr>
</tbody>
</table>

Reference source: Statistic digests «Agriculture of Republic of Belarus», 2018

At the same time the share of hard and soft fruit crops area is higher in the agricultural enterprises (31% in 2017) than its share in the overall production.

Table 74. Area of hard and soft fruit plantations by types of producers in Belarus, thous. ha

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All types of producers, thous. ha</td>
<td>104,5</td>
<td>103</td>
<td>98,8</td>
<td>95,5</td>
<td>94,4</td>
<td>90</td>
</tr>
<tr>
<td>of which agricultural enterprises</td>
<td>38,9</td>
<td>37,2</td>
<td>33,5</td>
<td>30,5</td>
<td>29,5</td>
<td>76</td>
</tr>
<tr>
<td>Share of agricultural enterprises, %</td>
<td>37,2</td>
<td>36,1</td>
<td>33,9</td>
<td>31,9</td>
<td>31,3</td>
<td>x</td>
</tr>
</tbody>
</table>

Reference source: Statistic digests «Agriculture of Republic of Belarus», 2018

The main fruits from all producers are apples.
The main soft fruit is currant (79% of area). The other popular soft fruits are chokeberry (Aronia), raspberry, gooseberry and strawberry.
There are a few enterprises which are specialized in cranberry and blueberry growing, like:

- OJSC «Polesskie zhuraviny» in Brest region, https://belberries.by/ru/ - 84 ha and 80 ha respectively;

Only in Brest region the blueberry plantations contributes to 610 ha.88

88 https://www.sb.by/articles/chego-ne-khvataet-yagodnoy-kultury.html
The apple yield in the family farms is much higher than in the agricultural enterprises. So the main areas of intensive orchards are planted by the family farms.

Table 75. Hard and soft fruit yield by types of producers in Belarus, tons / ha

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agricultural enterprises</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pome fruits (apples, pears, quinces and others)</td>
<td>3,1</td>
<td>2,9</td>
<td>2,9</td>
<td>4,1</td>
<td>2,8</td>
<td>92</td>
</tr>
<tr>
<td>Stone fruits (plums, cherries, apricots, peaches and others)</td>
<td>2,4</td>
<td>2,2</td>
<td>3,3</td>
<td>4,4</td>
<td>0,8</td>
<td>35</td>
</tr>
<tr>
<td>Soft fruits (strawberries, raspberries, currants, gooseberries and others)</td>
<td>1,3</td>
<td>0,8</td>
<td>1,6</td>
<td>1,5</td>
<td>1,2</td>
<td>94</td>
</tr>
<tr>
<td><strong>Farms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pome fruits (apples, pears, quinces and others)</td>
<td>7,7</td>
<td>10,0</td>
<td>11,6</td>
<td>17,2</td>
<td>18,5</td>
<td>240</td>
</tr>
<tr>
<td>Stone fruits (plums, cherries, apricots, peaches and others)</td>
<td>1,8</td>
<td>2,7</td>
<td>3,6</td>
<td>3,8</td>
<td>1,6</td>
<td>89</td>
</tr>
<tr>
<td>Soft fruits (strawberries, raspberries, currants, gooseberries and others)</td>
<td>1,3</td>
<td>1,1</td>
<td>1,3</td>
<td>1,4</td>
<td>1,5</td>
<td>113</td>
</tr>
</tbody>
</table>

Reference source: Statistic digests «Agriculture of Republic of Belarus», 2018

Regional structure of production

Belarus is divided into 6 regions:

2 Brest
7 Vitebsk
3 Gomel
4 Grodno
6 Minsk
5 Mogilev

Fig. 75. Regional structure of hard and soft fruit production in the agricultural enterprises and family farms in 2017, %

Reference source: Statistic digests «Agriculture of Republic of Belarus», 2018
Consumption and self-sufficiency

Fig. 76. Consumption of hard and soft fruits and fruit processing products, kg/cap./year

Belarus is not self-sufficient for hard and soft fruits and fruit processing products: production is less than consumption. Moreover, in 2017 import exceeds the domestic fruit consumption by 9%. It is linked with reexport of fruits to the Russian Federation.

Table 76. Resources and hard and soft fruits and fruit processing products usage, thous. tons

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2017</th>
<th>2017 / 2013, %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resources:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opening stocks</td>
<td>265</td>
<td>425</td>
<td>161</td>
</tr>
<tr>
<td>Production</td>
<td>476</td>
<td>491</td>
<td>103</td>
</tr>
<tr>
<td>Imports</td>
<td>650</td>
<td>1 228</td>
<td>189</td>
</tr>
<tr>
<td>Total resources</td>
<td>1 391</td>
<td>2 144</td>
<td>154</td>
</tr>
<tr>
<td><strong>Usage:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption in Belarus, total</td>
<td>906</td>
<td>1 128</td>
<td>125</td>
</tr>
<tr>
<td>incl. personal consumption</td>
<td>658</td>
<td>843</td>
<td>128</td>
</tr>
<tr>
<td>Exports</td>
<td>238</td>
<td>670</td>
<td>282</td>
</tr>
<tr>
<td>Closing stocks</td>
<td>247</td>
<td>345</td>
<td>140</td>
</tr>
</tbody>
</table>

| Share of import to consumption, % | 72 | 109 | 37 percentage point (p.p.) |

Hard and soft fruit processing

The processed and preserved hard and soft fruit products have occupied no more than 2% in the food production structure in Belarus during 2011-2017: in 2017 1,7%. As a comparison, dairy products contributes 29,4% in 2017. The dairy sector in Belarus is developing actively, because it is export oriented. However, fruit processing is stagnated and provides only part of the domestic consumption.

According to official statistics during 2010-2017 putting into operation of the production capacities for fruit and vegetable preserves was only in 2011. The capacity of the introduced equipment was 8 mln. standard cans\(^89\).

\(^{89}\) unit of measurement of official statistics, further translation 1 standard can = 350 grams
In Belarus the soft fruit commercial growing is developing actively, mainly by farmers. The farmers believe that the main barrier for further development this segment in Belarus is the absence of processing capacity and the low demand for soft berries at the segment b2b in the domestic market.

Putting into operation of the storages had a sharply negative trend in 2016-2017. Accordingly, the demand for storage equipment remained low.

**Fig. 77. Potato, vegetable and fruit storages putting into operation, thous. tons of simultaneous storage**

Reference source: Statistic digests «Agriculture of Republic of Belarus», 2018

**Influence to the Russian and Kazakhstan markets**

Nevertheless Belarusian products have a large impact on the markets in Russia and Kazakhstan, first of all:

- propagation material - 27% of Belarus strawberry seedlings is exported to the Russian Federation;
- agricultural machinery for general purpose (tillage machinery) – 39% of the Belarus tractors are exported to the Russian Federation and 25% of the export to Kazakhstan;
- soft berries and in a less degree hard berries – 17% of Belarus strawberry export and 3% of the apple export finds its destination on the market in the Russian Federation.

There are 389 nurseries are controlled by the «Major State Inspection for Seed Breeding and Plant Protection» of Belarus, [https://www.ggiskzr.by/](https://www.ggiskzr.by/). Among them are 57 nurseries in state ownership and 132 nurseries in family farms. 200 private individuals produce planting material as well.

The sector experts point out that producers have coped with the unsanctioned import of substandard planting material to Belarus mainly from Moldova.

In Belarus there are quite a number of nurseries created with the support and participation of foreign partners including partners from The Netherlands, for example:

- «BelAgriPlants», which it was created by Dutch investors; The company is growing strawberry and raspberry young stock, [http://www.belagriplants.ru/?200_2](http://www.belagriplants.ru/?200_2);
- «Klubnica Plants», Belorusian-Dutch enterprise; This company is growing strawberry and raspberry young stock as well, [http://klubnikaplants.by/index.php/about-us](http://klubnikaplants.by/index.php/about-us).
At the same time the surveyed hard and soft fruit experts estimate the quality of Belorussia planting material differently. Some of them consider it as a replacement of European propagation material in case of lack of financial resources. The planting material might be cheaper, but also less in quality. Other sector specialists point out the high quality of Belorussian planting material because of the high-quality work of the «Major State Inspection for Seed Breeding and Plant Protection» of Belarus which guarantees the quality of planting material. The advantage is that the Belorussian selected varieties are suitable for the central part of the Russian Federation.

The share of Belarusian companies as key players at the market are presented in detail in the chapters about the fruit sector in the Russian Federation and Kazakhstan.

Belarus in general is oriented for export of their agricultural products. About 90% of its total food export finds its destination on the Russian market. Main export articles from Belarus are dairy and meat. However, the agricultural enterprises and farmers have potential to be exporters of soft fruits (fresh, sublimated, frozen) and processed soft fruits as well.

For reference only:
The population of Belarus is 9.5 million and its food/agriculture export is worth 6 billion USD. In comparison, the population of the Russian Federation is 143 million and food/agriculture export amounts 17 billion USD.

**Specific of sales to Belarus agricultural enterprises**

The main issues with Belarusian agricultural enterprises are because of the lack of:
- a real market – sales volume and prices are determined by the state;
- entrepreneur's initiative.

The sector experts emphasize that one of the main problems with Belarus agricultural enterprises is the regular late payments or even non-payments for delivered products (consumable and expendable materials, fertilizers, plant protection agents, etc.).

It's rather hard to enter into the fruit production services and goods market of Belarus. This is connected with the centralized regulation of fruit production, decision-making at the level of the state authorities and limited decisions on problems which could be solved on the farm level.

For promotion of products and technology at the Belorussian market the following strategies can be used:
- work through mediators, without direct sales to agricultural enterprises;
- creation of joint enterprises (for fruit, young stock production, etc.);
- creation of testing and demonstration plots.

For example, according to the «Institute of Horticulture», [http://www.belsad.by/site/index.php](http://www.belsad.by/site/index.php), 1 ha of raspberries was planted by Dutch companies using tunnel technology and local farmers trained.
## ADDENDUM 1

### List of key contacts in Russia and Kazakhstan

1. **KEY GOVERNMENTAL AGRICULTURAL CONTACTS IN RUSSIA AND KAZAKHSTAN**

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian Federation</strong></td>
<td></td>
</tr>
</tbody>
</table>
| The Ministry of Agriculture of the Russian Federation | Address: 107139, Russia, Moscow, Orlikov Pereulok, d. 1/11  
Phone: +7 (495) 607-80-00  
[http://mcx.ru/](http://mcx.ru/) |
| The Federal Service for Veterinary and Phytosanitary Surveillance (Rosselkhoznadzor) | Address: 107139, Moscow, Orlikov pereulok, 1/11  
Phone: +7 (495) 607-51-11  
| The Federal Customs Service of Russia | Address: 121087, Moscow, Novozavodskaya street, 11/5  
Phone: +7 (499) 449-7675  
| The Ministry of Industry and Trade of the Russian Federation | Address: Kitaygorodskiy proezd 7, Moscow, 109074  
Phone: +7 (495) 539-21-87  
| AO «Rosagroleasing» | Address: 125040, Moscow, Pravdy, 26  
Phone: +7 800 200 5395  
E-mail: info@rosagroleasing.ru  
[https://www.rosagroleasing.ru](https://www.rosagroleasing.ru) |
| National register of selective breeding results admitted for using | Address: 107139, Russia, Moscow, Orlikov Pereulok, d. 1/11  
Phone: +7 (495) 607 - 6827  
E-mail: gossort@gossort.com  
| The North Caucasus Development Corporation | Address: 357625, Stavropol Territory, Essentuki, Pyatigorskaya Str., 139  
Phone: +7 (800)-707-40-77  
E-mail: info@krskfo.ru  
[http://krskfo.ru/home](http://krskfo.ru/home) |
| **Kazakhstan** | |
| Ministry of Agriculture of the Republic of Kazakhstan | Address: 010000, Astana, Kenesary str., 36  
Phone: +7 (7172) 555-995  
E-mail: office@minagri.gov.kz  
[mgov.kz](http://mgov.kz) |
| «Committee of State Inspection in the Agro-Industrial Complex of the Ministry of Agriculture of the Republic of Kazakhstan» | Address: Almaty, Makataeva str., 15  
Phone: +7 (727) 397-50-36 |
| Republican State Enterprise «National Institute of Intellectual Property» | Address: 010000, Astana, Korgaljin highway, 3B  
Web: kazpatent.kz  
E-mail: kazpatent@kazpatent.kz |
Phone: +7 (7172) 73-10-39, 73-10-40  
Web: www.goscomsort.kz  
E-mail: goskomkz@mail.ru |
| «National managing holding «KazAgro» | Address: 010000, Astana, Republiki str., 24  
Phone: +7 (7172) 70-56-20  
Web: [www.kazagro.kz](http://www.kazagro.kz)  
E-mail: info@kazagro.kz |

*Reference source: websites of companies, media data*
2. MAIN ASSOCIATIONS / BUSINESS GROUPS AND THEIR CONTACTS IN RF AND KZ

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| «Association of fruits, berries and propagation (planting) material producers» | Address: 393778, Tambov region, Michurinsk-Naukograd, Lipetsk highway, 83. Phone: 8-910-750-67-19  
E-mail: asprus@mail.ru  
http://asprus.ru/blog/ |
| «Russian Nursery Stock Association»                                  | Address: Granatny Pereulok Street / Granatny Lane, h. 3 b. 2. office 7, Moscow, 123001  
Phone: +7 (495) 662 49 14  
E-mail: info@ruspitomniki.ru  
Phone: +7 (7172) 919-393  
Web: atameken.kz  
E-mail: info@atameken.kz |
| Association of Individual Entrepreneurs and Legal Entities "Association of Gardeners" | Phone: +7 775 666-99-99  
E-mail: bagbandar@mail.ru  
Accountant phone: +7 725 239-06-06 |
| Kazakhstan Association of Producers and Processors of Nuts and Berries | Address: Almaty, str. Makataeva, 3 A  
Phone: +7 (727) 397-54-04, 397-53-29  
Web: www.kappoya.kz  
E-mail: orev.berries.kz@gmail.com, info@kappoya.kz |
| «Kazakh Research Institute of Mechanization and Electrification of Agriculture» | Address: 050005, Almaty, Raiymbeka prosp., 312  
Phone: +7 (727) 247-96-00, 247-96-07  
E-mail: kazniimesh@yandex.kz  
http://kazars.kz |
| Kazakh Scientific Research Institute of Plant Protection and Quarantine named after J. Zhiyymbaev | Address: Almaty, str. Kultobe, 1  
Phone: +7 (727) 246 73 66, (747) 270 99 37, (708) 242 91 28  
E-mail: plantprotectionkz@gmail.com  
https://www.niizkr.kz/ |
| AGRITECHHUB KAZAKHSTAN                                               | Address: 050010, Almaty, prosp. Abaiya, 8  
Phone: +7 (727) 2 62 86 78  
E-mail: info@agrohub.kz  
http://agrohub.kz |
| JSC «NATIONAL COMPANY KAZNEX INVEST»                                | Address: 010000, Astana, str. Kunaeva, 2, 6th floor  
Phone: +7 (7172) 620 620  
E-mail: info@invest.gov.kz  
http://www.invest.gov.kz |

Reference source: websites of companies, media data

3. KEY MARKET PLAYERS IN EACH PRODUCT CATEGORY

The largest fruit producers in the Russian Federation

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| OJSC «Sady Pridonia» | Address: 400050, Hirosimy str.2, Volgograd  
Phone: +7 (8442) 26 05 00  
E-mail: referent-spr@pridonia.ru  
| OJSC «Sad-Gigant»   | Address: 353565, Krasnodar Region, pos.Sovhozny, Shkolnaya st., 615  
Phone: +7 800 5556596  
E-mail: info@sadgigant.ru  
http://www.sadgigant.ru/# |
<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJSC «Sady Baksana»</td>
<td>Address: 361502, Kabardino-Balkaria Republic, Baksansky district, s. Kishpek, federal road &quot;Caucasus&quot;, 438 km</td>
<td>Phone: +7 (866)-34 4-71-74, 34-4-71-73 E-mail: <a href="mailto:applevrm@gmail.com">applevrm@gmail.com</a> <a href="http://sadbaksan.ru/">http://sadbaksan.ru/</a></td>
</tr>
<tr>
<td>LTD «Agrofirma imeni 15 let Oktiabria»</td>
<td>Address: 399626, Lipetsk region, Lebedyansky district, Troekurovo village</td>
<td>Phone: +7 (473) 271-68-66 E-mail: kravisyava-mecha.ru/ <a href="http://apple-lider.ru/">http://apple-lider.ru/</a></td>
</tr>
<tr>
<td>LTD «TSentralno-Chernozemnnaia plodovo-lagodnaia kompaniia»</td>
<td>Address: 394006, Voronej, 20 let Oktyabria st., 80. Phone: +7 800-250-16-95 E-mail: <a href="http://apple-lider.ru/">http://apple-lider.ru/</a></td>
<td></td>
</tr>
<tr>
<td>LTD «Agronom-sad»</td>
<td>Address: 399621, Lipetsk region, Lebedyan district, Agronom, Sovetskaya street, 2 Phone: +7 (84567) 69358 E-mail: <a href="mailto:reception@agronom-sad.ru">reception@agronom-sad.ru</a> <a href="http://agronom-sad.ru/">http://agronom-sad.ru/</a></td>
<td></td>
</tr>
<tr>
<td>LTD «Ostrogozhskadpitomnik»</td>
<td>Address: 397807, Voronezh region, Ostrogozhsky district, Poselok Tsentrlnogo otdelenia sovhosa “Ostrogozhsky”, Tsentralnaya st., 21 Phone: +7 (47375) 5-11-31 E-mail: <a href="mailto:sadpitomnik@yandex.ru">sadpitomnik@yandex.ru</a> <a href="http://xn--80afegmekqkdabfniqftbmm.xn--p1ai/">http://xn--80afegmekqkdabfniqftbmm.xn--p1ai/</a></td>
<td></td>
</tr>
<tr>
<td>LTD «Korochanskii plodopitomnik»</td>
<td>Address: 309225, Belgorod region, Korochansky district, village Popovka, Novoselova, 2 &quot;A&quot; Phone: +7 (47231) 5-72-40 E-mail: <a href="mailto:secretar@korsad.ru">secretar@korsad.ru</a> <a href="http://xn--80aamcokbxhavpd1f7c.xn--p1ai/homepage">http://xn--80aamcokbxhavpd1f7c.xn--p1ai/homepage</a></td>
<td></td>
</tr>
<tr>
<td>Agroholding «Step»</td>
<td>Address: 353715, Krasnodar region, Kanevskoy district, Chelbasskaya, Naberezhnaya St. 137 Phone: +7 (861) 646-25-32 E-mail: <a href="mailto:office@ahstep.ru">office@ahstep.ru</a> <a href="http://www.ahstep.ru/en/">http://www.ahstep.ru/en/</a></td>
<td></td>
</tr>
<tr>
<td>&quot;IUznye zemli&quot; (Reception office of the Agricultural Division, AFG National)</td>
<td>Address: 353560, Krasnodar Krai, 87Slavyansk-na-Kubani, Pionerskaya str. Phone: +7 (861) 464-15-00 E-mail: <a href="mailto:info@afgn-agro.ru">info@afgn-agro.ru</a> <a href="http://afg-n.ru/eng/">http://afg-n.ru/eng/</a></td>
<td></td>
</tr>
<tr>
<td>«Alma Prodakshhn» (Volga Group)</td>
<td>Address: 353320, Krasnodar Krai, Abinsk city, Lva Tolstova Street Phone: +7 800 505 0415 E-mail: <a href="mailto:order@alma-fresh.ru">order@alma-fresh.ru</a> <a href="http://alma-fresh.ru/#rec32081118">http://alma-fresh.ru/#rec32081118</a></td>
<td></td>
</tr>
<tr>
<td>&quot;Sady Belogoria&quot;</td>
<td>Address: 308009, Belgorod, Kharkivska street, 8 A Phone: +7 (4722) 58-69-69, E-mail: <a href="mailto:agrobel@agrobel.ru">agrobel@agrobel.ru</a> <a href="http://www.agrobel.ru/h/about/structura/vspomogatelnye-predpriyatiya/ooo-%C2%ABsadyi-belogo%252%BB.html">http://www.agrobel.ru/h/about/structura/vspomogatelnye-predpriyatiya/ooo-%C2%ABsadyi-belogo%2%BB.html</a></td>
<td></td>
</tr>
<tr>
<td>«Agrotsentr»</td>
<td>Address: 385638, Adygea Republic, Giaginsky district, Dneprovsky hytor, st. Krestyanskaya, 48 Phone: +7 (962) 764 94 94 E-mail: <a href="mailto:info@agrocentr.org">info@agrocentr.org</a> <a href="http://agrocentr.org/">http://agrocentr.org/</a></td>
<td></td>
</tr>
<tr>
<td>Soft fruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTD «Sovkhoz imeni Lenina»</td>
<td>Address: Moscow region, Sovkhoz imeni Lenina village Phone: +7 (495) 548-65-05 E-mail: <a href="mailto:info@sovhozlenina.ru">info@sovhozlenina.ru</a> <a href="http://sovhozlenina.ru/">http://sovhozlenina.ru/</a></td>
<td></td>
</tr>
<tr>
<td>KKH «Nika»</td>
<td>Address: Adygea Republic, Maikop district, stanitsa Kuzhorskaya, Lesnaya st., 1. Phone: +7 (87777) 2-84-75 E-mail: <a href="mailto:botaaleksandr@yandex.ru">botaaleksandr@yandex.ru</a> <a href="http://nika01region.ru/">http://nika01region.ru/</a></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Contacts</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>LTD «Ostrogozhskadpitomnik»</td>
<td>Address: 397807, Voronezh region, Ostrogozhsky district, Poselok Tsentralnogo otdelzenia sovhosa “Ostrogozhsky”, Tsentralnaya st., 21  Phone: +7 (47375) 5-11-31  E-mail: <a href="mailto:sadpitomnik@yandex.ru">sadpitomnik@yandex.ru</a>  <a href="http://xn--80afmgmakegkdabinqfxbkk-jy8ai/">http://xn--80afmgmakegkdabinqfxbkk-jy8ai/</a></td>
<td></td>
</tr>
<tr>
<td>LTD «Iagodnye polia»</td>
<td>Address: Lipetsk region, Usman district, Poddubrovka village, Str. Centralnaya, 14B, office 2</td>
<td></td>
</tr>
<tr>
<td>LTD «Rassvet» (Reception office of the Agricultural Division, AFG National)</td>
<td>Address: 353560, Krasnodar Krai, 87Slavyansk-na-Kubani, Pionskaya str.  Phone: +7 (861) 464-15-00  E-mail: <a href="mailto:info@afgn-agro.ru">info@afgn-agro.ru</a>  <a href="http://afg-n.ru/eng/">http://afg-n.ru/eng/</a></td>
<td></td>
</tr>
</tbody>
</table>

Reference source: websites of companies

The largest fruit producers in Kazakhstan

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMAL-BIO</td>
<td>Address: Almaty region, Talgar district, Guldalinsky rural district  Phone: +7 727 393 51 06, 393 51 18  E-mail: <a href="mailto:info@amal-bio.com">info@amal-bio.com</a>  <a href="http://amal-bio.com">http://amal-bio.com</a></td>
</tr>
<tr>
<td>LLP «ALMA GREEN FIELDS»</td>
<td>Address: Almaty region, 150 km from Alatau</td>
</tr>
<tr>
<td>LLP «APPLE WORLD»</td>
<td>Address: Almaty  <a href="http://appleworld.kz">http://appleworld.kz</a></td>
</tr>
<tr>
<td>Agricultural production cooperative «BIRLIK»</td>
<td>Address: South-Kazakhstan region, Kazygurt district</td>
</tr>
<tr>
<td>LLP «ALGABAS AGRI-FOOD»</td>
<td>Address: Akmola region, Shortandinsk district, Damsa village</td>
</tr>
<tr>
<td>Company «QAZAQ FRUIT»</td>
<td>Address: Almaty region  <a href="http://qazaqfruit.kz/">http://qazaqfruit.kz/</a>  E-mail: <a href="mailto:sales@qazaqfruit.kz">sales@qazaqfruit.kz</a>, <a href="mailto:hr@qazaqfruit.kz">hr@qazaqfruit.kz</a>, <a href="mailto:info@qazaqfruit.kz">info@qazaqfruit.kz</a></td>
</tr>
<tr>
<td>Agrofarm «Keruen»</td>
<td>Address: 050051, Almaty, Luganskogo str., 139  Phone: +7 (727) 262-31-51, +7 (727) 262-30-90  E-mail: <a href="mailto:info@keruen.com">info@keruen.com</a>  <a href="http://www.keruen.com">http://www.keruen.com</a></td>
</tr>
<tr>
<td>LLP «Integratsiya-Turgen’»</td>
<td>Address: Almaty region</td>
</tr>
<tr>
<td>LLP «Sady Vostoka»</td>
<td>Address: Zhambyl region, Taraz</td>
</tr>
<tr>
<td>LLP «DALA-FRUIT.KZ»</td>
<td>Address: South-Kazakhstan region</td>
</tr>
<tr>
<td>CPK «Shaikoryk bauy»</td>
<td>Address: Zhambyl region</td>
</tr>
<tr>
<td>KX «Kaz Eco Fruit»</td>
<td>Address: Zhambyl region</td>
</tr>
<tr>
<td>LLP «AGROS BT»</td>
<td>Address: Almaty  Phone: +7 (727) 262-11-43  E-mail: <a href="mailto:info@agrosbt.kz">info@agrosbt.kz</a>  Address: Astana  Phone: +7 (717) 225-26-29  <a href="http://www.agros.kz">www.agros.kz</a></td>
</tr>
</tbody>
</table>

Reference source: websites of companies, media data
<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian Federation</strong></td>
<td></td>
</tr>
<tr>
<td>Nursery «List» (former «ZIGSad»)</td>
<td>Address: Krasnodar Krai, Abinsky district, khutor Pokrovsky, Titova st., 35 Phone: +7-918-115-21-00 E-mail: <a href="mailto:zigsad1@mail.ru">zigsad1@mail.ru</a> <a href="http://listsad.ru/">http://listsad.ru/</a></td>
</tr>
<tr>
<td>OJSC Nursery &quot;ZHerdevskii&quot;</td>
<td>Address: 393675, Tambov Region, Zherdevsky district, Sadovy village, Vishnevaya St., 8. Phone: +7 (47535)3-46-23 E-mail: <a href="mailto:info@plodopitomnik.ru">info@plodopitomnik.ru</a> <a href="http://plodopitomnik.ru/index.html">http://plodopitomnik.ru/index.html</a></td>
</tr>
<tr>
<td>Federal State Budgetary Scientific Institution «Federal scientific center named after Michurin»</td>
<td>Address: 393774, Tambov Region, Michurinsk, Michurin St., 30. Phone: +7 (47545) 2-07-61 E-mail: <a href="mailto:info@fnc-mich.ru">info@fnc-mich.ru</a> <a href="http://fnc-mich.ru/">http://fnc-mich.ru/</a></td>
</tr>
<tr>
<td>LTD «Plodooobieedienie «Sady Stavropolia»</td>
<td>Address: 357255, Stavropol Krai, Mineralovsky district, Sunzha village, Sokolnaya Str., 8 Phone: +7 (962) 018-68-84 E-mail: <a href="http://sadkmv.ru/">http://sadkmv.ru/</a></td>
</tr>
<tr>
<td>LTD &quot;Sady Pridonia-pitomnik&quot;</td>
<td>Address: 400050, Hirosimy str.2, Volgograd Phone: +7 (8442) 26 05 00 E-mail: <a href="mailto:referent-spr@pridonie.ru">referent-spr@pridonie.ru</a> <a href="http://www.pridonie.ru/en/the-company/">http://www.pridonie.ru/en/the-company/</a></td>
</tr>
<tr>
<td>LTD &quot;Korochanskii plodopitomnik&quot;</td>
<td>Address: 309225, Belgorod region, Korochansky district, village Popovka, Novoselova, 2 &quot;A&quot; Phone: +7 (47231) 5-72-40 E-mail: <a href="mailto:secretar@korsad.ru">secretar@korsad.ru</a> <a href="http://xn--80aamcokbxhavpd1f7c.xn--p1ai/homepage">http://xn--80aamcokbxhavpd1f7c.xn--p1ai/homepage</a></td>
</tr>
<tr>
<td>Family farm «Nika»</td>
<td>Address: Aдыгея Republic, Maikop district, stanitsa Kuzhorskaya, Lesnaya st., 1. Phone: +7 (87777) 2-84-75 E-mail: <a href="mailto:botaaleksandr@yandex.ru">botaaleksandr@yandex.ru</a> <a href="http://nika01region.ru/">http://nika01region.ru/</a></td>
</tr>
<tr>
<td>LTD «Ostrogozhsksadpitomnik»</td>
<td>Address: 397807, Voronezh region, Ostrogzhsky district, Poselok Tsentralnogo otdelenia sovhsa “Ostrogzhsky”, Tsentralnaya st., 21 Phone: +7 (47375) 5-11-31 E-mail: <a href="mailto:sadpitomnik@yandex.ru">sadpitomnik@yandex.ru</a> <a href="http://xn--80afeqmakeqkdafbfnfqtbnm.xn--p1ai/">http://xn--80afeqmakeqkdafbfnfqtbnm.xn--p1ai/</a></td>
</tr>
<tr>
<td>LTD &quot;Sovkhoz imeni Lenina&quot;</td>
<td>Address: 160508, Vologda Region, Vologda District, Maisky Village Phone: +7 (8172) 52-42-85 E-mail: <a href="mailto:pzmaiskyi@mail.ru">pzmaiskyi@mail.ru</a> <a href="http://www.pzmay.ru/">http://www.pzmay.ru/</a></td>
</tr>
<tr>
<td><strong>Kazakhstan</strong></td>
<td></td>
</tr>
<tr>
<td>ALATAU FRUITS ENGINEERING</td>
<td>Address: Almaty, Raiymbeka prosp., 348 (angle str. Emtsova), office 105 Phone: +7 (727) 313-21-92 (reception) E-mail: <a href="mailto:info@alataufruits.kz">info@alataufruits.kz</a> <a href="http://www.alataufruits.kz/">http://www.alataufruits.kz/</a></td>
</tr>
<tr>
<td>Berry nursery «Dragan»</td>
<td>Address: 040400, Almaty region, Esik, str. Sportivnaia, 30 Phone: +7 (702) 303-33-22 E-mail: <a href="mailto:dragan_@mail.ru">dragan_@mail.ru</a></td>
</tr>
</tbody>
</table>
**FIELD MACHINERY, EQUIPMENT**

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| «Rostselmash» | Address: 344029, Russia, Rostov-on-Don, str. Menzhinsky, 2  
Phone: +7 800 250-60-04  
https://rostselmash.com/ |
| «Bryanskselmash» | Address: 241020, Russian Federation, Bryansk, Moscow avenue, 86  
Phone: +7 (4832) 74 77 07  
E-mail: info@bryanskselmash.ru  
http://www.bryanskselmash.ru/ |
| «Gomselmash» | Address: Republic of Belarus, 246004, Gomel, Shosseinaya st., 41  
Phone: +375-232-59-22-10  
E-mail: post@gomselmash.by  
https://www.gomselmash.by/ |
| "All-Russian Horticultural Institute for Breeding, Agrotechnology and Nursery" | Address: Zagyoryevskaya Str. 4 Moscow 115598  
Phone: +7 (495) 329-51-66  
E-mail: vstisp@vstisp.org  
https://vstisp.org/vstisp/ |
| "Federal Scientific Agroengineering Center VIM" | Address: 109428, Moscow, 1-st Institutsky Proezd, 5  
Phone: +7 (499) 171-43-49  
E-mail: vim@vim.ru  
http://vim.ru/ |
| OJSC «Remontno-mekhanicheskii zavod «Prokhladnenskii» | Address: 361043, Kabardino-Balkarskaria Republic, Prokhladny, Ostapenko st., 19  
Phone: +7 866-31-2-24-72  
E-mail: rmzkbr@yandex.ru  
http://rmzkbr.ru/ |
| JSC «Gidromashservis» | Address: 12 Aviakonstructor Mikoyan street, Moscow, 125252  
Phone: +7 (495) 664-81-71  
E-mail: hydro@hms.ru  
http://www.grouphms.com/ |
| OJSC «IugPoliv» | Address: Moscow Region, Schelkovo, Hotovskaya str., 34/2  
Phone: +7 495 504 15 40  
E-mail: info@korolevagro.ru  
http://www.yug-poliv.ru/ |
| Bazis | Address: Kabardino-Balkarskaria Republic, Baksansky District, Kipshe village  
Phone: +7 938 082 55 56  
https://baziskbr.ru/ |
| LLP «SemAz» («Semipalatinskiy avtosborochnyi zavod») | Address: East-Kazakhstan region, Semey, str. Bi Boranbaya, 81  
Phone: +7 (7222) 33-46-04  
http://www.semaz.kz |
| Representation office of «Rostselmash» in Kazakhstan | Address: 01000, Astana, str. Imanova, 17  
Phone: +7 (7172) 21-79-09, 21-79-11  
E-mail: marketing@rostselmash.kz  
https://kz.rostselmash.com |
| Representation office of «Petersburgskiy Tractornyi zavod» in Kazakhstan - LLP «Ural LTD» | Address: Kostanay region, Kostanay, Al-Farabi prosp., 141/77  
Phone: +7 (7142) 90-13-50, 90-13-51  
Mob.: +7 (777) 508-56-25  
E-mail: https://uralltd.kz |
### Name | Contacts
---|---
«Borona.kz» | Phone: +7 (705) 106-10-10  
https://www.borona.kz

LLP «Agrotehsila» | Address: 050014, Almaty, Ryskulova prosp., 73  
Phone: +7 (727) 251-65-60  
https://www.agrotexsila.com

«AIK AGRO SISTEMS» | Representation offices of the Russian company in Kazakhstan:  
1. South-Kazakhstan region, Shymkent  
Phone: +7 (777) 010-37-95  
E-mail: korzhan@aikltd.com, nkorzhan@mail.ru  
2. East Kazakhstan, Pavlodar regions  
Phone: +7 (777) 781-35-32  
E-mail: agro.pv@mail.ru  
3. South  
Phone: +7 (705) 895-23-55, (701) 553 00 57  
E-mail: karbon.simf@rambler.ru, mr.sugurbekov@mail.ru  
4. North, West and Center  
Phone: +7 (777) 312-00-18  
E-mail: chernikov64@mail.ru  
http://www.aikltd.com

«VokHaus» | Address: South-Kazakhstan region, Shymkent, Turkestanskaia str., 2/5, 84  
Phone: +7 (7252) 54-98-27  
E-mail: workhouse@list.ru  
http://workhouse.kz

LLP «Trans Polimer» | Address: South-Kazakhstan region, Shymkent, Turkestanskaia str., д. 2/5, 61  
Phone: +7 (7252) 21-30-17  
E-mail: Kaztranspolymer@mail.ru  
http://transpolymer.kz

«AVAGRO» | Address: North-Kazakhstan region, Petropavlovsk  
Phone: +7 (7152) 63-20-20, +7 (705) 632-00-30 (WhatsApp)  
http://avagro.kz

Reference source: websites of companies, media data

**FERTILIZERS AND CROP PROTECTION**

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian Federation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fertilizers</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Evrokhim | Address: Dubininskaya Street, 53, p. 6 115054 Moscow  
Phone: +7 (495) 545-39-69  
E-mail: info@eurochem.ru  
| PhosAgro | Address: 119333, Moscow, Leninsky prospekt, д. 55/1, стр. 1  
Phone: +7 (473) 267-97-77  
E-mail: info@phosagro.ru  
https://www.phosagro.com/ |
| Uralkali | Address: 6 Presnenskaya embankment, building 2, 34th floor,  
Moscow, 123112  
Phone: +7 (495) 730-2371  
E-mail: msc@msc.uralkali.com  
http://www.uralkali.com/ |
| Uralkhim | Address: 6/2, Presnenskaya naberezhnaya, Moscow, Russian Federation, 123112  
Phone: +7 (495) 721 89 89  
E-mail: info@uralchem.com  
https://www.uralchem.com/ |
| Akron | Address: 12 Krasnopresnenskaya Naberezhnaya, Moscow 123610  
Phone: +7 (495) 745-77-45 |
<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| Toliattiazot              | E-mail: info@acron.ru  
Address: 32 Povolzhskoye Shosse, Togliatti, Samara Region, 445045  
Phone: +7 (8482) 69-14-80  
E-mail: zavod@corpo.toaz.ru  
http://www.toaz.ru/eng/ |
| Shchelkovo Agrokhim      | Address: 141101, Schelkovo, Zavodskaya street, 2  
Phone: +7 (495) 777-84-91  
E-mail: info@betaren.ru  
http://eng.betaren.ru/ |
| Avgust                    | Address: 129515, Russia, Moscow, 6 Tsanderova street  
Phone: +7 (495) 787-08-00  
E-mail: corporate@avgust.com  
| Agroekspert Grupp        | Address: 143421, Moscow Region, Krasnogorsk District, The 26th km of the Baltic road, business center "Riga Land", building "6"  
Phone: +7(495) 781-31-31  
E-mail: info@agroex.ru  
https://www.agroex.ru/ |
| Agroprogress             | Address: Krasnodar, 40-let Pobedy, 39/1, of. 8  
Phone: +7 (861) 252-57-07  
E-mail: info@agroprogress.org  
http://agroprogress.org/ |
| Kazakhstan                | **Crop protection**  
| LLP «KAZAZOT»             | Address: 130000, Mangistau region, Aktau, industrial zone 6, building 150  
Phone: +7 (7292) 57-98-14, 57-98-60  
E-mail: kazazot@kazazot.kz  
http://www.kazazot.kz |
| LLP «Evrokhim-Karatau»    | Address: 050059, Almaty, Bostandyksky district, Al-Farabi prosp., 17/1, Multifunctional center «Nurly-Tau», block 5B, office 2  
Phone: +7 (727) 311-51-52  
http://www.eurochemgroup.com |
| «Kazakhstan trade and production agrochemical company «KosAgroKommertz» |  
| LLP «Agrokhimiya»         | Address: Almaty, Doctyk prosp., 43, office 206  
Phone: +7 (727) 250-88-45, 339-02-06, 250-03-17  
E-mail: info@agrochemicals.kz  
http://agrochemicals.kz |
| LLP «Astana-Nan»          | Address: 0130000, Astana, Korgalzhinskoe highway, building 3B, 2nd floor  
Phone: +7 (7172) 792-988  
https://astana-nan.kz |

Reference source: websites of companies, media data
# STORAGE, COOLING AND FREEZING FACILITIES

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian Federation</strong></td>
<td></td>
</tr>
<tr>
<td>LTD «PLAVI-Servis»</td>
<td>Address: 350075, Krasnodar, Stasov str., 174/1 Phone: +7 (861) 234-04-20 E-mail: <a href="mailto:info.moskau@plawi.de">info.moskau@plawi.de</a> <a href="http://plawi-russland.ru/">http://plawi-russland.ru/</a></td>
</tr>
<tr>
<td><strong>Oven</strong></td>
<td>Address: 111024, Moscow, 2nd st. Enthusiasts, 5/5 Phone: +7 (495) 64-111-56 <a href="http://www.owen.ru/">http://www.owen.ru/</a></td>
</tr>
<tr>
<td><strong>Interagro</strong></td>
<td>Address: Moscow, 2-nd Sinichkina Str., 9a, &quot;Sinitsa Plaza&quot; Phone: +7 (495) 783-94-84 E-mail: <a href="mailto:info@interagro.su">info@interagro.su</a> <a href="https://interagro.info/">https://interagro.info/</a></td>
</tr>
<tr>
<td><strong>Kazakhstan</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Intercool</strong></td>
<td>Address: Almaty region, iliiyskiy district, area Promzona, 164 Phone: +7 (727) 341-05-70, 341-05-71 <a href="http://www.intercool.kz">www.intercool.kz</a> E-mail: <a href="mailto:intercool@bk.ru">intercool@bk.ru</a></td>
</tr>
<tr>
<td><strong>LLP «Titan Almaty»</strong></td>
<td>Address: Almaty, Syifullina prosp., 455 Phone: +7 (727) 390 45 05, 346 65 09, 390 29 97, 233 69 41 mob.: +7 701 723 07 15 E-mail: <a href="mailto:info@titan-almaty.kz">info@titan-almaty.kz</a> <a href="http://www.titan-almaty.kz">www.titan-almaty.kz</a></td>
</tr>
<tr>
<td><strong>«KazRefGroup»</strong></td>
<td>Address: 010000, Astana, str. Syifullina, 6/2, office 7 Phone: +7 (7172) 94-41-61, 94-41-67 E-mail: <a href="mailto:info@kazrefgroup.kz">info@kazrefgroup.kz</a> <a href="http://www.too-krk-kazrefgroup.satu.kz">www.too-krk-kazrefgroup.satu.kz</a></td>
</tr>
<tr>
<td><strong>Kalugin &amp; K</strong></td>
<td>Address: Almaty, str. Gogolia, 253 There are offices at Astana, Atyrau, Karaganda, Shymkent Phone: +7 (727) 222-38-08, 378-75-20, 378-75-21, 378-75-23 E-mail: <a href="mailto:trade@kalugin.kz">trade@kalugin.kz</a> <a href="http://www.kalugin.kz">www.kalugin.kz</a>, <a href="http://www.sandwichpanel.kz">http://www.sandwichpanel.kz</a></td>
</tr>
<tr>
<td><strong>Snabkholod</strong></td>
<td>Address: Almaty, str. Turkebaeva, 57 Phone: +7 (727) 232 15 89, 224 01 70, 317 79 68, (701) 961 55 26, 961 22 76 E-mail: <a href="mailto:snabholod@mail.ru">snabholod@mail.ru</a> snabholod.kz</td>
</tr>
<tr>
<td><strong>IFT Project Development</strong></td>
<td>Address: Almaty, str. Jandosova, 98, business center «Navoi», office 302, 3rd floor Phone: +7 (727) 302-60-10 E-mail: <a href="mailto:info@iftpd.com">info@iftpd.com</a> <a href="http://iftpd.com">http://iftpd.com</a></td>
</tr>
<tr>
<td><strong>TechnoCool</strong></td>
<td>Address: 050010, Almaty, str. Zenkova, 22, office 409 Phone: +7 (727) 357 36 43, +7 (700) 953 38 21 E-mail: <a href="mailto:info@technocool.kz">info@technocool.kz</a> <a href="http://technocool.kz">http://technocool.kz</a></td>
</tr>
</tbody>
</table>

*Reference source: websites of companies, media data*

# FRUIT PRODUCTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian Federation</strong></td>
<td></td>
</tr>
<tr>
<td>OJSC «Sady Pridonia»</td>
<td>Address: 400050, Hirosimy str.2, Volgograd Phone: +7 (8442) 26 05 00 E-mail: <a href="mailto:referent-spr@pridonie.ru">referent-spr@pridonie.ru</a> <a href="http://www.pridonie.ru/en/the-company/">http://www.pridonie.ru/en/the-company/</a></td>
</tr>
<tr>
<td>«HORTEX Russia»</td>
<td>Address: 117218 Moscow, ul. Krzhizhanovskogo, 15/7 Phone: +7 (495) 956-13-37</td>
</tr>
<tr>
<td>Name</td>
<td>Contacts</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>E-mail:</strong> <a href="mailto:info@hortex.ru">info@hortex.ru</a>  <a href="http://hortexr197.nicwebsite.ru/">http://hortexr197.nicwebsite.ru/</a></td>
<td></td>
</tr>
<tr>
<td><strong>LTD «KHladokombinat Zapadnyi»</strong></td>
<td><strong>Address:</strong> 143002, Moscow region, Odintsovo, Zapadnaya st., 22 / 3  <strong>Phone:</strong> +7 (495) 594-19-19  <strong>E-mail:</strong> <a href="mailto:info@4sezona.ru">info@4sezona.ru</a>  <a href="http://www.4sezona.ru/">http://www.4sezona.ru/</a></td>
</tr>
<tr>
<td><strong>«Miratorg»</strong></td>
<td><strong>Address:</strong> 119034 Moscow, Prechistenskaya Embankment, Dom 17 (entrance from Kursovy переулок), 4th floor  <strong>Phone:</strong> +7(495)775-06-50  <a href="https://miratorg.ru/">https://miratorg.ru/</a></td>
</tr>
<tr>
<td><strong>«Ratibor»</strong></td>
<td><strong>Address:</strong> 172201, Tver Region, Selizharovo village, Gagarina Str., 1a  <strong>Phone:</strong> +7 (495) 956-75-06  <strong>E-mail:</strong> <a href="mailto:secretar@ratibor.net">secretar@ratibor.net</a>  <a href="http://ratibor.net/">http://ratibor.net/</a></td>
</tr>
<tr>
<td><strong>JSC «Essen Production AG»</strong></td>
<td><strong>Address:</strong> 423602, Republic of Tatarstan, Elabuga, Okruzhnoe shosse, 7 and 630068, Novosibirsk, Prigranichnaya str., 1  <strong>Phone:</strong> +7(85557) 4-86-99  <a href="http://www.maheev.ru/">http://www.maheev.ru/</a></td>
</tr>
<tr>
<td><strong>«Ekoproduct»</strong></td>
<td><strong>Address:</strong> 141280, Moscow region, Ivanteevka, st. Zavodskaya 10  <strong>Phone:</strong> +7 495 993-60-61  <a href="http://www.ecoproduct.ru/en/">http://www.ecoproduct.ru/en/</a></td>
</tr>
<tr>
<td><strong>«Pikanta»</strong></td>
<td><strong>Address:</strong> 127495, Moscow, Dmitrovskoe highway, 163A / 2  <strong>Phone:</strong> +7 (925) 740 82 82  <a href="http://www.pikanta.ru/">http://www.pikanta.ru/</a></td>
</tr>
<tr>
<td><strong>LTD «Galaktika INK»</strong></td>
<td><strong>Address:</strong> 400002, Volgograd, Avtotransportnaya str., 41  <strong>Phone:</strong> +7 8442 90 29 55  E-mail: <a href="mailto:galaks2004@yandex.ru">galaks2004@yandex.ru</a>  <a href="http://www.galagala.ru/">http://www.galagala.ru/</a></td>
</tr>
<tr>
<td><strong>PJSC «Sibirskii gostinets»</strong></td>
<td><strong>Address:</strong> 197022, St. Petersburg, Professor Popov str., 37  <strong>Phone:</strong> +7 (800) 250-61-76  E-mail: <a href="mailto:info@siberiangostinec.ru">info@siberiangostinec.ru</a>  <a href="https://www.siberiangostinec.ru/">https://www.siberiangostinec.ru/</a></td>
</tr>
</tbody>
</table>

### Kazakhstan

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RAIMBEK GROUP</strong></td>
<td><strong>Address:</strong> 050012, Almaty, str. Jambyla, 111  <strong>Phone:</strong> +7 (727) 330-46-46 PR- department  <strong>E-mail:</strong> <a href="mailto:pr@raimbek.com">pr@raimbek.com</a>  <a href="https://raimbek.com">https://raimbek.com</a></td>
</tr>
<tr>
<td><strong>RG Brands</strong></td>
<td><strong>Address:</strong> 050034, Almaty, Raiymbeka prosp., 212-B  <strong>Phone:</strong> +7 (727) 250-57-40, 250-13-55  <strong>E-mail:</strong> <a href="mailto:info@brands.kz">info@brands.kz</a>  <a href="http://www.brands.kz">http://www.brands.kz</a></td>
</tr>
<tr>
<td><strong>Company «Astana Bottlers»</strong></td>
<td><strong>Address:</strong> 010006, Astana, housing area Koktal-1, str. Bolashak, 28  <strong>Phone:</strong> +7 (7172) 300 358, 300 647  <strong>E-mail:</strong> <a href="mailto:info@ifa.kz">info@ifa.kz</a>  <a href="http://www.astanabottlers.kz">http://www.astanabottlers.kz</a></td>
</tr>
<tr>
<td><strong>JSC «GOLD PRODUCT»</strong></td>
<td><strong>Address:</strong> 050050, Almaty, str. Kazybaeva, 12A  <strong>Phone:</strong> +7 (7272) 33-63-78, 33-63-69, 33-65-67  <strong>E-mail:</strong> <a href="mailto:reception@gold-product.com">reception@gold-product.com</a>  <a href="http://www.gold-product.com">http://www.gold-product.com</a></td>
</tr>
<tr>
<td><strong>Agrofarm «Keruen»</strong></td>
<td><strong>Address:</strong> 050051, Almaty, Luganskogo str., 139  <strong>Phone:</strong> +7 (727) 262-31-51, +7 (727) 262-30-90  <strong>E-mail:</strong> <a href="mailto:info@keruen.com">info@keruen.com</a>  <a href="http://www.keruen.com">http://www.keruen.com</a></td>
</tr>
<tr>
<td><strong>AMAL-BIO</strong></td>
<td><strong>Address:</strong> Almaty region, Talgarsky district, Guldalinsky rural district  <strong>Phone:</strong> +7 727 393 51 06, 393 51 18  <strong>E-mail:</strong> <a href="mailto:info@amal-bio.com">info@amal-bio.com</a>  <a href="http://amal-bio.com/">http://amal-bio.com/</a></td>
</tr>
<tr>
<td><strong>LLP «APPLE WORLD»</strong></td>
<td><strong>Address:</strong> Almaty  appleworld.kz</td>
</tr>
</tbody>
</table>
### KAZAKHSTAN. SERVICES IN THE GARDENING INDUSTRY

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| FTC EQUITY                  | Address: Almaty  
Phone: +7 705 701 83 83  
https://ftcagro.kz/  
E-mail: support@ftcagro.kz |
| ALATAU FRUITS ENGINEERING   | Address: Almaty, Raiymbeka prosp., (str. Emtysova), office 105  
Phone: +7 (727) 313-21-92  
E-mail: info@alataufruits.kz  
http://www.alataufruits.kz/ |

### KAZAKHSTAN. DISTRIBUTION CENTER

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| Distribution center «Mizam» | Address: Almaty, Severnoe kol’tso highway, 28  
Phone: +7 (777) 588 81 18, +7 (707) 787 71 47, +7 (727) 229 63 65  
E-mail: era@energorezerv.kz  
http://energorezerv.kz,  
http://hommes.kz/blog/2017/02/17/novoe-mesto-mizam-samyj-krupnyj-bazar-v-almaty/ |

### KAZAKHSTAN. COMPANIES OFFERING PACKAGING MATERIALS

<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
</table>
| LLP «KazPatPolimer»         | Address: 040801, Almaty region, Kapshagai, vil. Zarechnyi  
Phone: +7 (747) 157 00 81, +7 (72772) 35 301  
http://www.kazpetpolimer.kz |
| LLP «EUROPACK»              | Address: 100014, Karaganda, str. Kamskaiya, 19 a  
Phone: +7 (7212) 42-24-83  
Mo6.: +7 (701) 745 70 28; +7 (705) 510 77 28  
E-mail: europack_kz@mail.ru  
http://europack.kz |
| LLP «SDT GROUP»             | Address: 160000, Shymkent, Industrial zone «Ontustik», str. Kapal Batyra, 39/1  
Phone: +7 (7252) 43 91 06, 43 91 11 add 114  
E-mail: sdtke@mail.ru; sdt@sdt.kz  
http://www.sdt.kz |
| LLP «Spirit Kazakhstan»     | Address: South-Kazakhstan region, Shymkent, str. Kapal Batyra, zone «Ondiristik», area 168  
Phone: +7 (7252) 39 42 80  
E-mail: spirit-kaz@mail.ru  
http://spirit-kaz.kz |
| LLP «EuroKristall»          | Address: 160000, South-Kazakhstan region, Shymkent, Industrial zone «Ontustik», area 130  
Phone: +7 (7252) 43-92-05, 43-91-63, 43-91-82  
E-mail: info@eurocrystal.kz  
http://eurocrystal.kz |

Reference source: websites of companies, media data
<table>
<thead>
<tr>
<th>Name</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLP «Harvest»</td>
<td>Address: Almaty, Satpaeva str., 88 A/1, office 34&lt;br&gt;Phone: +7 (727) 327-66-86&lt;br&gt;E-mail: <a href="mailto:maksat.kaz@gmail.com">maksat.kaz@gmail.com</a>&lt;br&gt;<a href="http://agrochemicals.kz">http://agrochemicals.kz</a>&lt;br&gt;Sueubaev Maksat, CEO</td>
</tr>
<tr>
<td>Equipment for food industry</td>
<td></td>
</tr>
<tr>
<td>LLP «RDSERVICE»</td>
<td>Address: 010000, Astana, Arsanai str., 7&lt;br&gt;Phone: +7 (701) 288-48-44, (717) 262-57-54&lt;br&gt;E-mail: <a href="mailto:denis_rds@mail.com">denis_rds@mail.com</a>&lt;br&gt;<a href="https://rdservice.satu.kz">https://rdservice.satu.kz</a>, <a href="https://rdservice.all.biz">https://rdservice.all.biz</a>&lt;br&gt;Denis, CEO</td>
</tr>
<tr>
<td>Equipment for food industry</td>
<td></td>
</tr>
<tr>
<td>LLP «TechnoAgroServis»</td>
<td>Address: Almaty, Ratusnogo str., 80, office 28&lt;br&gt;Phone: +7 (702), 158-53-03, (727) 294-15-62&lt;br&gt;E-mail: <a href="mailto:info@tass.com">info@tass.com</a>&lt;br&gt;<a href="https://tass.kz">https://tass.kz</a>&lt;br&gt;Pogrebniyak Anatoliy, CEO</td>
</tr>
<tr>
<td>Climatic equipment</td>
<td></td>
</tr>
</tbody>
</table>
## ADDENDUM 2

### List of key exhibitions in Russia, Kazakhstan and Belarus

*The table shows annual exhibitions, so the dates are almost the same for years.*

<table>
<thead>
<tr>
<th>Name</th>
<th>Place</th>
<th>Time</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RUSSIAN FEDERATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russian Agroindustrial Exhibition «Golden Autumn»</td>
<td>Central Exhibition Complex &quot;Expocenter&quot;, Moscow</td>
<td>10.10.2018 - 13.10.2018</td>
<td>Address: Krasnopresnenskaya embankment., 14, Moscow, 123100 Phone: +7 (495) 256 80 48, (495) 740 61 05 E-mail: <a href="mailto:info@rotexpo.ru">info@rotexpo.ru</a> <a href="http://goldenautumn.moscow/">http://goldenautumn.moscow/</a></td>
</tr>
<tr>
<td>«YugAgro»</td>
<td>Exhibition Complex &quot;Expograd Yug&quot;</td>
<td>20.11.2018-23.11.2018</td>
<td>Address: Krasnodar, ul. Congressnaya, 1, exhibition pavilion №2 Phone: +7 (861) 200-12-34 E-mail: <a href="mailto:veligurova@krasnodarexpo.ru">veligurova@krasnodarexpo.ru</a> <a href="http://www.yugagro.org/ru-RU">http://www.yugagro.org/ru-RU</a></td>
</tr>
<tr>
<td>«WorldFood Moscow»</td>
<td>Central Exhibition Complex &quot;Expocenter&quot;, Moscow</td>
<td>17.09.2018-20.09.2018</td>
<td>Address: Krasnopresnenskaya embankment., 14, Moscow, 123100 Phone: +7 (499) 750-08-28 E-mail: <a href="mailto:worldfood@ite-expo.ru">worldfood@ite-expo.ru</a> <a href="http://www.world-food.ru/en-GB/">http://www.world-food.ru/en-GB/</a></td>
</tr>
<tr>
<td>International Exhibition of Equipment, Machines and Ingredients for Food and Processing Industry «Agroprod mash»</td>
<td>Exhibition of Achievements of the National Economy (VDNKh), Moscow</td>
<td>08.11.2018 - 12.11.2018</td>
<td>Address: Prospect Mira, 119, Moscow Phone: +7 (495) 974-34-05 Fax: +7 (495) 609-41-68 E-mail: <a href="mailto:piskareva@expocentr.ru">piskareva@expocentr.ru</a> <a href="http://www.agroprod">http://www.agroprod</a> mash-expo.ru/</td>
</tr>
<tr>
<td>International Exhibition of Packaging Industry «RosUpack»</td>
<td>«Crocus Expo», Moscow</td>
<td>18.06.2019 - 21.06.2019</td>
<td>Address: International Street, 16, Krasnogorsk, Moscow Region, 143401 Phone: +7 (499) 750-08-28 E-mail: <a href="mailto:rosupack@ite-expo.ru">rosupack@ite-expo.ru</a> <a href="http://www.ro">www.ro</a> supack.com</td>
</tr>
<tr>
<td>«The greenhouse market of Russia»</td>
<td>Exhibition of Achievements of the National Economy (VDNKh), Moscow</td>
<td>06.06.18 – 08.06.18</td>
<td>Address: Prospect Mira, 119, Moscow, pavilion №75 Phone: +7 (499) 178-0159, +7 (495) 651-0839 <a href="https://expo.vdnh.ru/calendar/gostevye-proekty/zashchishchennyy-grunt-rossii-2018/">https://expo.vdnh.ru/calendar/gostevye-proekty/zashchishchennyy-grunt-rossii-2018/</a></td>
</tr>
<tr>
<td>International Agroindustrial Exhibition-Fair «Agrorus»</td>
<td>“EXPOFORUM”, St. Petersburg</td>
<td>21.08.2018 - 24.08.2018</td>
<td>Address: St. Petersburg, Petersburg Highway 64/1 Phone: +7 (812) 240 40 40 E-mail: <a href="mailto:s.yurchenko@expoforum.ru">s.yurchenko@expoforum.ru</a> <a href="http://agrorus.expoforum.ru/main">http://agrorus.expoforum.ru/main</a></td>
</tr>
</tbody>
</table>

### KAZAKHSTAN

<table>
<thead>
<tr>
<th>Date</th>
<th>Name, place, brief description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.12.2017</td>
<td>International Agroforum «Agropark Kulan. The future of Kazakhstan gardening» Taraz Speakers:</td>
</tr>
<tr>
<td></td>
<td>• representatives of KazAgro,</td>
</tr>
<tr>
<td></td>
<td>• producers of fresh fruits of Kazakhstan,</td>
</tr>
<tr>
<td></td>
<td>• state-owned companies, local executive bodies,</td>
</tr>
<tr>
<td></td>
<td>• head of the kennel ARNO (Poland),</td>
</tr>
<tr>
<td></td>
<td>• director of «Soldrip» (Poland),</td>
</tr>
<tr>
<td></td>
<td>• representative of the company «Nelios» (Italy),</td>
</tr>
</tbody>
</table>
• an expert on fruit and berry crops and grapes of the Competence Center of the Scientific and Production Enterprise «Atamek»
• KazNII Fruit Growing and Viticulture (Kazakhstan),
• General Director of «Arno Group» (Kazakhstan),
• Professor of the Research Institute of Horticulture in Skierniewice (Poland).

16.03.2018
AgriTek/FarmTek Astana - 2018
Astanä
13th International specialized agricultural exhibition
http://agriastana.kz/ru/

24-26.10.2018
KazAgro. KazFarm – 2018
Astanä
International exhibition of agriculture and food industry

Thematic sections of the exhibition:
• Agricultural machinery and spare parts.
• Crop production: crops, genetics, selection, varieties, seeds, fertilizers, agrochemistry.
• Irrigation and drainage.
• Harvesting and storage.
• Packaging equipment and materials.
• Agricultural construction, warehouses.
• Hothouse economy, horticulture.
• Biotechnology, quality control of agricultural raw materials and products.
• Equipment for food and processing industry.
• Agricultural science, education, publications.

31.10-02.11.2018
AgroWorld Kazakhstan - 2018
Almaty
13rd Central Asian International Exhibition «Agriculture»

31.10-02.11.2018
WorldFood Kazakhstan - 2018
Almaty
21st Central Asian International Exhibition «Food industry»

21.11-23.11.2018
AgriTek Shymkent - 2018
Shymkent
7th International specialized exhibition of agriculture in Southern Kazakhstan

31.10.-02.11.2018
KazUpack – 2018
Almaty
16th Kazakhstan international exhibition «Packaging, label and printing»

29-31.05.2019
InterFood Astana 2019
Astanä
Kazakhstan international exhibition «Foodstuffs, Drinks, Ingredients, Packaging And Equipment For Food Industry»

Different companies organize seminars, forums. For example,

1. Ministry of Agriculture of the Republic of Kazakhstan
Non-commercial joint-stock company «National Agrarian Research and Education Center»
LLP «Kazakh scientific research institute of fruit growing and viticulture»

INTERNATIONAL SCIENTIFIC AND PRACTICAL FORUM FOR AGRARIES "FUTURE GARDENING OF KAZAKHSTAN"

FTC Equity became the organizer of this forum.

http://kazniipiv.kz/ru/post/31

2. LLP «Trading house «Darkan Dala»

One of the largest Kazakhstani suppliers of mineral fertilizers and plant protection products organizes seminars with leading Russian suppliers of fertilizers and agricultural machinery since 2017. The event in January 2018 involved LTD «PhosAgro-Region» (the «PhosAgro Group») and «Rostselmash» with the support of the International Plant Nutrition Institute (IPNI).
<table>
<thead>
<tr>
<th>Event</th>
<th>Details</th>
<th>Date</th>
<th>Address</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belagro 2017 - international agricultural exhibition. Sections of the exhibition - Belproduct, - Prodmash.Holod.Upak - Food Industry</td>
<td>Minsk, «Globus Park», Trade and Logistics Center</td>
<td>04.06.2019 - 09.06.2019</td>
<td>Minsk district, Shchomylitsa, 28, 3rd km from MKAD Minsk-Brest</td>
<td>Phone / Fax: +37517 226 91 33 E-mail: <a href="mailto:belagro@telecom.by">belagro@telecom.by</a> <a href="http://belagro.minskexpo.com/">http://belagro.minskexpo.com/</a></td>
</tr>
</tbody>
</table>

*Reference source: websites, media data*