



Executive group:

Project Supervisor

Kateryna

Melashchenko

Kateryna.Melashchenko@kleffmann.com

Project Manager

Yevheniia Slozka

Analyst of official
statistics

Nadia Ghazali

Nadia.Ghazali@kleffmann.com

Expert in floriculture –
Irina Byelobrova, the
President of
Association of
Ukrainian Florists

Legal consultant –
Roman Hrab, UCAB

Initiated by the
Netherlands Embassy
in Ukraine in the
framework of the
program Private Sector
Development

Market study: Ukrainian floricultural and ornamental sector Full report

Kyiv 2019



Content

1. Introduction	6
1.1. Study objectives and methodology	6
1.2. Characteristics of the segment of the market	11
2. Official statistics	16
2.1. Export from Ukraine	16
2.1.1. World's export	16
2.1.2. Countries of Export from Ukraine	17
2.1.3. Potential markets	20
2.1.4. Product categories of export from Ukraine	22
2.1.5. Key Exporters from Ukraine: Floriculture	24
2.1.6. Key Exporters from Ukraine: Ornamental Plants	25
2.2. Official Statistics. Import to Ukraine	25
2.2.1. Product categories of import to Ukraine	27
2.2.2. Key Importers to Ukraine: Floriculture	32
2.2.3. Key Importers to Ukraine: Ornamental Plants	34
2.3. Official Statistics. Local Production	35
3. Legal framework of Wholesale and Retail Distribution of Floricultural and Ornamental Plants in Ukraine	37
3.1. Receiving Land Plots for Growing Ornamental Plants in Ukraine	37
3.2. Registration of Rights on Plant Variety in Ukraine	40
3.3. Protection of the Breeders' Rights on Plant Variety	44
3.4. Customs Clearance. Requirements and List of Import Documents	46
3.5. Phytosanitary Requirements for Import to Ukraine	52
3.6. Threats to Producers/Importers due to Non-Compliance of Ukrainian and EU legislation	55
3.7. Taxation	57
3.8. Procedure of Foreign Investments	64
3.9. List of Public Authorities Who Have Particular Functions in the Sector, from the Review on the Research Problem	69
4. Floricultural and Ornamental Markets. Detailed description of each Category	71
4.1. Cut Flowers. Market Volume	71
4.1.1. Product Range. The Most Demanded Flower Varieties	72
4.1.2. Seasonality of Demand	<u>7978</u>

4.1.3. Quality criteria of cut flowers.....	8180
4.1.4. Transportation and storage	8483
4.1.5. Import Structure	8584
4.1.6. Import and Local Production	8786
4.2. Potted Plants	8988
4.2.1. Market Volume	9088
4.2.2. Product Range	9089
4.2.3. Local Proportion and Import.....	9190
4.2.4. Structure of Import	9291
4.2.5. Seasonality of demand	9493
4.2.6. Quality Criteria of Potted plants	9493
4.2.7. Conditions for storage and transportation of potted plants	9695
4.3. Planting Material: Seed, Bulbs, Seedlings.....	9796
4.3.1. Market Volume	9796
4.3.2. Product Range	9897
4.3.3. Proportion of Import and Local Production.....	10099
4.3.4. Structure of Import: Countries and Imported Planting Material.....	102101
4.3.5. Seasonality of Demand.....	102101
4.3.6. Quality of Planting Material	103102
4.3.7. Conditions for Logistics and Storage	107106
4.4. Ornamental Plants	110108
4.4.1. Market Volume	110108
4.4.2. Product Range	112110
4.4.3. Proportion of import and local production	113111
4.4.4. Structure of Import: Countries and Categories	114112
4.4.5. Quality Criteria: Ukrainian and Imported Plants	116114
5. Local Production of Cut Flowers and Ornamental Plants	120118
5.1. Ornamental Plants Cultivated in Nurseries	120118
5.1.1. The Largest Nurseries in Ukraine	120118
5.1.2. Formation of Product Range.....	121119
5.1.3. Growing ornamental plants in the nurseries	124122
5.1.4. Storage and Transportation	126124
5.1.5. Cooperation Between Nurseries.....	127125
5.1.6. Difference from Foreign Nurseries	128126
5.1.7. Problems which Nurseries Face.....	129127
5.2. Local Proportion of Cut Flowers	134132
5.2.1. Top Producers of Cut Flowers.....	134132
5.2.2. Varieties of Cut Flowers Produced in Ukraine.....	136134

5.2.3. Growing Technology	138136
5.3. Local Production of Potted Plants.....	143144
5.3.1. Producers of Potted Plants	143144
5.3.2. Product Range of Potted Plants Producers.....	145142
5.3.3. Cultivation Technologies of Potted Plants	147144
5.4. Local Production of Planting Material.....	148145
6. Distribution of ornamental plants, planting material and cut flowers	151148
6.1. General Information on Distribution of Ornamental plants and Cut Flowers	151148
6.2. Distribution Structure	154151
6.3. Distribution of Cut Flowers	155152
6.4. Distribution of Potted Plants.....	156153
6.5. Distribution of Planting Material.....	157154
6.6. Distribution of Ornamental Plants.....	159155
6.6.1. The Biggest Garden Centers.....	161157
6.6.2. Product Range in the Garden Centers	162158
6.6.3. Client Structure of Garden Centers	163159
6.6.4. Problems the Garden Centers Face	165161
7. Export	167162
7.1. Export of Ornamental Plants.....	167162
7.1.1. Export Strategy	167162
7.1.2. Advantages of Ukrainian Production of Ornamental Plants	168163
7.1.3. Export Barriers for Ukrainian products.....	171165
7.1.4. Prospects for the export of ornamental plants.....	173167
7.2. Export of Cut Flowers.....	175168
7.2.1. Strengths of Ukrainian Cut Flowers	175168
7.2.2. Weaknesses of Ukrainian Cut Flowers	175168
7.2.3. Export Opportunities of Ukrainian Cut Flowers	177170
8. Problems of importers.....	177170
9. Future Development Forecast	180173
9.1. Last Year's Trends.....	180173
9.2. Forecast for the Future.....	187180
9.3. Possible State Support of Floricultural and Ornamental Markets	191184
10. Cooperation with the Netherlands.....	194187
10.1. Existing Cooperation	194187
10.2. Opportunities to Start Cooperation	196189
10.3. Possibilities of Cooperation with Nurseries in the Netherlands	197190
10.4. Possible Support from the Embassy of the Kingdom of the Netherlands	198191
Annex 202195	



Events in Ukraine: Ornamental Plants	<u>202195</u>
Events in Ukraine: Floricultural and Ornamental Markets	<u>203196</u>
The List of Key Companies in Each Sector	<u>204197</u>
Cut flowers	<u>204197</u>
Planting material	<u>205198</u>
Potted plants	<u>206199</u>
Ornamental plants	<u>207200</u>
Product Range Analysis.....	<u>209202</u>

1. Introduction

1.1. Study objectives and methodology

The market study has been initiated by Embassy of the Kingdom of the Netherlands in Ukraine in the framework of Private Sector Development program (PSD).

The **main objective** of the study is to obtain information and insight on the floricultural and ornamental sector of Ukraine, its development, business opportunities and challenges. An **additional study objective** is to get information in order to start a dialogue with Ukrainian authorities on improving climate for business development in the sector and removing trade barriers.

The study:

- describes current situation on the market of flowers and ornamental plants in Ukraine;
- defines key players in each product group;
- analyzes current legislation including land market, registration of varieties, protection of the breeders' rights, etc.;
- analyzes available statistic data on international trade of Ukraine of flowers, ornamental plants and planting material;
- distinguished possibilities for market development in Ukraine;
- defines opportunities and challenges for Dutch-Ukrainian cooperation;

The **subject** of the study is the floricultural and ornamental market in Ukraine.

The product groups analyzed in the study:

- 1) cut flowers;
- 2) planting material (seed, bulbs, seedlings);
- 3) potted plants (indoor);
- 4) ornamental plants (shrubs, trees and other plants for landscape design).

Problem description: currently, there is no systematic and open information on the Ukrainian market of flowers and ornamental plants. At the same time the market operators observe significant improvements in the sector since political and economic crisis in Ukraine of 2014.

Over the last two years the market of flowers and ornamental plants has begun to grow and shows a gradual development in local production, trade and consumer demand. These positive changes have contributed to the growing interest to Ukrainian market from the Dutch and international suppliers of floricultural and ornamental sector. The Netherlands is the main supplier to Ukraine of flowers and ornamental plants, the country takes the leading position in the supply of the technologies and equipment for local production.

The Netherlands, as well as Poland and Belarus are also an important import partner of Ukraine, where to the locally produced flowers and ornamental plants are supplied.

But along with positive changes, market development is influenced by a number of factors:

- Closure of the Russian market and trade cessation, which is the reason why exporters of Ukrainian products are considering other markets for cooperation, among which are countries of the European Union.
- Problem with registration of plant varieties and protecting the breeders' rights, due to a lack of compliance with EU standards.
- Big number of small and non-professional local producers (household) in the sector causes lack of transparency, low quality of domestic products and irregular supplies. Insufficient role of local sector organizations in sector lobby and development, poor interactions and communication of market players.
- Trade barriers caused by bureaucracy, inefficient customs procedures, corruption.

Despite visible challenges the Ukrainian market is very promising for the Dutch. This market study will help all interested companies from the Netherlands to understand the peculiarities of Ukrainian market and to use the existing opportunities for developing cooperation and

partnership with Ukrainian companies.

Study methodology and tools:

- **Desk research:**
 - analysis of open sources of information: trade statistics for 2015-2017 (statistics for 2018 will be available from April 2019);
 - analysis of legislation;
 - analysis of information from the official sites, catalogues, promo materials of the key market players.
- **Expert interviews** with representatives of the sector;
- **Attending specialized events**, trade shows and conferences, analysis of expert reports and opinions:
 - Green Conference 2017, International conference on ornamental plants (December 2017);
 - Flower Expo 2018 (April 2018);
 - Bus tour across Ukrainian nurseries (July 2018);
 - Garden Festival (August 2018).

While visiting the events and trade shows the observation maps aimed on the analysis of the product range available on the market have been filled in. In total 26 experts have been interviewed and 7 observation maps have been completed.

The interviewed experts are the representatives of the key companies from every product category of the sector, they have long-time experience in local and international flower business and their opinions and views reflect the current state of affairs in Ukrainian floricultural and ornamental sector. Some respondents expressed their expert opinion in several categories of products:

- 2 representatives of field-specific associations, namely Ukrainian Florist's Society and Ukraine Plants Industry;

- 3 experts from the Kingdom of the Netherlands (all mostly specialize in the market of cut flowers: a supplier of roses, an importer of cut flowers and consultant for companies supplying cut flowers to Ukraine);
- 2 representatives of top logistics companies;
- 2 producers and leaders in sector of cut flowers in Ukraine and one producer who grows cut flowers in smaller volumes;
- 2 representatives of shops that sell cut flowers and provide floral services;
- 1 representative of the company-importer of cut flowers;
- 2 representatives of companies involved in the import of planting material and its wholesale trade;
- 1 representative of the company-importer of the whole product range for growing ornamental plants (cut flowers, potted plants, planting material, ornamental plants), the company is one of the leaders on the market;
- 1 representative of the largest store chains that has garden centers. The product range consists of potted plants, seeds and seedlings of flowers and ornamental plants for landscaping;
- 1 representative of the producer of potted plants;
- 6 representatives of nurseries, 1 of which also has a garden center;
- 3 representatives of garden centers;
- 3 representatives of companies providing landscape design services;
- 1 representative of the company providing plant protection services for companies that grow and sell flowers and ornamental plants.

It took 6 months to carry out all interviews due to a busy agenda and unavailability of experts: the first interview was done in mid-April 2018, and last in October of 2018.

Executors of the Market Study:

- Kateryna Melashchenko, Project Leader, Kleffmann Group Ukraine;
- Yevheniia Slozka, Project Manager and moderator of expert interviews, Kleffmann Group Ukraine;
- Nadia Ghazali, Statistical Data Analyst, Kleffmann Group Ukraine;

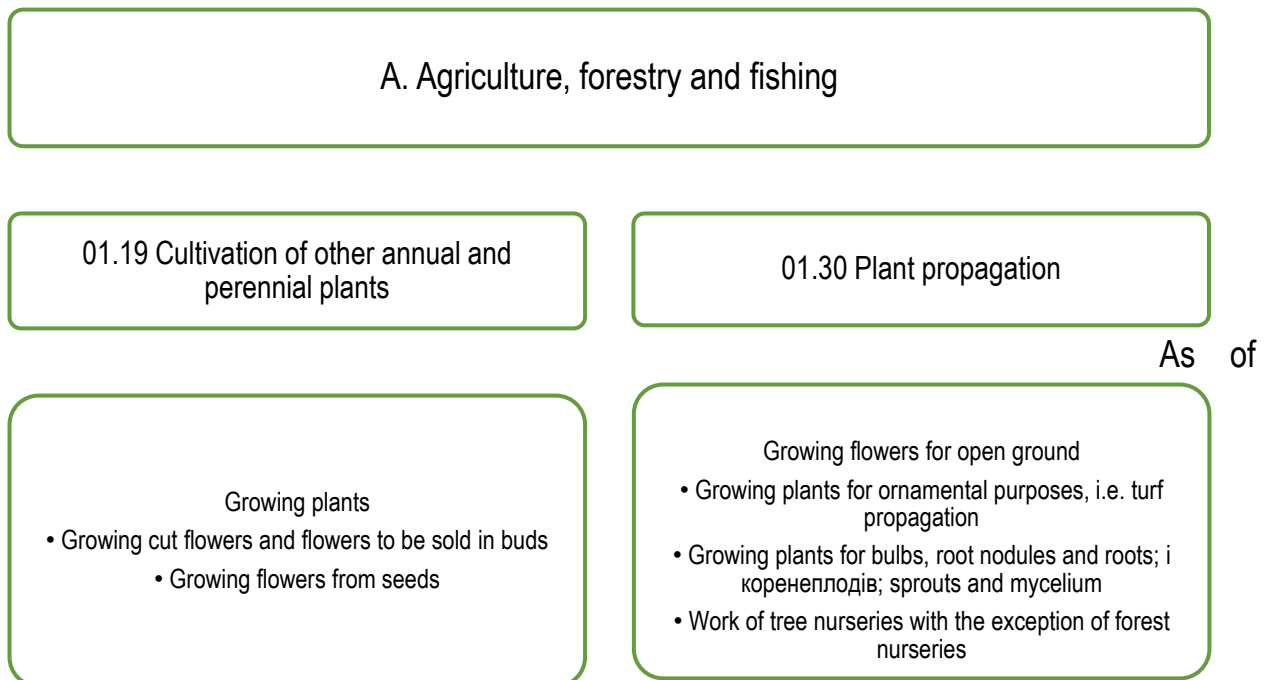
- Iryna Belobrova, President of Association of Ukrainian Florists;
- Roman Hrab, Legal Consultant, Ukrainian Agribusiness Club.

The biggest challenge for the executors of the study was establishing of personal contacts with the potential respondents and persuading them to take part in the interviews. The market of flowers and ornamental plants, like some other sectors of Ukrainian economy, is not transparent, which affected the openness of respondents, many of whom refused to cooperate and disclose information related to their business. This is the reason why the market volume is mostly estimated based on the data from open sources combined with the expert opinion and analysis of Kleffmann Group data specialists.

The provided information was approved by all the experts who participated in the study. Some experts agreed to participate in the study, provided that their identities remain anonymous, so their names are not specified.

1.2. Characteristics of the segment

Economic activities of growing flowers and plants for ornamental landscaping belongs to the section “Agriculture, forestry and fishing” in the list of Standard Industrial Classification codes that has been officially ratified in Ukraine (http://kved.ukrstat.gov.ua/KVED2010/kv10_i.html).

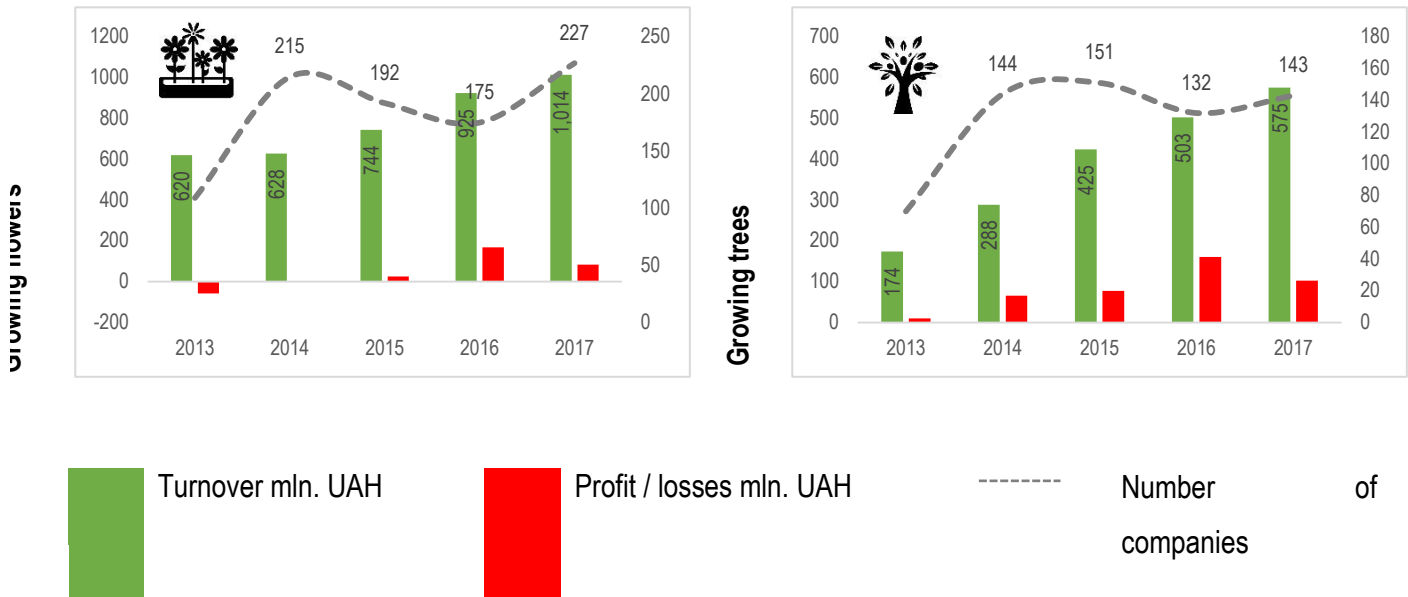


01.01.2018 there were **227** companies that provided the State Statistics Service with reports on 01.19 activity type – growing flowers, and **143** for the activity 01.30 – growing seedlings (which also includes plant cultivation for ornamental purposes).

After the crisis of 2013-2014, companies that are professionally engaged in growing flowers are gradually increasing their production, but according to official reporting, the profitability of business remains rather low; each hryvnia (1 UAH) invested in 2017 could get 0.09 UAH of profit, in 2016 this figure was 0.22 UAH per 1 UAH. Compared to the growing of shrubs and trees, the latter has a much higher profitability: in 2017 it was 0.22 UAH per 1 UAH and 0.47 UAH in 2016. The total monetary circulation of legal entities, excluding private entities, in 2017 was 1.6 billion UAH. According to data of official statistics, 72% of all registered companies that grow ornamental plants had up to 9 employees. Two companies that grow trees and shrubs have more than 100 employees.

In floriculture 91% of companies had up to 9 employees and only four companies have over 100.

Performance indicators for 2013-2017





Drop in profitability is due to rising prices for electricity, gas, the requirement of legislation to increase the minimum wage of workers.

Market Value of B2B and B2C markets

The market of floriculture and ornamental plants can be estimated using the mirror statistics on the structure of incomes and expenditures of households in Ukraine during the last two years and the first quarter of 2018 (latest available statistics for the moment of the research).

There are about 15 million households in Ukraine, the total population is over 38.5 million people. The average expenditures of one household in the first quarter of 2018 was 8 thsd. UAH, which is by 18% more than in 2017. The mean inflation rate for 2017 was 14%. Thus, the growth of household expenditures is not associated with rising incomes, but rather due to the level of inflation. The greatest amount of expenses is spent on food (50%). Expenditures for such a category as "entertainment and culture, restaurants and hotels, eating out" are only 3% (no significant changes over the three years – from 2016 to the 1st

quarter of 2018). Costs for "all other goods" are estimated at 2-2.5%, which equals **150-200 UAH**.


	2016	2017	1 qtr. 2018
Population, thsd.	38 841,9	38 697,9	38 549,7
<i>Ratio of urban to rural population, %</i>	66 / 34	66 / 34	66 / 34
 Households, thsd.	15 033,4	14 985,6	14 934,9
<i>Share of households with average income per month, UAH</i>			
 < 3 000	62	34	24
3 000,01 –	38	49	48
5 160,0	-	17	28
> 5 160			
Total cost, UAH	5 720	7 139	8 456
<i>Cost structure, %</i>			
Food products	50	51	49
Non-food goods and services	41	42	44
Non-food expenses	7	7	7

Assuming that the cost of cut flowers takes 0.5–1% from "all the rest", we will get 2 hryvnias per month, which eventually results in **350 mln. UAH** in Ukraine. It is important to understand that in the 1st quarter of 2018, 57% (56% in the 1st quarter of 2017) of households had income below the average, 28% of households had income not higher than the subsistence level, which is 3 166, 34 UAH per month per person.

Data on land use in Ukraine can be used as an additional indicator for analyzing the capacity of the

market for ornamental plants and flowers. In Ukraine, the law ensures the right of every citizen to get a land plot for free. This right is stated in the Land Code of Ukraine. The size of the plot allocated for free use depends on the purpose.

For a farm, there is a land allocation, which is controlled by a territorial community; for a subsidiary farming the area is no more than 2 ha, for gardening no more than 0,12 ha, for the construction and maintenance of a residential building it varies from 0,10 to 0,25 ha. For construction of country cottage – 0,10 ha. 73% of households, which own a land plot in rural areas, lease it out, this is the result of the collapse of the state collective farm system in 1991.

	2017	2018
 Number of households that own land plots, thsd.	8 234,4	8 175,8
<i>% to total number</i>	55%	55%
Distribution by area %		
<i>< 0,1 ha</i>	31	31
<i>0,101 – 0,5 ha</i>	31	31
<i>0,5 -1 ha</i>	9	8
<i>> 1 ha</i>	29	30

Land plots owned by households are mainly used for production of own products and for sale. It is important to mention that only 0,1% of the land area of the site is used "only for rest."

There is currently one legislative act in Ukraine <http://zakon.rada.gov.ua/laws/show/2807-15> and one normative <http://zakon.rada.gov.ua/laws/show/z0880-06>, adopted in 2006, that regulates the provision of urban amenities and rules for the maintenance of land plots. Greening and maintaining green spaces in cities and towns is the responsibility of the relevant departments in local state administrations.

There is a strategy for increasing the number of green spaces in Kyiv (Kyivzelenbud) for 2017-2021. In 2018 it was planned to plant 140 thsd. trees and 13 mln. flowers. In 2017 there were planted 120 thsd. trees and 12 mln. flowers.

The rules for the maintenance of green spaces stipulate that planted trees should be at least 10 years old, resistant to gas pollution, smoke and dust (these should be Norway and silver maple, small-leaved and large-leaved linden). It is forbidden to plant trees with low crown and low-hanging branches (weeping types of willow, mulberry, ash and mountain ash), trees that pollute the environment with their fruits (robinia, mulberry), with a root stalks (Canadian poplar and white poplar) and ones with unacceptable odor (Amur cork tree). All green plants in cities and settlements are recorded and registered by type and age. The register of the objects of state and municipal property is made once every 2 years, on other territories – every 5 years.

According to the functional features, green spaces/plantations can be divided into three groups. The first group includes green public utilities, which are located on the territory of city and district parks, specialized parks, recreations; on the premises of zoos and botanical gardens, urban gardens and gardens of residential districts or communities; squares,

boulevards, plantations on slopes, quays, forest parks, meadow parks, water parks and others where people have a free access to rest.

The second group consists of green plantations of limited use. These are green spaces at the territories of public and residential buildings, schools, children's institutions, higher and secondary specialized educational institutions, vocational schools, health care institutions, industrial enterprises and warehouse areas, sanatoriums; as well as cultural, educational, sports and health establishments, etc.

The third group includes green spaces of special purpose. It includes plantations along transport highways and streets; in areas of sanitary protection zones around industrial enterprises; exhibitions, cemeteries and crematoria, high voltage transmission lines; there are forest improving, water- and wind-protecting, anti-erosion plantфешщты as well as nurseries, floriculture farms and off-road green spaces.

Protection, maintenance and restoration of green spaces in cities as well as the removal of trees that have grown by self-sowing, are carried out at the expense of the state or local budgets depending on the subordination (budget holder) of these objects. The maintenance of the object on land for permanent use or leased/ rented land are maintained by their owners or tenants based on the norms approved in accordance with the established procedure.

2. Official statistics

2.1. Export from Ukraine

2.1.1. World's export

The world export of the “Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage”¹ reached a value of 20,9 bn. USD in 2017. Ukraine ranks approximately the 75th and represents just 0.02% of the world exports of such products (4.0 mln. USD in 2017). The Netherlands is the largest exporter of the plants in the world with 49% by export value (see Table 1).

Table 1. Export value of the “Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage” in 2017, thsd. USD // Source: www.trademap.org

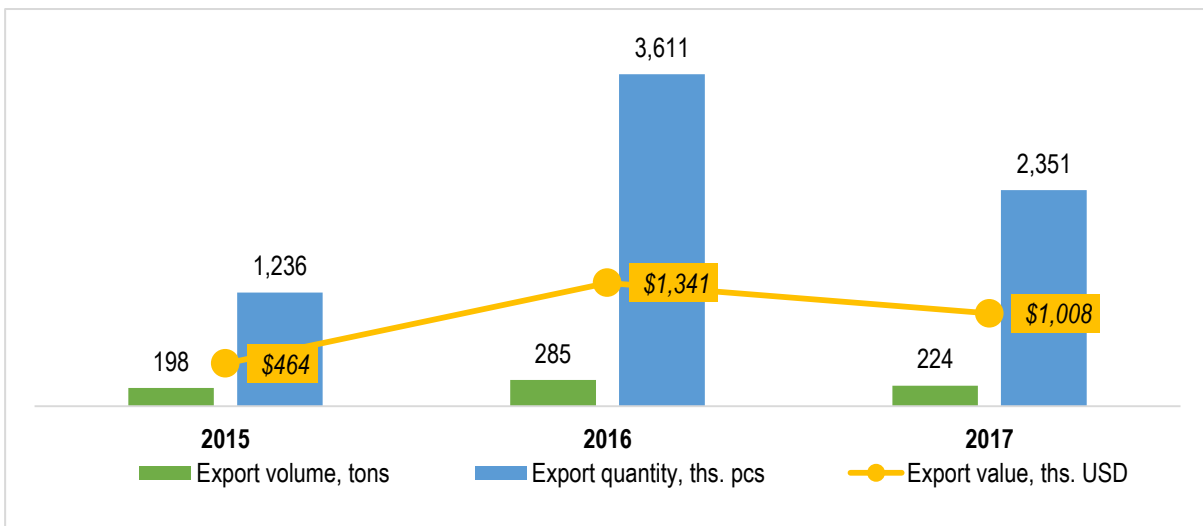
	Export value, thsd. USD	% Export value	Rank
World	20 894 721	100%	
The Netherlands	10 137 050	49%	1
Colombia	1 417 127	7%	2
Germany	1 057 083	5%	3
Italy	939 416	4%	4
Ecuador	890 537	4%	5
Belgium	605 973	3%	6
Kenya	595 627	3%	7
Denmark	491 731	2%	8
United States of America	447 246	2%	9
Spain	409 098	2%	10
<...>	<...>	<...>	<...>
Russian Federation	3 988	0,02%	74
Ukraine	3 957	0,02%	75
Tunisia	3 830	0,02%	76
<...>	<...>	<...>	<...>

¹ The article “6. Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage” includes trees and plants with various purposes of usage: floriculture, landscape design, crops cultivation etc. The actual size of the trade with ornamental trees and plants is smaller. Besides, foreign trade statistics may differ in different sources: export from country X to Y reported by country X in fact does not equal to import to country Y from X reported by Y.

2.1.2. Countries of Export from Ukraine

As for the floriculture and ornamental plants (plants for ornamental purposes), Ukraine's export amounted to 1008 thsd. USD in 2017. Which is more than in 2015 (464 thsd. USD) however less than in 2016 (1 341 thsd USD).

Figure 1. Ukraine's export of the floriculture and ornamental plants, 2015-2017 // Source: State Fiscal Service

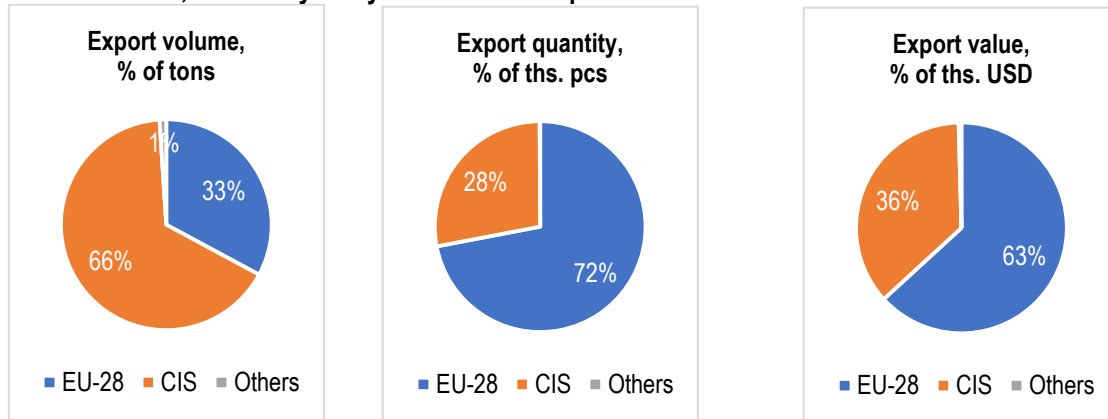


of Ukraine, data analysis by Kleffmann Group Ukraine

Ukrainian export of the floriculture and ornamental plants is not diversified geographically as there are only two regions and just 8 countries in 2017 where Ukraine was exporting floriculture and ornamental plants. Ukrainian exporters are mainly focused on the markets of the European Union which absorbed 63% of the Ukraine's export value in 2017. Markets of the CIS countries² is another destination accounting for 36% of Ukraine's export in 2017.

² CIS includes 11 ex-USSR republics. Apart from Ukraine, they are Azerbaijan, Belarus, Kazakhstan, Moldova, Uzbekistan (which Ukraine exported to in 2017), and Armenia, Russia, Kyrgyzstan, Tajikistan, Turkmenistan (which Ukraine did not export to in 2017).

Figure 2. Ukraine's export of the floriculture and ornamental plants by regions, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine



In 2017 Poland and Belarus were the key destinations of the floriculture and ornamental plants from Ukraine having received 59% and 30% respectively of the export value. Belarus is used as an intermediate link in order to supply plants from Ukraine to the Russian Federation: overwhelming share of the plants from Belarus (99% of the export value³) is then exported to the Russian Federation. Poland receives plants from Ukraine and grows them within the country. Poland supplies the plants mainly to the Russian Federation (27% of the exported value), the Netherlands (15%) and Germany (12%).

The Netherlands is the 3rd country of destination by export quantity: Ukraine supplied to NL ornamental roses mainly. Germany bought from Ukraine dried mosses and lichens on 5,6 thsd. USD. These two countries – the Netherlands and Germany – are also the largest importers of the ornamental plants in the world (as of 2017⁴). Other countries Ukraine traded in 2017 are niche importers of the ornamental plants.

Uzbekistan is the top of counties of destination by export volume (шт 2017): it purchased from Ukraine heavy-weight seedlings of the conifers.

³ Trademap.org

⁴ In 2017 Germany imported trees and plants ("6. Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage") on 3,2 bn. USD (16,7% of the world's import) and the Netherlands – on 2,4 bn. USD (12,2%) // Source: www.trademap.org.

Table 2. Ukraine's export of the floriculture and ornamental plants by countries of destination⁵, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

	Export volume			Export quantity			Export value		
	Tons	%	Rank	Thsd. pcs	%	Rank	Thsd. USD	%	Rank
Total	224,2	100%		2 350,8	100%		1 008,2	100%	
Poland	64,3	29%	2	1 233,2	52%	1	593,7	59%	1
Belarus	28,6	13%	3	553,5	24%	2	297,6	30%	2
Uzbekistan	95,3	42%	1	1,6	0,1%	6	38,9	4%	3
Netherlands	9,2	4%	5	459,4	20%	3	37,8	4%	4
Azerbaijan	3,9	2%	6	100,2	4%	4	26,6	3%	5
Germany	0,2	0,1%	8	n/a	n/a	n/a	5,6	1%	6
Georgia	2,3	1%	7	1,8	0,1%	5	4,2	0,4%	7
Moldova	20,4	9%	4	1,1	0,05%	7	3,7	0,4%	8

We also observe a significant shift in the export by countries of destination: after a huge increase in 2016 (+189%), a decrease followed (-25%). The positive shift in 2016 mainly happened due to tremendous increase of export to Belarus, besides Ukraine has improved export with other countries such as Poland, the Netherlands and Uzbekistan. However, in 2017 Ukraine did not manage to keep its export on the level of 2016 and supplied much less plants to partners. Ukraine tends to lose partnering countries in its export business: 13 countries in 2015 vs. 8 in 2017.

Table 3. Ukraine's export value of the floriculture and ornamental plants by countries of destination⁶, 2015-2017, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Export value, thsd. USD	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
Total	463,5	1 341,3	1 008,2	189%	-25%
Poland	289,8	624,0	593,7	115%	-5%
Belarus	17,7	407,4	297,6	2204%	-27%
Uzbekistan	41,3	62,1	38,9	51%	-37%
Netherlands	55,9	178,7	37,8	220%	-79%
Azerbaijan	-	-	26,6		New mkt
Germany	22,7	-	5,6	Lost mkt	Renewed mkt
Georgia		49,1	4,2	New mkt	-91%
Moldova	4,6	3,6	3,7	-21%	4%
Kazakhstan	-	10,8	-	New mkt	Lost mkt
Lithuania	-	2,8	-	New mkt	Lost mkt
Iraq	-	2,6	-	New mkt	Lost mkt
Hungary	-	0,03	-	New mkt	Lost mkt
Hong Kong	9,4	-	-	Lost mkt	Lost mkt
United States	8,1	-	-	Lost mkt	Lost mkt

⁵ Country of destination is a country where a shipment is meant to be finally offloaded from its carrier.

⁶ Country of destination is a country where a shipment is meant to be finally offloaded from its carrier.

Malaysia	5,8	-	-
Bulgaria	4,4	-	-
Austria	2,2	-	-
Romania	1,5	-	-
Japan	0,2	-	-

Lost mkt	Lost mkt
Lost mkt	Lost mkt
Lost mkt	Lost mkt
Lost mkt	Lost mkt
Lost mkt	Lost mkt

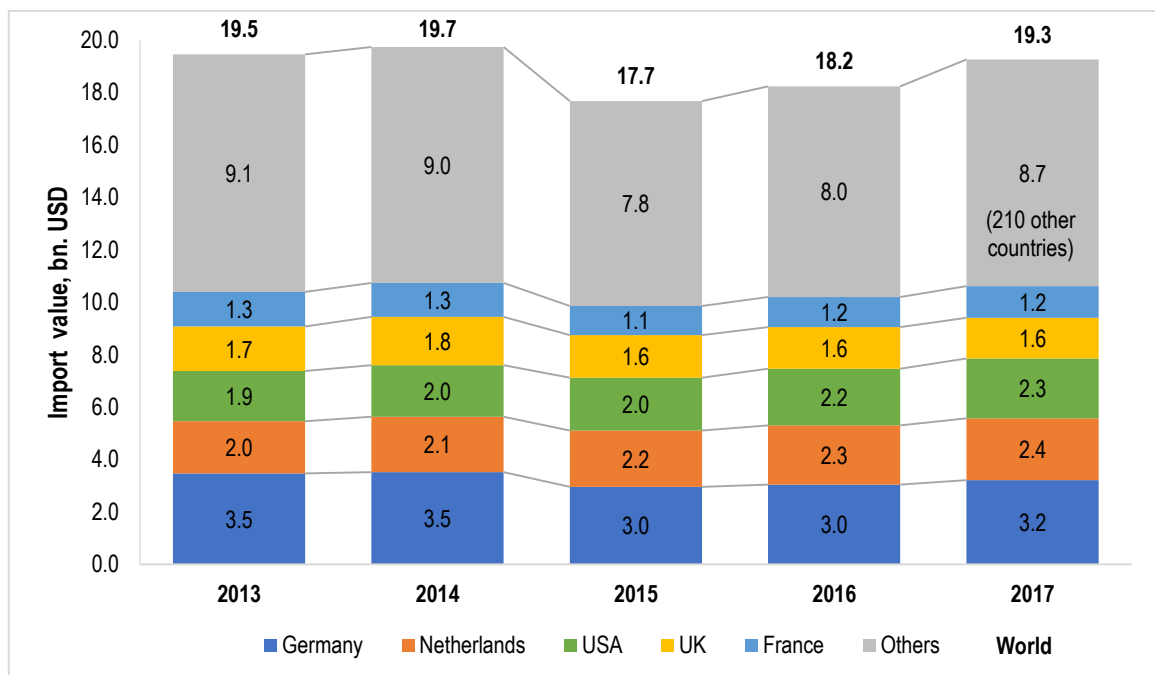
Number of countries of destination	13	10	8
------------------------------------	----	----	---

-3	-2
----	----

2.1.3. Potential markets

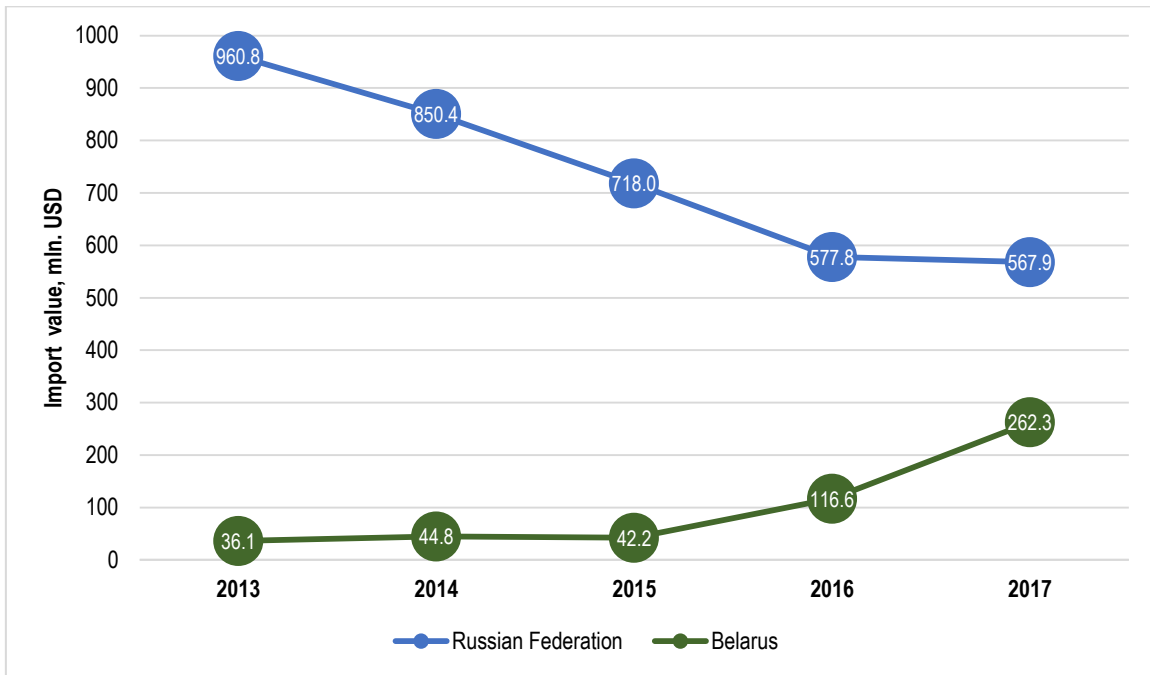
World's plant market is not concentrated: total share of the top-5 world's importers is about 55% (as of 2017). The Netherlands and the USA show a steady increase of the plants import since 2013 which indicates an increasing demand on flowers in these countries.

Figure 3. Top-5 importers of the trees and plants in the world by import value, 2013-2017, bn. USD // Source: www.trademap.org



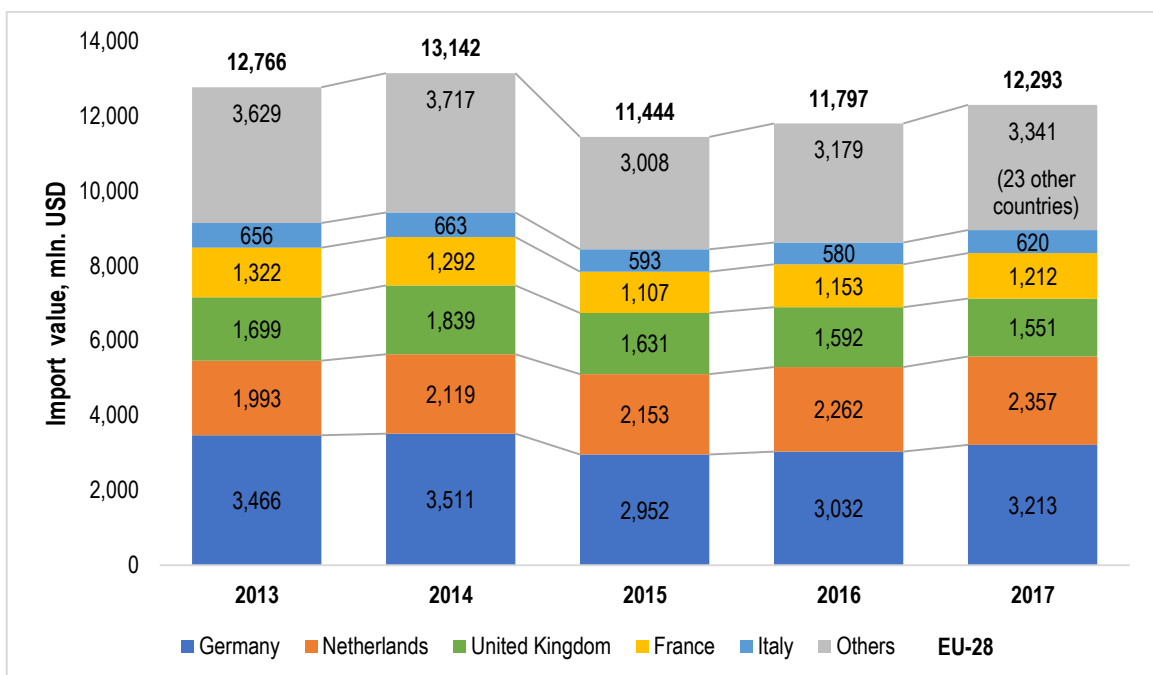
As for regional specifics, Russia is losing its interest in the imported plants and trees: value of the Russia's import has been declining since 2013. Belarus more than doubled its import of the trees and plants in 2017 vs. 2016 from 116,6 mln. USD to 262,3 mln. USD probably due to some re-export to Russia, which is losing its import potential.

Figure 4. Import value of the trees and plants by the Russian Federation and Belarus, 2013-2017, mln. USD // Source: www.trademap.org



European Union also increases its import value of the plants and trees since 2015 (+9% vs. 2015). The growth became possible due to Germany, the Netherlands, Italy. Despite the positive trend for the EU-28 in total, the United Kingdom decreased its demand for the plants and trees on the international markets.

Figure 5. Top-5 importers of the trees and plants in the EU-28 by import value, 2013-2017, bn. USD // Source: www.trademap.org



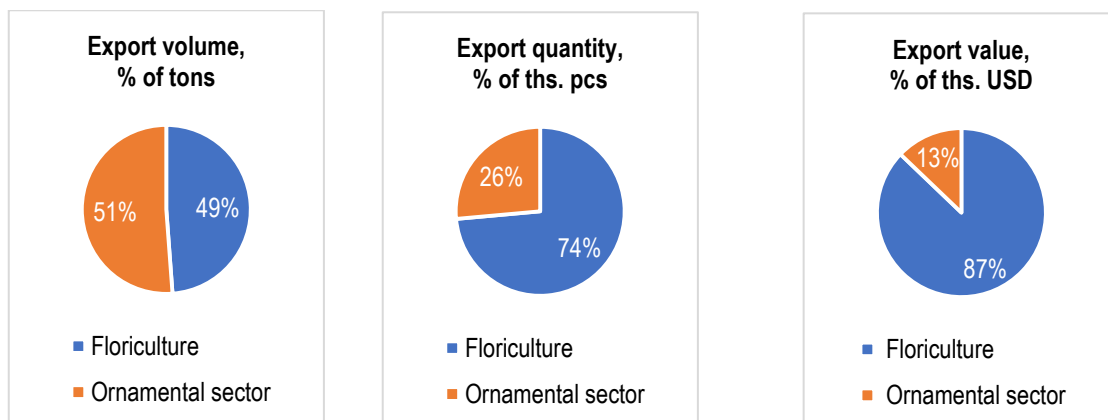
Potential export markets of interest to the Ukrainian companies:

- The Netherlands (one of the largest and growing markets, Ukrainian exporters have already experience with this market).
- The USA (one of the largest and growing markets, however the logistics is difficult due to the distance).
- Belarus (a growing market with nearby location, Ukrainian exporters already have contacts with this market).
- The European countries (a growing market with nearby location, Ukrainian exporters already have contacts with this market).

2.1.4. Sectors of export from Ukraine

As of 2017, the Ukraine's export of the category consisted mainly of floriculture products (87% of value and 74% of quantity). Ornamentals (for landscape design, gardens & other outdoor use) have only 13% of the export value but 51% in the export volume (due to heavy weight).

Figure 6. Ukraine's export of the floriculture and ornamental plants by sectors, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine



As for **floriculture plants**, the Ukrainian exporters supplied to other countries mainly fresh cut roses which constitute 98% of the export value in 2017. Export of other types of floricultural products are still to be developed , potted plants, flower bulbs etc.

Table 4. Ukraine's export value of the floriculture plants, thsd. USD, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

	Export value, thsd. USD	% export value
FLORICULTURE TOTAL	878,7	100,0%
Cut flowers	864,3	98,4%
Fresh cut roses	860,3	97,9%
Fresh cut other flowers	4,0	0,5%
Foliage	10,7	1,2%
Dried mosses and lichens	5,6	0,6%
Fresh cut parts of plants	4,8	0,5%
Fresh cut conifer branches	0,3	0,0%
Fresh cut trees (conifers)	3,7	0,4%

Ukraine exported fresh cut roses on 860 thsd. USD in 2017 and started exporting other fresh cut flowers (4 thsd. USD). The country also improved export of the foliage products such as dried mosses and lichens, conifer branches and improved export of the fresh cut parts of the plants.

Table 5. Ukraine's export value of the floriculture plants, 2015-2017, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Export value, thsd. USD	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
FLORICULTURE TOTAL	391,9	1179,6	878,7	201%	-26%
Cut flowers	354,6	1174,9	864,3	231%	-26%
Fresh cut roses	354,6	1174,9	860,3	231%	-27%
Fresh cut other flowers	-	-	4,0		New mkt
Processed cut flowers	-	0,03	-	New mkt	Lost mkt
Foliage	26,9	2,3	10,7	-91%	358%
Dried mosses and lichens	-	-	5,6		New mkt
Fresh cut parts of plants	-	2,3	4,8	New mkt	105%
Fresh cut conifer branches	-	-	0,3		New mkt
Fresh mosses and lichens	26,9	-	-	Lost mkt	Lost mkt
Fresh cut trees (conifers)	6,1	1,5	3,7	-75%	147%
Potted plants	4,4	0,8	-	-81%	Lost mkt

Export of the **ornamental plants** consists of the ornamental roses by 70% in export value, other 30% include various trees, shrubs and bushes.

Table 6. Ukraine's export value of the ornamental plants, thsd. USD, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

	Export value, thsd. USD	% export value
ORNAMENTAL PLANTS TOTAL	129,6	100,0%
Perennial flowering plants (ornamental roses)	90,6	69,9%
Trees, shrubs and bushes	38,9	30,1%

Ukraine continues to improve export of the ornamental roses: each year export value increases threefold.

Table 7. Ukraine's export value of the ornamental plants by sectors, 2015-2017, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Export value, thsd. USD	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
ORNAMENTAL PLANTS TOTAL	71,7	161,7	129,6	126%	-20%
Perennial flowering plants (ornamental roses)	8,9	28,5	90,6	222%	217%
Trees, shrubs and bushes	62,8	123,1	38,9	96%	-68%
Other trees, shrubs and bushes	59,0	122,0	38,9	107%	-68%
Ornamental fruit trees		1,1		New mkt	Lost mkt
Ornamental rhododendrons and azaleas	3,8			Lost mkt	Lost mkt
Other plants		10,0			

2.1.5. Key Exporters from Ukraine: Floriculture

Table 8. Top exporting companies from Ukraine in the floriculture sector, based on the export value // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

FLORICULTURE / Cut flowers / Fresh cut roses			
№	English title	Ukrainian title	Key facts
1.	Ascania-Flora	ТОВ Асканія-Флора	Producer of roses from the Kyiv region; website: ascania-flora.ua
2.	Camellia	ТОВ Камелія-PR	Importer, producer and exporter of flowers from the Kyiv region; has own branded network of flower shops "Camellia"; website: camellia.ua
FLORICULTURE / Cut flowers / Fresh cut other flowers			
1.	Floria Ukraine	ТОВ Флорія Україна	Producer and wholesaler of the gerbera flowers from Rivne region; website: www.gerbera.in.ua
FLORICULTURE / Foliage			
1.	FOP Kish Alan Sergiyovich	ФОП Кіш Алан Сергійович	Exporter from the Zakarpattia region
2.	Kornelis	ІП Корнеліс	Foreign enterprise from the Zhytomyr region; website: www.kornelis.biz
FLORICULTURE / Fresh cut trees (conifers)			
1.	FOP Zvyagolsky Denys Dmytrovych	ФОП Звягольський Денис Дмитрович	Exporter from the Chernivtsi region
2.	State enterprise "Yasinianske lisomyslyvske gospodarstvo"	ДП «Ясінянське лісомисливське господарство»	A state enterprise from the Zakarpattia region; Forestry and related services; website: yasinya-lmg.org.ua

2.1.6. Key Exporters from Ukraine: Ornamental Plants

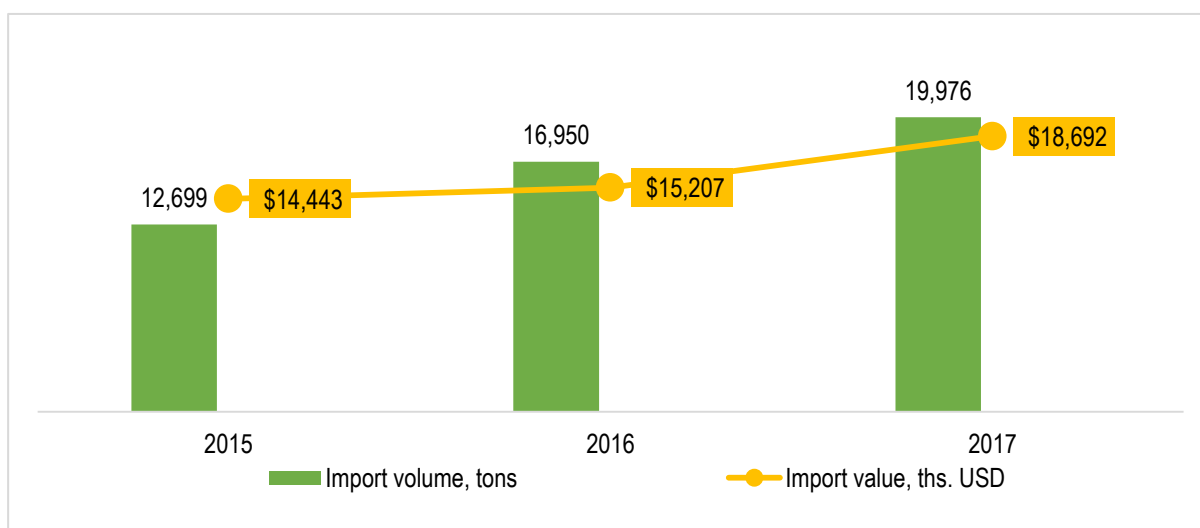
Table 9. Top exporting companies from Ukraine in the ornamental plants sector, based on the export value // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

ORNAMENTAL PLANTS / Ornamental roses			
No	English title	Ukrainian title	Key facts
1.	Kornelis	ІП Корнеліс	Foreign enterprise from the Zhytomyr region; website: www.kornelis.biz
2.	Nova Hvylya	ПВП Нова Хвиля	Company from the Chernihiv region; sale of food products for export
3.	Dekoplant	ТОВ Декоплант	The Ukrainian-Dutch enterprise from the Vinnytsia region; producer of the ornamental roses and other plants; website: www.dekoplant.com.ua
ORNAMENTAL PLANTS / Trees, shrubs and bushes			
1.	Duan-K	ТОВ Фірма «Дуан-К»	Enterprise from the Kharkiv region; Forestry and related services

2.2. Official Statistics. Import to Ukraine

Ukraine's imported floriculture and ornamental plants (that is excluding plants for crop cultivation) on 18,7 mil. USD in value and 20,0 mil tons in volume in 2017. The trend is positive: import volume increased by 18% and import value by 23% in 2017 compared to the previous 2016 year. The negative trade balance continues to prevail, Ukraine imports far more of the floriculture and ornamental plants than exports.

Figure 7. Ukraine's import of the floriculture and ornamental plants, 2015-2017 // Source: State Fiscal Service



of Ukraine, data analysis by Kleffmann Group Ukraine

Import of the floriculture and ornamental plants is not diversified geographically: 93% of the import value is accounted for the European countries.

Figure 8. Ukraine's import of the floriculture and ornamental plants by trading regions, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine



The Netherlands (as the global leader of the industry) is responsible for most of the Ukraine's import value (64%, 11,9 mil USD in 2017), Cyprus – 8%. The neighboring countries Slovakia and Poland supplied to Ukraine floriculture and ornamental plants on 1,5 and 1,1 mil USD respectively.

Table 10. Ukraine's import of the floriculture and ornamental plants by trading countries, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

	Import volume			Import value		
	Tons	%	Rank	Thsd. USD	%	Rank
Total	19 976,1	100,0%		18 692,1	100,0%	
Netherlands	11 061,9	55,4%	1	11 940,4	63,9%	1
Cyprus	2 316,5	11,6%	2	1 506,9	8,1%	2
Slovakia	1 898,7	9,5%	3	1 136,0	6,1%	3
Poland	1 016,1	5,1%	4	775,7	4,1%	4
Turkey	843,8	4,2%	6	696,9	3,7%	5
Germany	986,5	4,9%	5	633,4	3,4%	6
Belgium	359,7	1,8%	8	481,6	2,6%	7
Italy	694,7	3,5%	7	473,0	2,5%	8
United States	313,2	1,6%	9	300,3	1,6%	9
Hungary	290,0	1,5%	10	269,1	1,4%	10
Other countries	195,0	1,0%		478,9	2,6%	

The Netherlands are the key importer of the category to Ukraine, and partnership with this country continues to deepen. Cooperation with Cyprus almost doubled: from 0,8 mil USD in 2016 to 1,5 mil USD in 2017.

Table 11. Ukraine's import value of the floriculture and ornamental plants by trading countries, 2015-2017, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
Total	14 442,7	15 206,8	18 692,1	5%	23%
Netherlands	7 786,6	7 637,0	11 940,4	-2%	56%
Cyprus	664,3	773,4	1 506,9	16%	95%
Slovakia	60,2	1 454,5	1 136,0	2316%	-22%
Poland	341,3	574,1	775,7	68%	35%
Turkey	1 548,1	659,1	696,9	-57%	6%
Germany	232,3	525,5	633,4	126%	21%
Belgium	156,7	287,4	481,6	83%	68%
Italy	126,0	321,1	473,0	155%	47%
United States	2,2	493,4	300,3	22764%	-39%
Hungary	58,0	71,4	269,1	23%	277%
Other countries	3 467,0	2 409,9	478,9	-30%	-80%

2.2.1. Sectors of import to Ukraine

As of 2017, the Ukraine's import of the category consisted mainly of floriculture plants (75% of value and 71% of volume). Plants for the ornamental sector (landscape design, gardens & other outdoor use of plants) have only 25% of the import value but 29% in the import volume.

Figure 9. Ukraine's import of the floriculture and ornamental plants by sectors, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine



As for **floriculture plants**, the Ukrainian importers bought from other countries the following categories:

- Cut flowers (49% of the import value). Key flowers supplied to Ukraine are roses, chrysanthemums and carnations.

- Potted plants (29% of the import value).
- Flower bulbs (29% of the import value). Tulip bulbs are leading in the structure of the bulbs import.

Table 12. Ukraine's import value of the floriculture plants, thsd. USD, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

	Import value, thsd. USD	% import value
FLORICULTURE TOTAL	14 009,4	100,0%
Cut flowers	6 833,1	48,8%
Fresh cut roses	2 572,8	18,4%
Fresh cut chrysanthemums	1 641,1	11,7%
Fresh cut carnations	942,7	6,7%
Other flowers	1 676,6	12,0%
Potted plants	4 050,1	28,9%
Potted orchids, hyacinths, daffodils & tulips	1 334,1	9,5%
Other potted plants	2 716,0	19,4%
Flower bulbs	2 610,8	18,6%
Tulip bulbs	1 496,8	10,7%
Other bulbs	1 114,0	8,0%
Foliage	505,1	3,6%
Fresh cut parts of plants	448,0	3,2%
Other foliage	57,1	0,4%
Fresh cut trees (conifers)	10,3	0,1%

Ukraine increased import value of the fresh cut roses and chrysanthemums by 23% and 15% respectively in 2017 compared to 2016. However, import of carnations decreased probably due to lower demand within the country.

Table 13. Ukraine's import value of the floriculture plants, 2015-2017, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
FLORICULTURE TOTAL	11 953,7	12 140,8	14 009,4	2%	15%
Cut flowers	6 445,4	5 883,9	6 833,1	-9%	16%
Fresh cut roses	1 818,2	2 086,1	2 572,8	15%	23%
Fresh cut chrysanthemums	1 675,8	1 426,7	1 641,1	-15%	15%
Fresh cut carnations	1 679,6	982,5	942,7	-42%	-4%
Other flowers	1 271,8	1 388,7	1 676,6	9%	21%
Potted plants	2 947,8	3 660,3	4 050,1	24%	11%
Potted orchids, hyacinths, daffodils & tulips	1 046,9	1 088,9	1 334,1	4%	23%
Other potted plants	1 900,9	2 571,4	2 716,0	35%	6%
Flower bulbs	2 244,5	2 177,6	2 610,8	-3%	20%
Tulip bulbs	1 279,4	1 320,6	1 496,8	3%	13%
Other bulbs	965,1	857,0	1 114,0	-11%	30%
Foliage	308,0	409,4	505,1	33%	23%
Fresh cut parts of plants	270,9	363,3	448,0	34%	23%
Other foliage	37,2	46,1	57,1	24%	24%
Fresh cut trees (conifers)	7,9	9,6	10,3	21%	8%

The Netherlands is a key supplier of the various types of the floriculture plants to Ukraine being responsible for 72% of Ukraine's import value of floriculture plants.

Table 14. Ukraine's import value of the floriculture plants from the Netherlands, thsd. USD, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD The Netherlands to Ukraine	Import value, thsd. USD	% import value
FLORICULTURE TOTAL	10 065,4	100,0% <i>[71,8% of Floriculture import value]</i>
Cut flowers	4 245,7	42,2% <i>[62,1% of Cut flowers import value]</i>
Fresh cut roses	1 760,7	17,5%
Fresh cut chrysanthemums	1 012,5	10,1%
Fresh cut carnations	225,2	2,2%
Other flowers	1 247,3	12,4%
Potted plants	3 236,0	32,2% <i>[79,9% of Potted plants import value]</i>
Potted orchids, hyacinths, daffodils & tulips	1 196,6	11,9%
Other potted plants	2 039,4	20,3%
Flower bulbs	2 330,6	23,2% <i>[89,3% of Flower bulbs import value]</i>
Tulip bulbs	1 404,1	14,0%
Other bulbs	926,4	9,2%
Foliage	252,6	2,5% <i>[50% of Foliage import value]</i>
Fresh cut parts of plants	234,8	2,3%
Other foliage	17,8	0,2%
Fresh cut trees (conifers)	0,5	0,0% <i>[4,9% of Fresh cut trees import value]</i>

Import of floricultural products from the Netherlands has almost doubled in 2017 compared to 2016: from 6,7 mil USD in 2016 to 10,1 mil USD in 2017. Increase refers to all floriculture categories of plants from roses and chrysanthemums to potted plants and flower bulbs.

Table 15. Ukraine's import value of the floriculture plants, 2015-2017 from the Netherlands, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD The Netherlands to Ukraine	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
FLORICULTURE TOTAL	6 641,9	6 746,9	10 065,4	2%	49%
Cut flowers	2 922,4	2 592,5	4 245,7	-11%	64%
Fresh cut roses	1 030,9	983,5	1 760,7	-5%	79%
Fresh cut chrysanthemums	1 089,4	744,0	1 012,5	-32%	36%
Fresh cut carnations	95,4	182,6	225,2	91%	23%
Other flowers	706,6	682,4	1 247,3	-3%	83%
Potted plants	1 851,9	2 320,7	3 236,0	25%	39%
Potted orchids, hyacinths, daffodils & tulips	683,8	727,9	1 196,6	6%	64%
Other potted plants	1 168,2	1 592,8	2 039,4	36%	28%
Flower bulbs	1 735,2	1 663,2	2 330,6	-4%	40%
Tulip bulbs	930,4	1 071,4	1 404,1	15%	31%
Other bulbs	804,8	591,9	926,4	-26%	57%
Foliage	131,8	170,5	252,6	29%	48%
Fresh cut parts of plants	121,7	159,4	234,8	31%	47%
Other foliage	10,1	11,1	17,8	11%	60%
Fresh cut trees (conifers)	0,6	-	0,5	Lost mkt	New mkt

Import of the ornamental plants consists of the ornamental trees, shrubs and bushes by 61% in import value, perennial flowering plants – 19% (ornamental / outdoor roses mainly), and other plants – 21%.

Table 16. Ukraine's import value of the ornamental plants, thsd. USD, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

	Import value, thsd. USD	% import value
ORNAMENTAL PLANTS TOTAL	4 682,7	100,0%
Trees, shrubs and bushes	2 836,0	60,6%
Trees, shrubs and bushes	2 659,3	56,8%
Ornamental rhododendrons and azaleas	90,4	1,9%
Ornamental berries, grape, vegetables etc.	86,2	1,8%
Perennial flowering plants	864,4	18,5%
Ornamental roses	658,4	14,1%
Other ornamental flowers	205,9	4,4%
Other plants	982,4	21,0%

Import of the ornamental plants also increased by 53% in 2017 vs. 2016 and amounted to 4,7 mil USD. There was a significant drop in the ornamental roses import in 2016, however it increased again in 2017 and exceeded 2016 level.

Table 17. Ukraine's import value of the ornamental plants, 2015-2017, thsd. USD // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD	2015	2016	2017	% change '16 vs. 15	% change '17 vs. 16
ORNAMENTAL PLANTS TOTAL	2 489,0	3 065,9	4 682,7	23%	53%
Trees, shrubs and bushes	1 386,7	1 950,9	2 836,0	41%	45%
Trees, shrubs and bushes	1 258,6	1 818,2	2 659,3	44%	46%
Ornamental rhododendrons and azaleas	34,1	55,1	90,4	61%	64%
Ornamental berries, grape, vegetables etc.	93,9	77,7	86,2	-17%	11%
Perennial flowering plants	765,6	287,1	864,4	-63%	201%
Ornamental roses	578,2	83,6	658,4	-86%	687%
Other ornamental flowers	187,4	203,4	205,9	9%	1%
Other plants	336,7	827,9	982,4	146%	19%

The Netherlands accounts for 40% of the ornamental plants import value to Ukraine. It takes the lead as supplier of the roses having 90% of import value within all imported ornamental roses.

Table 18. Ukraine's import value of the ornamental plants from the Netherlands, thsd. USD, 2017 // Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD The Netherlands to Ukraine	Import value, thsd. USD	% import value
ORNAMENTAL PLANTS TOTAL	1 875,0	100,0% <i>[40% of Ornamental plants import value]</i>
Trees, shrubs and bushes	860,3	45,9% <i>[30,3% of Trees, shrubs and bushes import value]</i>
Trees, shrubs and bushes	771,5	41,1%
Ornamental rhododendrons and azaleas	30,9	1,6%
Ornamental berries, grape, vegetables etc.	58,0	3,1%
Perennial flowering plants	780,5	41,6% <i>[90,3% of Perennial flowering plants import value]</i>
Ornamental roses	608,1	32,4%
Other ornamental flowers	172,3	9,2%
Other plants	234,2	12,5% <i>[23,8% of Other plants import value]</i>

Cooperation with the Netherlands improved in 2017 in the ornamental sector: import increased by 2 times vs. 2016 in all categories of the ornamental plants.

Table 19. Ukraine's import value of the ornamental plants from the Netherlands, 2015-2017, thsd. USD //
Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

Import value, thsd. USD The Netherlands to Ukraine	2015	2016	2017	% change	% change
				'16 vs. 15	'17 vs. 16
ORNAMENTAL PLANTS TOTAL	1 144,7	890,1	1 875,0	-22%	111%
Trees, shrubs and bushes	351,7	533,7	860,3	52%	61%
Trees, shrubs and bushes	323,3	524,0	771,5	62%	47%
Ornamental rhododendrons and azaleas	7,8	8,4	30,9	8%	266%
Ornamental berries, grape, vegetables etc.	20,6	1,3	58,0	-94%	4393%
Perennial flowering plants	674,5	137,5	780,5	-80%	468%
Ornamental roses	512,0	23,7	608,1	-95%	2462%
Other ornamental flowers	162,6	113,7	172,3	-30%	52%
Other plants	118,4	218,9	234,2	85%	7%

2.2.2. Key Importers to Ukraine: Floriculture

Table 20. Top importing companies from Ukraine in the floriculture sector, based on the import value //
Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

FLORICULTURE / Cut flowers / Fresh cut roses			
No	English title	Ukrainian title	Key facts
1.	LADOVIF-16	ТОВ ЛАДОВИФ-16	Importer of various products and wholesaler from Kyiv; no website
2.	DANTARBUD-DTB	ТОВ ДАНТАРБУД-ДТБ	Importer of flowers and wholesaler of flowers and other plants from Kyiv; no website
3.	Trading company "Vydubychi"	ТОВ ТОРГІВЕЛЬНА КОМПАНІЯ "ВИДУБИЧИ"	Non-specialized wholesale trade from Kyiv; no website
FLORICULTURE / Cut flowers / Fresh cut chrysanthemums			
4.	LADOVIF-16	ТОВ ЛАДОВИФ-16	Importer of various products and wholesaler from Kyiv; no website
5.	RIKON +	ТОВ РІКОН +	Transport logistics and non-specialized wholesale trade from Kyiv; no website
6.	DANTARBUD-DTB	ТОВ ДАНТАРБУД-ДТБ	Importer of flowers and wholesaler of flowers and other plants from Kyiv; no website
FLORICULTURE / Cut flowers / Fresh cut carnations			
7.	TURFLORA	ПП "ТУРФЛОРА"	Wholesaler of flowers and plants from Khmelnytskyi region; no website
8.	FLORA CITY	ТОВ "ФЛОРА СІТІ"	Wholesaler of flowers and plants from Kyiv; no website
9.	IONA	ТОВ "ЙОНА"	Wholesale trade of wide range goods from Kyiv; no website
FLORICULTURE / Cut flowers / Fresh cut other flowers			
10.	LADOVIF-16	ТОВ ЛАДОВИФ-16	Importer of various products and wholesaler from Kyiv; no website
11.	Ukraflora	ТОВ СП з ІІ "Украфлора"	Importer and wholesaler and retailer of flowers and plants from Kyiv; website: ukraflora.com.ua
FLORICULTURE / Potted plants / Potted orchids, hyacinths, daffodils & tulips			

12.	Ukraflora	ТОВ СП з ІІ "Украфлора"	Importer and wholesaler and retailer of flowers and plants from Kyiv; website: ukraflora.com.ua
13.	LADOVIF-16	ТОВ ЛАДОВИФ-16	Importer of various products and wholesaler from Kyiv; no website
14.	Floremix	ТОВ "Флоремікс"	Wholesaler of flowers and other plants; no website
FLORICULTURE / Potted plants / Other potted plants			
15.	Floremix	ТОВ "Флоремікс"	Wholesaler of flowers and other plants; no website
16.	Ukraflora	ТОВ СП з ІІ "Украфлора"	Importer and wholesaler and retailer of flowers and plants from Kyiv; website: ukraflora.com.ua
17.	Farm "Kvity Zakarpattia"	ФГ "Квіти Закарпаття"	Flower farm from Zakarpattia region with 14 ha of area; produces flower for balconies and flower beds, indoor plants (e.g. gerbera, primrose, cyclamen). Exclusive representative of the "VOLMARY GmbH" (Germany), producer of the planting material: seedlings of balcony and flower beds; seedlings of petunias, viols, primroses, gerberas and many others; seedlings of spices and balcony vegetables; flower seeds and bulbs; lawn grass seeds. Website: pfister.com.ua
FLORICULTURE / Flower bulbs / Tulip bulbs			
18.	Interflora Ukraina	ТОВ "Інтерфлора Україна"	Seller of the seeds of vegetables, flowers, various plants, seedlings of roses, fruits and berries. Key channel of distribution is a postal delivery both for wholesale & retail customers. Delivers seeds and bulbs from the Netherlands, Germany, Czechia, France and Poland. Website: interflora.com.ua
19.	ATM TRADE MANAGEMENT	ТОВ "АТМ ТРЕЙД МЕНЕДЖМЕНТ"	Wholesaler of various goods from Kyiv; owner is of the Netherlands origin; no website
20.	Bonus	ПП "Бонус"	Wholesale distributor of seeds, planting material, substrates of the foreign producers from Lviv region. Also, a grower of the flowers and other plants. Website: bonus.lviv.ua
21.	DANTARBUD-DTB	ТОВ ДАНТАРБУД-ДТБ	Importer of flowers and wholesaler of flowers and other plants from Kyiv; no website
FLORICULTURE / Flower bulbs / Other bulbs			
22.	POLTAVASORTNASINNIIEV OCH	ПрАТ "ПОЛТАВАСОРТНАСІННЄО ВОЧ"	Wholesaler and reproducer of flowers and plants from Poltava region; Website: nasinnyapoltava.ucoz.ua
23.	Interflora Ukraina	ТОВ "Інтерфлора Україна"	Seller of the seeds of vegetables, flowers, various plants, seedlings of roses, fruits and berries. Key channel of distribution is a postal delivery both for wholesale & retail customers. Delivers seeds and bulbs from the Netherlands, Germany, Czechia, France and Poland. Website: interflora.com.ua
24.	DANTARBUD-DTB	ТОВ ДАНТАРБУД-ДТБ	Importer of flowers and wholesaler of flowers and other plants from Kyiv; no website
FLORICULTURE / Foliage			
25.	LADOVIF-16	ТОВ ЛАДОВИФ-16	Importer of various products and wholesaler from Kyiv; no website
26.	Ukraflora	ТОВ СП з ІІ "Украфлора"	Importer and wholesaler and retailer of flowers and plants from Kyiv; website: ukraflora.com.ua

27.	RIKON +	ТОВ РІКОН +	Transport logistics and non-specialized wholesale trade from Kyiv; no website
FLORICULTURE / Fresh cut trees (conifers)			
28.	FOP Pleshkan Vasil Mikolayovich	ФОП Плешкан Василь Миколайович	Non-specialized wholesaler and retailer of various goods; no website
29.	KTL Grupa	ТОВ "КТЛ Група"	Wholesaler of various goods; no website

2.2.3. Key Importers to Ukraine: Ornamental Plants

Table 21. Top importing companies from Ukraine in the ornamental plants sector, based on the import value
// Source: State Fiscal Service of Ukraine, data analysis by Kleffmann Group Ukraine

ORNAMENTAL PLANTS / Perennial flowering plants / Ornamental roses			
№	English title	Ukrainian title	Key facts
1.	Ascania-Flora	ТОВ "Асканія-Флора"	The largest producer of the ornamental roses from Kyiv region, greenhouse complex on 20 ha; Website: ascania-flora.ua
ORNAMENTAL PLANTS / Perennial flowering plants / Other ornamental flowers			
2.	Floremix	ТОВ "Флоремікс"	Wholesaler of flowers and other plants; no website
3.	POLTAVASORTNASINNIIV OCH	ПрАТ "ПОЛТАВАСОРТНАСІННЄО ВОЧ"	Wholesaler and reproducer of flowers and plants from Poltava region; Website: nasinnyapoltava.ucoz.ua
ORNAMENTAL PLANTS / Trees, shrubs and bushes / Trees, shrubs and bushes			
4.	Holland roses (nursery Gardi)	ТОВ "Голландські троянди" (розсадник Гарді)	The largest nursery of the ornamental plants (trees, shrubs etc.) on area 42 ha from Poltava region; the produced plants are oriented on landscape design, both in urban areas and private plots. Website: www.gardi.biz
5.	GALSAD	ТОВ "ГАЛСАД"	Garden center from Lviv region; sells plants, trees, shrubs etc., and CPP, fertilizers, lawn and gardening tools. Website: galsad.com.ua
ORNAMENTAL PLANTS / Trees, shrubs and bushes / Ornamental rhododendrons and azaleas			
6.	SPA complex "Derenivska Kupil"	ТОВ "Санаторний комплекс "Деренівська Купіль"	SPA complex from Zakarpattia region; has arboretum park with plenty of plants and flowers in it
7.	Zalena Sadyba (Megaplant)	ТОВ "ЗЕЛЕНА САДИБА Україна" (Мегаплант)	Large industrial nursery from Kyiv region, area of 200 ha; offers a wide range of plants for the landscape design projects of any complexity; Website: megaplant.com.ua
8.	Farm "Kvity Zakarpattia"	ФГ "Квіти Закарпаття"	Flower farm from Zakarpattia region with 14 ha of area; produces flower for balconies and flower beds, indoor plants (e.g. gerbera, primrose, cyclamen). Exclusive representative of the «VOLMARY GmbH» (Germany), producer of the planting material: seedlings of balcony and flower beds; seedlings of petunias, viols, primroses, gerberas and many others; seedlings of spices and balcony vegetables; flower seeds and bulbs; lawn grass seeds. Website: pfister.com.ua
9.	BMS Sakura	ТОВ "БМС САКУРА"	Wholesaler of fruits and vegetables mainly from Kyiv region; no website
ORNAMENTAL PLANTS / Trees, shrubs and bushes / Ornamental berries, grape, vegetables etc.			

10.	Holland roses (nursery Gardi)	ТОВ "Голландські троянди" (розсадник Гарді)	The largest nursery of the ornamental plants (trees, shrubs etc.) on area 42 ha from Poltava region; the produced plants are oriented on landscape design, both in urban areas and private plots. Website: www.gardi.biz
11.	FruTek	ТОВ "ФруТек"	The company specializes on management of intellectual property rights for plant varieties: introduction, production testing, state registration and licensing of new varieties of fruit and berry crops in cooperation with leading scientific institutions and selection centers from around the world; from Vinnytsia region Website: fruitech.com.ua
12.	Dekoplant	ТОВ Декоплант	The Ukrainian-Dutch enterprise from the Vinnytsia region; producer of the ornamental roses and other plants; website: www.dekoplant.com.ua

2.3. Official Statistics. Domestic Production

Ukraine produces floriculture and ornamental plants mainly for the domestic sales, as export volume is relatively small.

National statistics on the domestic production is collected for the same floriculture plants and does not contain data on ornamental plants.

Cut flowers and potted plants are mainly produced by the industrial growers with some exceptions on minor types of plants which are produced in the individual households.

Within cut flowers category, roses are the dominating type of flowers: cut fresh roses were produced in the amount of 70,1 mil units in 2017, and 99% of them were produced by the industrial growers. Tulips are following far behind after roses with 1,2 mil units in 2017, and 66% of them were produced by the agricultural enterprises. In the niche categories of cut flowers household production prevails: chrysanthemum, carnation, gladioluses, asters, peonies etc.

As for flower bulbs, their production is mainly concentrated in the individual households. Agricultural enterprises are less interested in the production of bulbs and have a priority to grow and sell an "adult" plants and not seedlings.

Table 22. Ukraine's production amount of the floriculture plants, thsd. units, 2017 // Source: State Statistics Service of Ukraine, "Area, production and yield of crops, fruits, berries and grapes"

	TOTAL, thsd. units	Agricultural enterprises, thsd. units	Individual households, thsd. units	<i>Agricultural enterprises, % to TOTAL</i>	<i>Individual households, % to TOTAL</i>
Fresh cut flowers and flower buds	74 867,9	72 027,8	2 840,1	96%	4%
Rose	70 148,3	69 563,3	585,0	99%	1%
Tulip	1 167,5	773,2	394,3	66%	34%
Chrysanthemum	397,9	3,9	394,0	1%	99%
Carnation	287,9	7,0	280,9	2%	98%
Gladioluses	281,2	80,0	201,2	28%	72%
Asters	262,3	0,7	261,6	0%	100%
Peonies	164,4	0,1	164,3	0%	100%
Lilies	149,3	–	149,3	–	100%
Other fresh cut flowers and flower buds	2 009,1	1 599,6	409,5	80%	20%
Plants in pots, boxes, etc.	2 352,1	2 306,2	45,9	98%	2%
Planting material of flowering cultures	28 235,6	14 063,1	14 172,5	50%	50%
Seedlings of flowers	18 365,2	11 862,2	6 503,0	65%	35%
Seedlings of flowering plants	5 318,5	1 963,7	3 354,8	37%	63%
Bulbs, tubers, root tubers, flower bulbs	4 551,9	237,2	4 314,7	5%	95%
Seedlings of decorative plants	1 295,0	1 293,1	1,9	100%	0%

3. Legislative Regulation of Activities of Wholesale and Retail Distribution of Floricultural and Ornamental Plants in Ukraine

3.1. Receiving Land Plots for Growing Decorative Plants in Ukraine

According to the legislation of Ukraine, in order to conduct a certain type of activity on a land plot (building, laying of communications, conducting agriculture, etc.), it should be classified as a **category** of land that permits such use, and in some cases also has the appropriate **type of use** and **kind of grounds**.

For growing flowers, installing greenhouses or creating plantations of ornamental perennials, it is necessary to use land plots of the **category** "lands purpose for agricultural use". Within the **category**, the land should be one of the following **types of use**:

- for commodity production;
- for individual farming;
- for farming;
- for gardening.

Kind of grounds in this land should be a) **arable land**; b) **greenhouses, hot-house, greenery**; c) **perennial plantings**.

The use of a land plots whose grounds that is not intended for the cultivation of ornamental plants, allows violators to be brought to administrative liability and impose a penalty under Article 53 "Violation of the rules of land use" of the Code of Ukraine on Administrative Offenses. The material on the administrative offense (protocol) is made up of a state environmental inspectorate or a state inspector for monitoring the use and protection of land subject to the Ministry of Ecology and Natural Resources of Ukraine and the State Agency for Geodesy, Cartography and Cadaster. The amount of fine is from 85 UAH. up to 425 UAH (per one land plot).

All information on the **category, type of use, kind of grounds**, area and other parameters of the land plots are contained in the registration documents, as well as available on the public cadastral map.

Obtaining a land plot. Due to the current ban on the sale of agricultural land in Ukraine (which applies to 96% area of all agricultural lands in Ukraine), acquiring of land in ownership has some difficulties. An additional obstacle for foreign business in acquiring land is the legislative ban on foreigners, stateless persons, foreign legal entities and foreign states to acquire agricultural land in their ownership.

The majority area of land which is currently used by agricultural enterprises is in their lease. The term of agricultural land lease may not be less than 7 years and longer than 50 years. More detailed information at the link:

http://www.ucab.ua/en/doing_agribusiness/umovi_vedennya_agrobiznesu/zemelni_pitannya

Ways of acquiring a land plot:

Method 1. Buying agricultural lands which sales is not banned.

Currently, in Ukraine about **2 million hectares** of agricultural land which sales are not banned. Usually these land plots type of use for individual farming, horticulture or gardening. The average area of such land plots is not large, about 1.5 hectares. Difficulty arises in the search and purchase of land plots located nearby, which can be combined and form a single land plot.

In view of the prohibition on foreign to acquire a land for agricultural purposes, the purchase of land plots by foreign business is possible in the case if they have Ukrainian representative or create a Ukrainian company with foreign investments⁷ that may be the buyer of a land plot. However, in such cases, the founder of company must be a citizen of Ukraine. Purchase and sale are carried out in the general order under a civil law agreement with a mandatory notarial certificate.

Method 2. Lease of a land plot (the most common way).

The procedure of leasing land plots of private and state property is different. A private land plot is leased through the standard civil-law lease agreement between the parties, which, after its conclusion, must be registered in the **Register of rights to real estate**.

⁷ A company with foreign investments – an enterprise created in accordance with the requirements of the Commercial Code of Ukraine, whose authorized capit2. Lease of a land plot (the most common way). All is at least 10% foreign investment.

Lease of state and communal lands is carried out exclusively on land auctions. The offer of such land plots is limited and competition for them is high. Details of all planned land auctions and detailed information about lots can be found at the link: <http://torgy.land.gov.ua/auction>.

The term of land lease may not be less than 7 years and more than 50 years.

Method 3. Purchase of an enterprise that owns or uses land.

This method helps to obtain land ownership and / or land lease rights, through the process of corporate rights purchasing. In addition to the property, the buyer becomes the legal successor under the land lease agreements of this enterprise.

Method 4. Purchase of emphyteusis agreement.

The emphyteusis agreement is very similar to the lease, however, it has several distinctive features, which extends the possibilities of its use. In particular, the contract of emphyteusis may be alienated, it does not have a minimum term (the maximum term is 50 years) and provides for the possibility, at the discretion of the parties, to determine the form and amount of payment.

Method 5. Conclusion of a sublease agreement.

The risky method depends on the validity of the original lease agreement. For example, if the lessee breaks any terms of the lease agreement, for example, missed the payment period, then the owner may terminate the lease agreement and, accordingly, the sublease.

3.2. Registration of Rights on Plant Variety in Ukraine

Registration of rights on plant varieties involves the acquisition of proprietary and non-proprietary intellectual rights on plant variety, which allows their breeder (owner) to receive fee for the use of the variety, as well as to ensure its legal protection.

According to the Law of Ukraine "On the Protection of Rights on Plant Varieties", the following types of rights may be acquired on plant varieties:

- **Personal non-proprietary intellectual property rights for plant varieties.** This right is certified by a certificate of authorship on a plant variety.
- **Intellectual property rights on plant varieties.** It is certified by a **patent for a plant variety.**
- **Intellectual property right for the plant variety distribution.** Certified by **Certificate of state registration of a plant variety.**

For ornamental plants, the first two types of intellectual property rights are used. The intellectual property right for the plant variety distribution is acquired only by agricultural plants.

In Ukraine, plant variety rights are acquired through the submission of the Application to the Ministry of Agrarian Policy and Food of Ukraine. The next step is to examine the application, test the variety (if necessary) and decide on the state registration of the variety.

Important! Since 2006, Ukraine has acceded to the *International Convention for the Protection of New Varieties of Plants*⁸, and the national legislation complies with the requirements of this Convention in relation to the registration and protection of the rights to varieties.

Stages of state registration of a plant variety in Ukraine:

Stage 1. Applying for a plant variety.

Executant: Applicant

⁸ <http://www.upov.int/upovlex/en/conventions/1991/content.html>

The right for applying for the acquisition of intellectual property right for a plant variety have: the author (each of the authors) of the variety, his employer, if provided for by the employment contract, and also the successor (heir) of the author of the variety.

To the Application are added:

- *A technical questionnaire of the variety containing detailed information on the characteristics of the variety;*
- *Documents confirming the right to apply for a plant variety;*
- *Samples of seed or planting material of the variety;*
- *A photo of a variety with a description of its features.*

Stage 2. Formal examination of Application for plant variety.

Executor: Department for the Protection of Plant Varieties Rights of the Ministry of Agriculture and Food of Ukraine

Formal examination is carried out in order to determine the conformity of formal requirements of the Application with the requirements established by the Law "On the Protection of Rights to Plant Varieties" and its compliance with the "Rules for Applying for a Plant Variety" (Law).

Stage 3. Qualification examination of Application for a plant variety.

Executor: *Ukrainian Institute for Plant Varieties Examination (UIPVE)*
[\(http://sops.gov.ua/en/\)](http://sops.gov.ua/en/)

The qualification examination provides for a complex of researches necessary for testing the variety and making a decision about state registration of the variety and rights to it. According to the Law, varieties of ornamental plants are subject to examination for Distinctness, Uniformity and Stability (DUS-test).

The qualification examination begins after the positive results of the formal examination and payment for the services of the Ukrainian Institute for Plant Varieties Examination.

* During the qualification examination:

- an examination of the proposed name of the variety is carried out;
- the novelty of the variety is determined;
- the conformity of the variety to the criteria of Distinctness, Uniformity and Stability is determined.

The official Methodology of qualifying examination of ornamental plants is published on the official website of the UIPVE (<http://sops.gov.ua/uploads/page/5a5f1cfd2b89c.pdf>).

Stage 4. Make a decision on the application for a plant variety.

Executor: Ministry of Agrarian Policy and Food of Ukraine

According to the results of the qualifying examination of the variety, the UIPVE transmit the Expert Opinion to the Ministry of Agrarian Policy, which makes a decision on the state registration of the variety and the issuance of a patent or refusal to register the variety.

COST OF VARIETY REGISTRATION SERVICES (as of September 2018)

Type of the Fee	Amount, UAH
1. For the plant variety application registration	1300
2. For the qualifying examination of the application for a plant variety (for the first and each subsequent year):	
variety conformity determination to the criteria of distinctiveness, uniformity and stability at the expert institutions	1900
variety conformity determination to the criteria of distinctiveness, uniformity and stability straightly at the applicant	210
value expertise for cultivation and use	4070
3. For the intellectual property right for the plant variety distribution	500
4. For each certified copy of the plant variety state registration certificate	200
5. For each certified copy of the plant variety patent	500

6. For the changes registration in the Register of Patents concerning the plant variety intellectual property rights by the owner initiative	600
7. For the changes registration in the Plant Variety Register by the variety property rights owner initiative	600
8. For the plant variety intellectual property rights validity maintenance (patent validity):	
for the 1st year	400
for the 2nd year	450
for the 3rd year	550
for the 4th year	650
for the 5th year	800
for the 6th year	950
for the 7th year	1100
for the 8th year	1300
for the 9th year	1600
for the 10th and every next year	1900
9. For the exclusive patent owner right maintenance in case of application submission to the Ministry for official permission to any person to use the variety (opened license) and its official publication:	
for the 1st year	200
for the 2nd year	225
for the 3rd year	275
for the 4th year	325
for the 5th year	400
for the 6th year	475
for the 7th year	550
for the 8th year	650

for the 9th year	800
for the 10th and every next year	950
10. For maintaining the validity of the intellectual property rights for the plant variety distribution:	
for the 1st – 5th years	350
for the 6th – 10th years	900
for the 10th – 15th years	2000
for the 16th and every next year	2500
11. For the application submission for any actions determined by the Law of Ukraine "Protection of the Property Rights on Plant Varieties"(part 3 of the articles 16 and 22, part 5 of the article 25, part 8 of the article 26, parts 5 and 9 of the article 28, part 2 of the article 30, part 4 of the article 35, part 6 of the article 40)	500
12. For the renewal of the term for any actions determined by the Law of Ukraine "Protection of the Property Rights on Plant Varieties" (part 8 of the article 26, part 6 of the article 27, part 5 of the article 28, part 2 of the article 30)	1000

3.3. Protection of the Breeders' Rights on Plant Variety

The Law of Ukraine "On the Protection of Rights to Plant Varieties" provides for the possibility of protecting the rights of the breeder and the holder of a patent for a plant variety.

The author of the variety is given personal non-proprietary intellectual rights to a plant variety. These rights are not alienated, not transferred and are valid indefinitely. A person recognized by the author of a variety has the right to:

- a) prevent other persons from assigning and distorting their authorship;
- b) require not to disclose his name as the author of the variety and not to mention it in the publications;
- c) require your name when using the variety.

This list of personal non-proprietary rights of the author is not exhaustive.

The proprietary intellectual right to a plant variety is the right of the patent holder for the use of variety and the exclusive right to permit or prohibit the use of the variety by other persons.

The exclusive right to a permit or a prohibition on the use of a variety ensures that no one without the permission of the owner of patent cannot:

- a) production or reproduction of a variety (for the purpose of reproduction);
- b) offer for sale;
- c) sale or other commercial circulation;
- d) export or import;
- e) storage for any of the above purposes.

The owner of the patent has the right to transfer his property rights to the variety to any person by entering into a contract. In addition, the patent owner can grant any person permission (license) to use the variety based on a license agreement.

The validity of proprietary intellectual property rights for a plant variety is limited to 35 years for varieties of trees, shrubs and grapes, and 30 years for all other crops, in case of payment for their maintenance.

The legal protection of the variety begins on the date of applying for a plant variety and ends with the exclusion of a variety from the State register of plant varieties or ending the term of legal protection of the patent or its revocation.

When applying for a plant variety, the applicant receives the right of temporary legal protection. Temporary legal protection grants the applicant the right to compensate the guilty party for the losses incurred after the publication of the information about the application. Compensation is paid to the applicant only after obtaining a patent.

The law provides that a person whose rights to a variety are violated may personally exact the offender to stop the violation of his rights or apply to the court for the protection of his rights and require that:

- termination of actions that violate the rights of the patent holder;
- compensation for losses incurred, including unearned income;
- compensation for non-pecuniary damage;

- withdrawal from commercial circulation or confiscation of illegally obtained infringer variety material and product.

A person who is entitled to use the variety under a license agreement may also request the renewal of the infringed right of patent holder.

3.4. Customs Clearance. Requirements and List of Documents for Importation

Imports of goods into Ukraine demand for the proper fulfillment of the customs formalities provided for by the [Customs Code of Ukraine](#).

Customs registration starts from the moment of the handing over the customs declaration by the declarant to the [Body of Incomes and Fees](#) in the area of which the goods will be presented for customs clearance.

The declaration shall contain precise information about the goods, the purpose of their movement across the customs border of Ukraine, as well as the information necessary for their customs control and customs clearance. In order to simplify the procedure for customs clearance, the declarant may also handing over the Preliminary Customs Declaration.

Declarations may be filling in paper or electronic form. The format of customs declarations filed as electronic documents is based on international standards for electronic data interchange.

From the date of filling the customs declaration, the declarant has a commitment to pay state duty and other mandatory payments. Upon import, the amount of customs payments charges by the Body of incomes shall be paid before or on the day of handing over the customs declaration.

The rates of import duty are set by the [Ukrainian Customs Tariff Schedule](#) and are calculated by the importer upon filling of the customs declaration. The declarant can make an advance payment of customs duties on special accounts of the body of incomes and fees. These funds are counted to the State Budget of Ukraine only after the completion of

the customs clearance procedure. In case if the importer refusing to import the goods, the money will be returned to him.

In order to protect the domestic market of Ukraine from low-quality goods or unfair competition, imported or exported goods may temporarily apply special types of duties:

Antidumping duty – used when a price of goods which importing into the customs territory of Ukraine is substantially lower than their competitive price.

Compensation duty – used when importing or exporting goods in the production of which a subsidy is used, if such export or import threatens domestic producers or prevents the production of such goods in Ukraine

Special duty – used if the growth of imports a specific product into Ukraine causes significant damage or threatens to cause significant damage to the national commodity producer.

These types of duties are applied on the results of the investigation by the appropriate commission of the Customs authority. The investigation may be initiated upon the application of a national producer, a public authority, or in the event that the customs authority identifies the grounds for such an investigation.

Custom payments

Foreign-economic activity related to import carried out the Ukrainian Classification of Goods for Foreign Economic Activity (UCGFEA), which is create on the basis of the Harmonized Commodity Description and Coding System (the international nomenclature of goods developed by the World Customs Organization).

Ornamental plants according to UCGFEA are included in group 06 "Live trees and other plants; bulbs, roots and other similar parts of plants; cut flowers and ornamental foliage".

Information on some rates of customs payments is given in the table below.

Rates of import duty UCGFEA Group 06

Code	Types	Rate
-------------	--------------	-------------

0601 10	<ul style="list-style-type: none"> – Bulbs, tubers, rhizomes, including branched rhizomes. – Hyacinths daffodils; tulips; gladioluses; orchids 	5%
0603	<p>Cut flowers and buds suitable for bouquets or for decorative purposes, sun-dried, dried, dyed, otherwise prepared.</p> <p>Fresh: Roses; carnations; chrysanthemums; tulips; gladioluses; orchids</p>	<p>from 1 June to 31 October 10%</p> <p>from 1 November to 31 May 5%</p>

IMPORTANT: Any reference in the commodity code, code UCGFEA **0603** or 0604 for goods shall be understood as referring to bouquets, flower baskets, wreaths and the like, wholly or partly made from such articles, except for accessories from other materials.

Value added tax

In addition to paying custom duty, goods imported into Ukraine are subject to VAT. The person responsible for paying customs duties, including VAT, is the declarant.

The date of the obligations commencement under the import operation will always be the date of handing over the customs declaration for customs clearance. It is necessary to pay import VAT before or on the day of handing over the declaration.

Goods imported into Ukraine are subject to VAT at the rate of 20% (7% for medical products included in the State Register of medical equipment and medical products). The basis of taxation is the contract value of the goods, but not lower than the customs value of the imported goods, taking into account customs duties and excise taxes, which are included in the value of the goods.

Articles 196 and 197 of the Tax Code of Ukraine⁹ contains a list of operations that are not subject to VAT or are exempt from taxation (<http://zakon.rada.gov.ua/laws/show/2755-17>).

⁹ <http://zakon.rada.gov.ua/laws/show/2755-17?lang=en> – the Tax Code of Ukraine.

IMPORTANT! Unregistered VAT payers who pay VAT when importing goods are not entitled to a tax credit. They include the amount of paid up tax to the original value of the imported goods.

Registered VAT payers increase their tax credit on the amount of import VAT obligations. The basis for confirmation a tax credit is a customs declaration prepared in accordance with legislation requirements, which confirms the fact of tax payment.

The next stage of customs clearance is customs control. The declarant provides the customs authorities with the necessary documents and information about the goods, as well as other documents depending on the type of transport which is used for the movement of goods across the border.

Excise tax

In the case of import of excisable goods into Ukraine, they are also subject to excise taxes. The list of excisable goods includes:

- alcoholic beverages, beer;
- tobacco products, tobacco and industrial tobacco substitutes;
- fuel;
- vehicles;
- electrical energy.

A more detailed list of excisable goods and tax rates is specified in Article 215 of the Tax Code of Ukraine.

Single fee

The single fee is set for vehicles crossing the border of Ukraine and charged for the determined by law proper control (sanitary-epidemiological, veterinary-sanitary, phytosanitary, environmental control, radiological control) of goods and vehicles (including of preliminary documentary control).

The single fee also includes a fare on Ukraine's roads and truck fares which exceeding the norms of the general mass, axle loads and/or dimensions.

Single fee rates are set by the law in euros and cannot be changed during the fiscal year.

Single fee rates and an additional charge for each kilometer of road for vehicles exceeding specified size, total mass, axle loads and (or) overall dimensions in 2018

Type of vehicle	Capacity or total weight of the vehicle with a load	Single fee for a vehicle in Euro	
		for control	for driving on roads (for each kilometer of ride)
1. Buses	From 10 to 30 seats include	4	0,04
	More than 30 seats	10	0,04
2. Trucks with/without trailers	Up to 20 tons include	10	0,04
	More than 20 to 40 tons include	20	0,04
3. Heavy-duty vehicles	More than 40 to 44 tons include	20	0,2
	More than 44 to 52 tons include	20	0,4
	From 52 to 60 tons include	20	0,54
	More than 60 tons (for each next 10 tons)	20	1,56
4. Heavy-duty vehicles with excess axle loads	Up to 5% inclusive	-	0,1
	More than 5% up to 10% inclusive	-	0,2
	Over 10% up to 20% inclusive	-	0,54
	More than 20% for each subsequent 5%	-	0,30
5. Large-sized vehicles with excess of the parameters of width, height, length	For each parameter	-	0,06

6. Railroad car, container		4	-
----------------------------	--	---	---

For vehicles and containers which cross the border of Ukraine without freight, the single fee rate is 20 percent of the total rate. At the same time, the payment for exceeding the total mass, axial loads and (or) dimensional parameters, paid in full.

From resident-carriers whose vehicles are registered in the Ministry of Interior of Ukraine the payment for ride on Ukrainian roads be charge only in case of exceeding the established size of the total mass, axle loads and/or dimensions.

In the case of crossing the border of Ukraine with railroad cars without cargo, a single fee is not paid.

Customs clearance

The general list of documents for customs clearance includes:

- Customs declaration;
- Contract;
- Commercial documents (invoice);
- Documents confirming the country of origin of the goods (certificate of origin, declaration of the sender, etc.);
- Documents used to determine the customs value of the goods (bank payment documents, relevant accounting documents, catalogs, specifications, price lists, etc.).

When transporting by vehicle, also provided:

- Documents on the vehicle;
- Transport documents (international transport documents);
- The document, which accompanies international postal items (if any), is determined by the acts of the Universal Postal Union;
- Commercial documents (if any) for the transported goods, which containing information about the name and address of the carrier, the name of the departure

country and the country of goods destination, the name and address of the sender (or seller) and the recipient of the goods;

- Information about the number of cargo spaces and type of packaging;
- Gross weight of goods (in kilograms) or volume of goods (cubic meter), except large-sized cargoes.

When transporting other modes of transport (sea, air, rail) prescribed submission of additional, typical for this type of transport documents.

Irrespective of the transport type which used for importing the goods, importer also handing over documents (information) which confirming compliance with prohibitions and/or restrictions established in Ukraine's legislation regarding the import of goods through the customs border of Ukraine.

In particular, in the case of imports of seeds, flowers, plants, horticultural material and other categories of plant products its necessary to provide by seed certificates (ISTA, OECD), as well as phytosanitary/quarantine documents issued by the authorities of origin country.

3.5. Phytosanitary Requirements for Imports in Ukraine

List of regulated articles in the field of plant quarantine in accordance with customs codes, which are subjected to phytosanitary control was approved by the Resolution of the Cabinet of Ministers of Ukraine of 12.05.2007 № 705 “On certain issues in terms of implementation of the Law of Ukraine "On Plant Quarantine"¹⁰

According to the Article 36 of the Law of Ukraine “About plant quarantine”¹¹ import and transit consignments with regulated articles shall meet such requirements:

- to be free from quarantine organisms;
- to be accompanied with the originals of phytosanitary certificates;

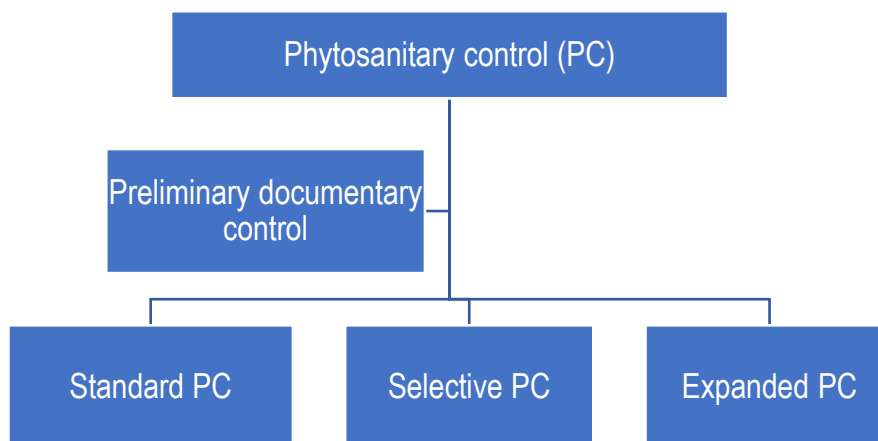
¹⁰ <http://zakon3.rada.gov.ua/laws/show/705-2007-%D0%BF/print1487953854905458>

¹¹ <http://zakon5.rada.gov.ua/laws/show/3348-12>

- not to be originated from the production areas or to be transported through the zone where quarantine regime is spread which is certified by foreign national plant protection organization of the exporting country or transit.

Phytosanitary certificate is issued by an appropriate authorized body of the exporting country and certifies about consignment correspondence to phytosanitary requirements of Ukraine. State Service of Ukraine on Food Safety and Consumer Protection¹² is the authorized body in Ukraine.

Phytosanitary control of goods with the regulated articles imported into the customs territory of Ukraine (including for the purpose of transit) is carried out by state phytosanitary inspectors at specified points of quarantine of plants at checkpoints on the state border of Ukraine.



Preliminary documentary control is carried out by the customs authorities

The list of regulated articles subject to prior documentary control are provided by the Resolution of the Cabinet of Ministers of Ukraine of 10.5.2018. No. 1031. Not subject to such control: seeds, gardens, flowers, ornamental plants in the presence of certificates for the absence of treatment with pesticides and other chemicals issued by the country of origin.

¹² <http://www.consumer.gov.ua/>

Standard phytosanitary border control is carried out by state phytosanitary inspectors

Carried out by inspection in order to establish that:

- the regulated article is accompanied by a valid phytosanitary certificate, if required in accordance with the current phytosanitary measures;
- the regulated articles correspond to the documents accompanying it;
- there are no quarantine organisms and signs of damage to the consignment.

According to Article 39 of the Law of Ukraine "About plant quarantine" the import into Ukraine or transit through its territory of consignment is allowed under the following:

- the regulated article is not imported and not originated by the exporting country or the zone of the country of origin which prohibited for import;
- absence of notification to the competent authority of the country of origin, re-export or transit of emergency situations and / or confirmation of the detection of the center and the spread of the quarantine organism in a specific territory or production site of the country of origin or transit;
- presence of a full and valid phytosanitary certificate;
- the absence of quarantine organisms and signs of infection with it;
- the presence of intact sealing of the transit consignment, carried out by the customs authorities of the exporting country;
- accompanied by full and valid phytosanitary certificates, previous consignments with similar regulated articles from the country of origin and / or specific article of origin;
- the consignment accords the requirements of phytosanitary measures.

Selective phytosanitary control

State Service of Ukraine on Food Safety and Consumer Protection designates a specific percentage of consignments subject to compulsory extended phytosanitary control based on data on the detection of quarantine organisms in consignments with regulated articles of any imported origin and based on other factors that can affect life and health plants, taking into account the results of risk analysis.

Expanded phytosanitary control of consignments with regulated articles imported

The reasons for the expanded phytosanitary control of the consignment with the regulated articles, imported at the border point of the quarantine of plants are:

- absence of a phytosanitary certificate, if the consignment with the regulated articles should be accompanied by such document;
- a falsified or otherwise falsified phytosanitary certificate accompanied by a regulated article;
- inconsistency of the regulated articles in the consignment of the phytosanitary certificate;
- visually detected contamination of the consignment by regulated harmful organisms or existing signs of contamination by it;
- there are signs of damage to the consignment and / or the vehicle in which the consignment is located.

List of quarantine organisms is approved by the Ministry of Agrarian policy and Food of Ukraine's order of 29.11.2006 №716 "On approval the List of regulated pests" ¹³.

3.6. Threats to Producers/Importers due to Non-Compliance of Ukrainian Legislation and European Union legislation

The biggest threats to importers are:

- non-compliance with the phytosanitary legislation of Ukraine. If a quarantine organism is detected during phytosanitary control, the contaminated consignment will be destroyed¹⁴.
- movements or actions aimed at moving goods across the customs border of Ukraine with concealment from customs control, which entails the imposition of a fine of 100

¹³ <http://zakon0.rada.gov.ua/laws/show/z1300-06>

¹⁴ http://www.consumer.gov.ua/News/4328/Informatsiya_shchodo_nevidpovidnosti_importnikh_vantazhiv_fitosanitarnomu_zako_nodavstvu_Ukraini_stanom_na_09-07-2018_roku

percent of the value of goods - direct objects of violation of customs rules with confiscation of these goods (Article 483 the Customs Code of Ukraine)¹⁵.

Regarding the inconsistency of Ukrainian legislation and EU legislation:

On October 25, the Cabinet of Ministers of Ukraine adopted a plan of measures on the implementation of the **Association Agreement**¹⁶, according to which the normative acts of Ukraine concerning the sphere of ornamental plants and flowers will be carried out in compliance with European legislation, namely:

Responsible for execution	The Ministry of Agrarian Policy and Food of Ukraine and State Service of Ukraine on Food Safety and Consumer Protection	
Name of task	Act of EU law	
The term of execution	until 31st December 2018 p.	
328. Adopting measures to trade planting material of ornamental plants in accordance with EU legislation		Council Directive 98/56/EC
341. Bringing measures to control genetically modified organisms in line with EU legislation: regarding the placing on the market of cloves (<i>Dianthus caryophyllus</i> L., line 123.8.12) genetically modified to improve the color of the flower		Commission Decision 2009/244/EC
The term of execution	until 31st December 2020 p.	
1088. Approval of requirements for gardening material of ornamental plants (gradual approximation of national legislation to EU legislation)		Council Directive 98/56/EC
1089. Approval of requirements for suppliers of gardening material of ornamental plants (gradual approximation of national legislation to EU legislation)		
1090. Adoption of norms concerning requirements for marking and packaging of ornamental planting material (gradual approximation of national legislation to EU legislation)		
1091. Adoption of conditions for conducting experiments and examinations with gardening material for ornamental plants (gradual approximation of national legislation to EU legislation)		

¹⁵<http://zakon3.rada.gov.ua/laws/show/4495-17/page18>

¹⁶<https://www.kmu.gov.ua/ua/npas/pro-vikonannya-ugodi-pro-asociaciyu-mizh-ukrayinoyu-z-odniyeyi-storoni-ta-yevropejskim-soyuzom-yevropejskim-spivtovaristvom-z-atomnoyi-energiyi-i-yihnimi-derzhavami-chlenami-z-inshoyi-storoni>

3.7. Taxation

To do business in Ukraine, related to the production, cultivation of flowers and ornamental plants, you need to register an enterprise (hereinafter – ENT). The main and most common forms of realization of this activity are legal entities (hereinafter – LE) – limited liability company and additional liability company (hereinafter – LLC and ALC)¹⁷, public and private joint-stock companies (hereinafter – PJSC and PrJSC)¹⁸, joint venture with foreign investments¹⁹, individual entrepreneur (hereinafter – IE) payers groups 2 and 3 of the flat tax (hereinafter – FT).

The main types of taxes and fees:

Tax on profits (hereinafter – TP) – tax levied on profits only from legal entities – residents and non-residents (Table 1).

Tax rate: 1) Based (main) rate – 18%;

2) Concessionary rates – 0% (Preliminary installed by 31/12/2021)²⁰.

IMPORTANT! ENT that apply the simplified taxation system (FT) are not payers of tax on profits.

Table 1

Comparison criteria	Tax on profits (2018)	
	Excluding tax differences	Taking into account tax differences
Object of taxation	Profit	Profit
Income for a calendar year	≤ 20 000 000 UAH (without indirect taxes)	no limits
Hired workers	no limits	
Permitted activities	All activities	
Methods of calculations	All	
Reporting period	Calendar quarter	Calendar year
The first reporting period	From the date of registration and ending with the last day of the full / incomplete calendar year (quarter)	

¹⁷ <http://zakon0.rada.gov.ua/laws/show/2275-19/> – The Law of Ukraine "On limited and additional liability companies"

¹⁸ <http://zakon2.rada.gov.ua/laws/show/514-17> – Law of Ukraine "On Joint Stock Companies"

¹⁹ <http://zakon5.rada.gov.ua/laws/show/93/96-9p> – Law of Ukraine "On the regime of foreign investment"

²⁰ <http://zakon0.rada.gov.ua/laws/show/2755-17/> – Item 44 of Subsection 4 of Section XX of the Tax Code of Ukraine

IMPORTANT! For tax purposes tax on profits to enterprises whose main activity is the production of agricultural products include enterprises whose income from the sale of agricultural products of their own production for the previous tax (reporting) year exceeds 50 percent of the total amount of income.

Flat tax (FT) – tax that business entities pay on a simplified taxation system, the main entrepreneurial tax. In Ukraine, the payment of FT is divided into 4 groups (Table 2).

Single social contribution (hereinafter – SSC) – consolidated insurance contribution, collection of which is carried out in the system of compulsory state social insurance on a mandatory basis and on a regular basis, payers of which are employers (Table 2).

Flat tax 1 group – only individual entrepreneurs, who not use of hired employees.

Types of activities – retail sale of goods and / or the provision of household services (list of these services see in article 291.7 Tax Code of Ukraine). Annual income limit – up to 30 thsd. UAH.

Flat tax 2 group – only individual entrepreneurs, the number of employees is up to 10 people.

Types of activity – the provision of services, including household services (list of these services see in article 291.7 Tax Code of Ukraine), for single tax payers and / or population. Production and / or sales of goods (all NACE are listed below in the text). Annual income limit – up to 1,5 mln. UAH.

Flat tax 3 group – legal entities and individual entrepreneurs, there is not a limited number of employees.

Types of activity – have a right to carry out any type of activities which is not prohibited for the simplified system. Annual income limit – up to 5 mln. UAH.

Table 2*

Payer of tax	FT		SSC	
	Tax rate	Pay period	Minimum sum SSC	Payment SSC
Group 1 (IE)	176,20 UAH <i>(up to 10% of subsistence level)</i>	Every month <i>(in advance not later than the 20th day)</i>	819.06 UAH per month	Quarterly by the 20th day of the month following the quarter for which the SSC is paid
Group 2 (IE)	744,60 UAH <i>(up to 20% of minimum wage)</i>			
Group 3 (IE i ENT)	3%** or 5% of income	Quarterly <i>(within 10 calendar days after the deadline for submission of the declaration)</i>		

* – amount is set as of 2018;

** – the rate of FT – 3% is established if the ENT is a value added tax payer.

Flat tax – Group 4 – the tax that is established for agricultural producers (the share of agricultural production for the previous tax (reporting) year is equal to or exceeds 75%²¹). At the same time, agricultural products/goods (goods indicated in groups 1-24 UCCFEA²²) are grown, fattened, harvested, collected, produced, produced, processed directly by the producer of these goods (products), as well as processing and processing products of these goods (products), if they were purchased or produced at own or leased facilities (areas)²³.

²¹ <http://zakon0.rada.gov.ua/laws/show/2755-17/> - points 14.1.235 section I of the Tax Code of Ukraine.

²² Ukrainian Classification of Goods for Foreign Economic Activity - flowers, ornamental plants and their seeds, bulbs, etc. are in Group 6.

²³ <http://zakon2.rada.gov.ua/laws/show/1877-15/> - Law of Ukraine "On State Support to Agriculture".

Table 3

Necessary criterion	The right of ownership or use of land plots must be registered and registered in accordance with the law.
Object of taxation	Normative monetary valuation (NVO) of one hectare of agricultural land, taking into account the indexation coefficient
Tax rate	for arable land, hayfields and pastures – 0,95% ; for arable land, hayfields and pastures located in mountainous areas and in the Polesye territories – 0,57% ; perennial crops – 0,57% ; perennial crops, located in mountainous areas and in the Polesye territories – 0,19% ; for water fund lands – 2,43% ; for agricultural land, in conditions under cover – 6,33% .
Payment	quarterly within 30 calendar days following the last calendar day of the tax (reporting) quarter, in such amounts: <ul style="list-style-type: none"> • in the 1st quarter – 10%; • in the 2nd quarter – 10%; • in the 3rd quarter – 50%; • in the 4th quarter – 30%.

IMPORTANT! Cannot be payers of a FT groups 4 of ENT in which more than 50 percent of the income received from the sale of agricultural products of its own production and products of its processing is income from the sale of ornamental plants (excluding cut flowers grown on the grounds belonging to the agricultural producer on right of ownership or granted to it for use, and products of their processing).²⁴

Value added tax (VAT) – is an indirect tax that is included in the price of goods (works, services) and paid by the buyer, but its account and transfer to the state budget is made by the seller (tax agent). VAT payment by ENT (Table 4).

²⁴ <http://zakon0.rada.gov.ua/laws/show/2755-17/> – Item 291.5-1.1 of the Tax Code of Ukraine

Table 4

Criterion	General income taxation with VAT	General income taxation without VAT *	FT - Group 3 + VAT	FT - Group 3 without VAT*
Terms of stay	-	Revenues of 1 million UAH for 12 months	The amount of income during the previous calendar year is ≤ 5 million UAH	
Tax rate	TP – 18% and + 20% VAT	only TP – 18%	3% of income + 20% VAT	5% of income

* – According to sub-clause 181.2 of the Tax Code of Ukraine, if any enterprise, incl. VAT non-payer, imports goods into Ukraine in amounts subject to VAT (customs value is more than 150 euros), then such persons pay VAT on customs clearance of goods without registration as VAT payers.

VAT on import services that are subject to VAT must be paid by the recipient of such services. It does not matter whether this recipient is a VAT payer or not. That is, any payer of FT who receives services from a non-resident whose delivery location is defined in the customs territory of Ukraine is a tax agent of such a non-resident in terms of charging and paying VAT to the budget for such transactions regardless of the amount of the transaction.

VAT and agricultural producers – FT – Group 4 (Table 5)

	with VAT	without VAT
Registration by the payer of VAT	Obligatory, provided that the total amount from the implementation of operations for the supply of goods/services, during the last 12 calendar months, total exceeds 1 million UAH. (excluding VAT)	Voluntarily, provided that the total amount from the implementation of operations for the supply of goods/services, in the last 12 calendar months, together does NOT exceed 1 million UAH. (excluding VAT)

To carry out economic activities, enterprises must choose a certain type of economic activity – **NACE**:

1) Production/growing of flowers and ornamental plants

NACE	Name	Description
01.19	Growing of other non-perennial crops	This class includes the growing of all other non-perennial crops: - growing of flowers - production of cut flowers and flower buds - growing of flower seeds
01.30	Plant propagation	This class includes the production of all vegetative planting materials including cuttings, suckers and seedlings for direct plant propagation or to create plant grafting stock into which selected scion is grafted for eventual planting to produce crops. This class includes: - growing of plants for planting; - growing of plants for ornamental purposes, including turf for transplanting; - growing of live plants for bulbs, tubers and roots; cuttings and slips; mushroom spawn; - operation of tree nurseries, except forest tree nurseries

IMPORTANT! It is possible to carry out economic activities for the production/growing of flowers and ornamental plants, as an agricultural producer on the 4th group of taxation (Flat tax – Group 4), but on the condition that the share of agricultural production for the previous tax (reporting) year is equal to or exceeds 75%.

2) Trade in flowers and ornamental plants

NACE	Name	Description
46.22	Wholesale of flowers and plants	This class includes: – wholesale of flowers, plants and bulbs.
47.76	Retail sale of flowers, plants, seeds, fertilizers, pet animals and pet food in specialized stores	
47.91	Retail sale via mail order	This class includes retail sale activities via mail order houses

	houses or via Internet	<p>or via Internet, i.e. retail sale activities where the buyer makes his choice on the basis of advertisements, catalogues, information provided on a website, models or any other means of advertising and places his order by mail, phone or over the Internet (usually through special means provided by a website).</p> <p>The products purchased can be either directly downloaded from the Internet or physically delivered to the customer.</p> <p>This class includes:</p> <ul style="list-style-type: none">- retail sale of any kind of product by mail order;- retail sale of any kind of product over the Internet. <p>This class also includes:</p> <ul style="list-style-type: none">- direct sale via television, radio and telephone;- Internet retail auctions.
77.29	Renting and leasing of other personal and household goods	<p>This class includes:</p> <ul style="list-style-type: none">- renting of all kinds of household or personal goods, to households or industries (except recreational and sports equipment), including of flowers and plants.

State support

In Ukraine, in the framework of state support programs for the agro-industrial complex, subsidies, grants or other mechanisms of state support for the cultivation of flowers, ornamental plants, etc. are **NOT** foreseen.

At the moment, there is a program of state support for the development of viticulture, horticulture and hops, but within the framework of this program, we are talking about vine-growing, horticultural and hop husbandry businesses, and registered accordingly.

More information:

http://www.ucab.ua/en/doing_agribusiness/legal_guidance_for_foreign_investors/legal_guidance_for_foreign_investors

3.8. Procedure of Foreign Investments

Subjects, forms and objects of foreign investments.

Subjects of foreign investment activity in Ukraine are recognized:

- legal entities created in accordance with the legislation of another country;
- individuals – foreigners who do not have a permanent place of residence on the territory of Ukraine and are not limited in capacity;
- foreign states, international governmental and non-governmental organizations;
- other foreign subjects of investment activity that are recognized as such in accordance with the legislation of Ukraine;

Foreign or national currency of Ukraine, movable property, shares, bonds and other securities, monetary claims, intellectual property, etc. are recognized as investments. Forms of investment: equity participation in joint ventures or the acquisition of a stake in existing enterprises, the creation of enterprises wholly owned by foreign investors or the acquisition of full ownership of existing enterprises; acquisition of movable or immovable property, rights to use land, concessions for the use of natural resources, etc.

Foreign investments can be invested in any investment objects not prohibited by the laws of Ukraine, namely: fixed assets of operating enterprises and objects of social purpose; fixed assets of newly created enterprises and objects of social purpose; working capital of enterprises and organizations of all spheres and sectors of the national economy; securities; target money deposits; scientific and technical products; intellectual values; other objects of property, including property rights. It should be noted that there are legislative restrictions on certain facilities, such as agricultural land.

Investment process

In order to carry out foreign investments in Ukraine, a foreign investor must register a legal entity on behalf of which it will carry out investment activities. Limited liability is common among investors and a convenient form of a legal entity in Ukraine, considering the simplicity and speed of its registration (2-3 business days) and the availability of the establishment of the authorized capital (from 1 hryvnia). Alternatives are also joint-stock companies, but their registration lasts from 3 to 4 months, and the authorized capital of which is at least 1250 minimum wages.³ Protection and guarantees of foreign investments.

Investments can also be made without the creation of a legal entity, where joint investment activity is carried out on the basis of concession contracts, production cooperation contracts, joint production and others. These contracts should be registered by government authorities.

Protection and guarantees of foreign investments

Foreign investments can be insured. Insurance of foreign economic operations is carried out by state, joint-stock, mixed and other commercial insurance companies on a contractual basis. Insurance of export credits, loans, as well as some investments and contracts for the supply of machinery and equipment is carried out by a specialized insurance joint stock company, the controlling stake of which belongs to the Government of Ukraine.

The government has established privileges and guarantees of property rights and interests of investors: the exemption from customs duties on property imported into Ukraine as a contribution of a foreign investor to the statutory fund of the enterprise, and secondly, that its products are not subject to licensing and quota under the condition of its certification as own production products.

Foreign investments are not subject to nationalization and cannot be recaptured by state authorities. Except to a natural disaster, an accident, an epidemic, etc. to provide rescue work.

Foreign investors are guaranteed unrestricted transfer of their profits, revenues and other funds in foreign currency, after paying taxes and compulsory payments. In addition, they are entitled to reimbursement of losses caused by mistakes or mismanagement by public authorities of their duties.

If an investment activity of a foreign investor stops, he has the right to return his investments and income in kind or in cash at a real market value. And in the event of a change in the legislation on foreign investment for ten years, it has state guarantees of protection that were provided by the law at the time of the investor's registration.

Taxation of investments

Enterprises with foreign investment pay taxes in accordance with the legislation of Ukraine (corporate income tax, personal income tax, value added tax, excise tax, environmental tax, rent, customs duty). At the same time, there is a possibility of exemption from payment of import duties in case of import into Ukraine the property for entering into the authorized capital, upon condition its non-alienation during 3 years.

The total monthly (annual) taxable income of the taxpayer includes the investment income from the taxpayer's transfer of securities, derivatives and corporate rights issued to forms other than securities. The procedure for taxation of investment profits is regulated by Article 170 of the Tax Code of Ukraine. взнос в уставный фонд

For the purposes of taxation of investment income, the reporting period is the calendar year.

The investment income is calculated as the positive difference between the income received by the taxpayer from the sale of a separate investment asset and its value, which is determined by the amount of the cost of acquiring such an asset, taking into account the norms of the defined Tax Code of Ukraine. **The tax rate on investment income is 18 percent.**

The sale of an investment asset equals operations with:

- exchange of an investment asset for another investment asset;

- the redemption or repayment of an investment asset by its issuer, which belonged to the taxpayer;
- return to the taxpayer of funds or property (property rights) previously made to the authorized capital of the issuer of corporate rights, in case of such a taxpayer's withdrawal from the founders (participants) of such an issuer or the liquidation of such an issuer.

Purchase of an investment asset is also considered a transactions made by a taxpayer regarding to contribution of funds or property in the authorized capital of a resident legal entity in exchange for corporate rights issued by them.

Also, Ukrainian legislation provides for certain features of non-residents taxation.

The object of taxation of both residents and non-residents operating on the territory of Ukraine is income from a source derived from Ukraine.

The source of income derived from Ukraine is any income received by residents or non-residents, from all types of their activities in the territory of Ukraine (including payment (accrual) of remuneration by foreign employers), including, but not exclusively, income in the form of interest, dividends, royalties and any other passive (investment) income paid by residents of Ukraine.

In particular, a resident or a representative offices of a non-resident who, in favor of a non-resident or a person authorized by him (other than a non-resident representative office on the territory of Ukraine), any income from sources of income derived from Ukraine received by such a non-resident from the conduct of economic activity (including to non-resident accounts held in the national currency), hold a tax on such income at a rate of 15 percent of their amount.

Investment disputes

Ukraine has concluded and ratified a number of agreements on the promotion and mutual protection of investments, each of the agreements regulates the issue of resolving investment disputes and determines the jurisdiction of the consideration of such categories

of cases. The Arbitration Rules of the United Nations Commission on International Trade Law provide for arbitration as a way of resolving an investment dispute.

Other authorized bodies reviewing investment disputes:

1) International Center for Settlement of Investment Disputes (ICSID) – The Center's objective is to ensure the resolution through reconciliation and arbitration of investment disputes between the Contracting States and persons of other Contracting States in accordance with the provisions of this Convention.

2) European Court of Human Rights – the Convention for the Protection of Human Rights and Fundamental Freedoms decides that no one shall be deprived of his property except in the interests of society and on the terms.

3) National Courts of Ukraine – each business entity has the right to apply to the economic court in accordance with the established jurisdiction of economic cases for the protection of their violated or disputed rights and protected by law interests

Legal regulation. The policy of Ukraine regarding state regulation of foreign investments is determined by the Laws "[On Foreign Economic Activity](#)", "[On the Mode of Foreign Investments](#)", "[On Protection of Foreign Investments](#)", "On the Legal Status of Foreigners and Stateless Persons", etc., as well as by the Decrees of the Cabinet of Ministers of Ukraine "[On the procedure for state registration of contracts \(contracts\) on joint investment activity with the participation of a foreign investor](#)" and others.

These documents determine the general principles of state regulation of foreign investments, subjects, types and forms of investment, the procedure for monitoring the implementation of investments and state guarantees for their protection.

3.9. List of Public Authorities Who Have Particular Functions in the Sector, from the Review on the Research Problem

1. Customs authority – STATE FISCAL SERVICE OF UKRAINE (<http://sfs.gov.ua/en/>)

The importer before submitting to the customs authority documents and information necessary to provide the customs control, must apply to the customs authority for registration as subject of foreign activities.

Customs clearance of goods, which are classified in commodity group **06 "live trees and other plants; bulbs, roots and other similar parts of plants; cut flowers and ornamental foliage"** according to the Ukrainian classification of goods for foreign economic activity, imported into Ukraine by the subjects of economic activity, belong to Kyiv regional customs, namely the Customs post "East terminal" at the address: Kyiv region, Boryspil district, Martusivka, Mosseyev str., 72.

2. STATE SERVICE OF UKRAINE FOR FOOD SAFETY AND CONSUMER PROTECTION (<http://www.consumer.gov.ua/>)

It is the central executive body that implements state policy in the field of quarantine and plant protection, sanitary legislation, market supervision within the scope of its responsibility, state supervision (control) in the field of agro-industrial complex, state supervision (control) in the spheres of protection of plant variety rights , seed production and seedling, state control over compliance with legislation on consumer protection.

The powers of the State Committee for Proprietary Consumer Goods include issuing:

- phytosanitary certificates;
- phytosanitary certificates for re-export;
- quarantine certificates.

3. STATE CENTER FOR CERTIFICATION AND EXAMINATION OF AGRICULTURAL PRODUCTS (<https://dpcenter.org.ua/>)

Institution which provide certification and examination of seeds and planting material, agricultural crops, forest, flower-decorative and medicinal plants.

The functions of this institution include:

- examination, issuance and cancellation of seed and/or planting material certificates certifying varietal and sowing qualities of the seeds or variety qualities and market condition of the plant material;
- issuing of international certificates of the OECD and ISTA.

4. UKRAINIAN INSTITUTE FOR PLANT VARIETY EXAMINATION (<http://sops.gov.ua/en/>)

Conducts a qualification examination (testing) Applications for plant varieties, ensures the maintenance of the State Register of Plant Varieties of Ukraine and the publication of information on the registration of new varieties.

The functions of this institution include

- carrying out a complex of field and laboratory research;
- providing an expert opinion for the further inclusion in the State register of varieties plants suitable for distribution in Ukraine;
- conducting of Post-control and laboratory varietal control.

5. SECTION OF PROTECTION OF PLANT VARIETY RIGHTS OF THE DEPARTMENT OF AGRICULTURE AND TECHNICAL POLICY AT THE MINISTRY OF AGRARIAN POLICY AND FOOD OF UKRAINE (<http://minagro.gov.ua/en>)

- state registration of proprietary rights of intellectual property on plant varieties;
- issuance of security documents for plant varieties.

6. STATE SERVICE OF UKRAINE FOR GEODESY, CARTOGRAPHY AND CADASTRE (<http://land.gov.ua/en/>)

The public service, which carries out disposal of state-owned land, is the administrator of the Public Cadastral Map and organizer of land auctions.

4. Floricultural and Ornamental Markets. Detailed description of each Category

4.1. Cut Flowers. Market Volume

For detailed market evaluation the following experts and market players have been involved:

- producers of flowers;
- importers;
- shop owners;
- representatives of floricultural market;
- consultants from the Netherlands.

Currently there are no statistical data or any other open quantitative information on the market of cut flowers in Ukraine. According to experts, more than half of all cut flowers sold in Ukraine are imported. The domestic production is represented by specialized enterprises (mostly roses), and a number of small private farms and households supplying small kiosks and street markets.

The market value of fresh cut flowers in Ukraine is based on actual imports and total domestic production (excluding households), in end-consumer prices was 193 mln. USD in 2017. It is estimated that 30% of the sales is in B2B segment and the rest 70% in retail. Based on this statistics the average expenditures of **one Ukrainian household on cut flowers is 9 USD per year** (which, at an average exchange rate of the dollar to the hryvnia in 2017, is 240 UAH). According to most experts, market continued to show **positive dynamics in 2018**, so we can assume that import grew by at least 7% and domestic production by 5%, hence the estimated value of the **market in consumer price is 205 mln. USD in 2018**. This means that Ukrainian households have increased their expenditures on flowers up to 10 USD a year.

4.1.1. Product Range. The Most Demanded Flower Varieties

Product range is usually developed depending on the season, but most shops and suppliers have the following flower varieties, only the number and country of origin change:

- roses;
- tulips;
- eustoma;
- chrysanthemum;
- peony;
- gerbera;
- orchids;
- anthurium;
- dianthus (not so often).

Each flower is usually represented by several varieties and colors.

Roses are the main flowers in the product range and the most popular ones as they are presented in Ukraine for any events.

«We mostly sell roses which are about 70% of the assortment, and 30% are other flowers». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

«As for world wholesale turnover, the share of roses is about 36-37%. Difference in demand between West and the East is insignificant, roses are the main flowers on the East». – **Importer of flowers and ornamental plants, expert from the Netherlands**

The color range of roses is dominated by white and red varieties. Experts explained the popularity of these colors by traditions, stereotypes, customers' tastes and purpose:

- For the wedding quite often, people order white roses or roses of other light and pastel shades;
- Yellow roses are not accepted to be presented, so they are less likely to be sold;
- Red flowers of different shades are often bought by men;
- Recently, pink, purple, two-colored and unconventional colors of roses, for example blue, are gaining in popularity.

«During wedding season floristics most often use flowers of pastel and light colors. For other events, the leader is a red rose. Less popular are yellow roses. Everything depends exclusively on the individual choice, statistics doesn't exist. Men, of course, prefer a red rose, it is not a secret. The choice of a woman depends on her style and taste». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

In the product range such roses can be found based on the type:

- Single head roses, which include Hybrid Tea Roses. These are flowers with large inflorescence and flowers of a medium in size (intermediates);
- Bush roses, which include peony roses, that are recently gaining popularity as they have a big bud and look like peony.

The most common are single head roses that are usually used for bouquets. As a gift may be given a single rose (in this case, it should have a long stem and a large head), 3-9 roses in one bouquet and more. One respondent stated that quite recently very large bouquets have gained popularity, for example, the most popular bouquet is made of 101 roses of one or more colors.

The bush roses are more expensive as their quality and price depends on the number of flowers per stem: it varies from 5 to 12.

Roses are distinguished by the length of the stem: from 30 cm to 1 meter. The height is also a factor defining quality and prices: long-stem flowers are more expensive in logistics. According to several market participants, the most popular in Ukraine are flowers of an inexpensive price category: medium sized bud and 40-60 cm long stem. This is caused by both domestic demand and the convenience of delivery.

«The market requires not very high roses which are not expensive. Almost all customers buy them. Because it is a cheap flower. Flowers with smaller head survive transportation much easier and the vase life will be longer, there are less unforeseen expenses associated with the fact that the flowers lose their quality if they are not sold. The crisis has affected all Post-Soviet countries». – **Viktor Tkachuk, Dolina company, importer of cut flowers.**

Tulips are the most popular flowers from New Year to May included. During the winter, the tulips are imported from the Netherlands, and starting from early March tulips of domestic production are also appearing on the market.

In Ukraine, tulips are the most popular flowers, which are accepted to be given at the holiday that has become popular very recently – February 14 (St. Valentine's Day) and one of the most popular dates in Ukraine – March 8 (International Women's Day). Although it is possible now that March 8 will lose its status of a state holiday as it includes remnants of the Soviet past. In March, the market is already saturated with tulips grown in Ukraine, which is why buyers are mostly offered tulips of domestic production. According to market participants, producers of Dutch tulips offer more varieties and have a wider range. And recently, according to the representative of the logistics company, during the holidays, manufacturers do not raise the price, so the Dutch tulips are still having a fair competition to flowers of domestic production based on the price. Tulips are also imported from Poland. These tulips, like the Ukrainian ones, have larger inflorescence (bigger glass), which is very attractive to Ukrainian buyers. As noted by the representatives of the floral business and the owners of sales platforms (shops), during the above-mentioned holidays their range of flowers is significantly dominated by tulips of domestic production.

«We buy Ukrainian and Dutch flowers, but nowadays the market of our local producers is quite wide, so we try to buy local flowers. There is less transportation and quality are good, the head is big. Speaking about the 8th of March we sell about 70% of local tulips and 30% of imported ones». – **Viktoriia Saiko, head of Floristry school Artichoke, owner of the Artichoke boutique**

Domestic production of tulips is carried out not only by professional companies engaged in growing flowers, including tulips, like Camellia, but also at individual farms in small volumes and on small areas, mostly in unprofessional greenhouses covered with a film. According to experts, the nonprofessional segment of tulip cultivation is predominant and supplies quite large volumes of tulips, although it is impossible to measure it. One expert noted that the production of tulips in the western regions of the country is of quite high quality.

Peonies are in the greatest demand at the end of May– early June, at this time the market is saturated by flowers of Ukrainian production. During other period, peonies are imported, so the price is rapidly increasing by 3 times. Peonies are actively replacing tulips by popularity. Specialists that are working on the flower market can find all the necessary volume of flowers during their active blooming very easily, but at the same time there is a

problem of storage, so flowers of Ukrainian production are chosen mostly while partially open.

«When there are peonies of domestic production, they dominate is our assortment. We live in Odessa and have “Privoz”, it is a wholesale base. People from all regions bring their products there, it is very convenient, and the price is fine. After a season for peonies of domestic production comes to its end, we sell Dutch flowers but in less volume. We take 50 imported flowers per week maximum. It is easy to get Ukrainian peonies during their season, so we do not need to order much. It is convenient as flowers will not lose their quality. We around 500 pieces per week in their high season in May». – **Viktorii Saiko, head of Floristry school Artichoke, owner of the Artichoke boutique**

Flowers with large inflorescences are appreciated. The color palette in flowers is wide: the earliest to bloom are burgundy flowers, they are followed by pink and white ones. Peonies are widely used in bouquet arrangements.

During the summer one of the most popular flowers is **Lisianthus (eustoma)**. During this period, the assortment of cut flowers may be dominated by eustoma of local production as it has high quality and bigger buds and, according to market participants, is better sold during the season. Distributors and shop representatives have established partnership with producers of these flowers and make orders according to their needs, but the flowers are also purchased at wholesale bases from Ukrainian producers.

«We can make orders by phone from suppliers that we have been working with for many years now. Any quantity, and any size. We sell at our store around 250-300 stems per week. In high season, seasonal flower is sold better». – **Viktorii Saiko, head of Floristry school Artichoke, owner of the Artichoke boutique**

«Lisianthus looks a little bit like a rose. So, the lisianthus is used now as a replacement of a rose. But when you buy one stem you have 8 flowers and when you buy a rose you have 1 flower. That's why it is so popular on the market nowadays». – **Importer of flowers and ornamental plants, expert from the Netherlands**

During another period, when the growing season of eustomas in Ukraine is completed, peonies are imported, so they can be found in the range of flowers throughout the year.

Chrysanthemum is also a very popular flower because it is affordable. Depending on the season and the category of buyers Ukrainian or flowers imported from the Netherlands prevail in the assortment of stores.

Speaking about the prices of flowers on the Ukrainian market, we can say that there are flowers of different price categories: from domestic cheap flowers to expensive imported ones of luxury segment. According to foreign experts and importers of flowers, the factor distinguishing Ukrainian market from the European one is that the biggest demand is on flowers of the middle and low-price categories, flowers of luxury segment are not demanded. In the European countries the situation is quite the opposite, the biggest share of flower range is comprised by sophisticated flowers of expensive price category, e.g. the roses in the flower range are of luxury segment. The luxury segment in Ukraine is found mainly in Kyiv, it may also be found in such large cities like Odesa, Dnipro and Kharkiv. More expensive flowers are usually imported and have the best quality: a bigger bud, longer stem, longer vase life. However, some experts believe that Ukrainian flowers are not inferior in quality to imported ones. They may also have large buds and can have a long enough vase life. According to a representative of Ascania-Flora, they have a special room, where flowers are tested in conditions close that in a regular home. Their roses may be in a vase for a week or longer.

«In western Europe they buy less roses, but it is more luxury product. In Ukraine people buy roses 1 or 3 times a year – for March 8th, September 1st and other such holidays. In Europe roses are bought for Mother's Day and Christmas, but it's more the luxury market». – **Expert from the Netherlands, supplier of cut flowers**

Speaking about the change in the range, it can be noted that the Ukrainian flower market is rather conservative, as new varieties appear not very often, their share is usually up to 5%. Shopping tastes also change very slowly.

«For this category of products "novelty" is a very relative concept. We are not speaking about launching of mobile phones with better features. Usually the same varieties of standard height are sold. Few new varieties may appear per a year, but there is no guarantee that customers will buy it». – **Alena Storchak, CEO of Ukraflora**

As for the market saturation with different categories of cut flowers, it should be noted that the Ukrainian market is known to have a surplus of cut roses, mostly of Ukrainian production.

«Just three weeks ago I was in Kharkiv, there is a wholesale flower market, where private producers sell their product. Abundance of flowers is evident there, and they sell it at very low price. All this suggests that there is an overproduction of flowers at this moment. There is produced more flowers than can be sold». –

Representative of Ukrainian producer of cut roses

«The market is nearly full. Ascania-Flora produces 15 thousand roses per day. How many people you have in Ukraine, 40 million?». – **Expert from the Netherlands, supplier of cut flowers**

As for other types of cut flowers, their share is much smaller, and the quality may vary (there might be flowers of poor quality). However, there are many flowers grown in the private sector, which have very high quality. There are examples of chrysanthemums of very high quality. Some of the private farms that grow flowers use restored greenhouses, where there is ventilation, teal whitening, sunblock coating. In such improved conditions they grow alstroemeria, eustoma, chrysanthemum. During the season when private growers supply the market, import of flowers decrease. Seasonal Ukrainian flowers have satisfactory quality, are beautiful and cost less. It is possible to make assumptions that in Ukraine hortensia and eustomas of high quality at a fair price may become quite popular, as well as tulips grown in industrial conditions.

A peculiarity of Ukraine is that flowers are often used as a gift, people rarely buy flowers to decorate their own home. In general, according to experts, in Ukraine it is accepted to give flowers 2-3 times a year: on some of the generally accepted holidays (listed above) and birthdays. Another peculiarity is that one flower can be used as a gift, in most cases it is a rose (in this case, it should have a long stem and large head), but such a flower will only be a sign of affection, not decoration of the room. The most popular is a bouquet of 3-9 flowers. Bouquets with more flowers are used less often. Among some buyers, recently there appeared a tendency to order large bouquets, for example, the most popular bouquet consists of 101 roses of one or more colors. Such bouquets are bought by people with high income, usually as a gift to a certain remarkable event. For example, such bouquets are popular in Odesa, for sailors to give to their women when returning from a long voyage.

Until recently, very high roses were very popular, the ones with the one-meter long stem and longer. It was believed that such roses are the most beautiful and most prestigious gift.



The popularity of roses with such a long stem is gradually decreasing as shorter or even miniature roses gain much popularity. Although the long stem roses still have their buyer.

«In our countries roses over one-meter high are popular. I remember, in the 1990's, buyers were looking for roses over one meter high with a huge bud». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

4.1.2. Seasonality of Demand

As all experts have noted, the market is seasonal, which is manifested in the tradition of giving flowers for certain holidays. The main dates of the holidays, when the sales of flowers are the highest (by decreasing popularity):

- March 8 – International Women's Day;
- February 14 – St. Valentine's Day;
- September 1 – Knowledge Day;
- Day of Farewell Bell ceremony.

All market participants prepare to these holidays, so they meticulously develop their flower range and increase volume of orders by several times. For example, on March 8, the sales volume increases by 5 times.

For the New Year and Christmas Ukrainians prefer to buy special flowers: at this time green bouquets are very popular. They may consist of branches of thuja and fir trees. The demand for such flowers as tulips, amaryllis and lilies increases. Only during these holidays painted flowers are in demand.

In addition to the fact that seasonality is manifested in traditional holidays during which it is accepted to give flowers, different flowers may gain popularity depending on the season, besides roses. The import and export ratio are also changing.

«Roses are a multi-season product, and the rest flowers are often seasonal». – **Alena Storchak, CEO of Ukraflora**

Rose producers noticed that on September 1 and the Teachers' Day roses are given less and less, during this period either some other cheaper autumn flowers of Ukrainian production or some exotic expensive flowers like hortensias are given.

«People used to buy flowers on September 1 and the Teacher's Day, maybe it is caused by the economic situation in the country, but people cannot afford to buy flowers, they might replace them with some other gifts, not necessarily flowers, or not necessarily roses». – **Representative of Ukrainian producer of cut roses**

The seasonality of roses is manifested by the fact that there are more roses with shorter stem in summer, which is caused by special climate conditions: conditions for growing roses

in Ukraine do not allow growing roses with a long stem, due to high temperatures. In summer high roses are imported from countries that are closer to the equator. In winter Ukrainian producers grow high roses, but they have a higher price. According to producers, there are not enough roses of a lower price category on the market during this period.

«We cut the higher roses in winter and a shorter one in summer. This is caused by a fact that there are extremely high temperatures in summer. The flower remains on the stem less, the bud opens faster and matures to a condition ready to be cut faster. We cannot the flower longer in the ground and get higher. In the summer, everyone grows a lower rose, it goes to both professional greenhouse farms and private handicraft industries. Accordingly, there will be demand on the for high roses, because it is present on the market in insufficient volume at this moment. The situation will change in the winter, a low-price segment will be in demand as all manufacturers will offer only high roses». – **Representative of Ukrainian producer of cut roses**

From October to March most flowers in the range are imported. Except roses, as they are produced by large companies in equal volumes throughout the year. From April to October, most of the assortment is dominated by flowers of Ukrainian production. During this period besides roses eustomas and tulips are also imported.

Roses are imported throughout the year, but there are more roses of domestic during summer and their sales volume decrease; starting from the middle of July and up to the late August, import of roses decreases too. Other flowers are imported depending on the season. In the winter, tulips are imported from the Netherlands, and from the early March, tulips of domestic production start appearing on the market. During popular holidays like March 8 and February 14 domestic tulips don't meet the demand, because they are a very popular for these spring holidays, the import of these flowers increases. According to market participants, producers of Dutch tulips offer more varieties, have a wider range. Price for Dutch tulips depends on their quality. Smaller flowers may be cheaper than Ukrainian, bigger tulips are more expensive. There may be cheaper Dutch flowers, but in this case, they are smaller and of lower quality. Usually Dutch tulips are delivered with closed buds to Ukraine, thus they may have longer vase life. And recently, according to the representative of the logistics company, during the holidays, Dutch producers do not raise price for tulips, thus their price is in fair competition to flowers of domestic production. Tulips are also imported from Poland. These tulips, like the Ukrainian ones, have larger

inflorescence (bigger glass), which is so attractive to Ukrainian buyers. As noted by the representatives of the floral business and the owners of sales platforms (shops), during the above-mentioned holidays their range of flowers is significantly dominated by tulips of domestic production.

«Tulips in Ukraine are only grown for Valentine's Day and Women's Day. For 2-3 weeks. They do not grow before. Because our tulips' season has started already. As a matter of fact, we can grow tulips 52 weeks of the year. In Ukraine they do not do that, because the demand in September or October is too small and even not worth to produce». – **Importer of flowers and ornamental plants, expert from the Netherlands**

4.1.3. Quality criteria of cut flowers

Due to the lack of approved standards for the quality of cut flowers in Ukraine, the quality of flowers is determined by the external factors. All experts mentioned the following quality criteria important for all flowers:

- Freshness is usually estimated visually: the color of the flower should be homogeneous, the condition of the outer leaves on the flower should be satisfactory, with no brown edges and overall fresh;
- Size, namely size of the flower itself, the number of flowers per stem (when it comes to flowers with several inflorescences, for example, bush roses, eustomas, etc.);
- Vase life is a period during which a cut flower retains its appearance in a vase after the purchase, not including delivery time and time of storage in shop;
- Absence of visible signs of disease or damage from pests.

All flowers also differ based on varietal qualities, endurance, which, in turn, depends on the climate conditions in which the flowers were grown.

Market participants mostly commented on the difference in the quality of **roses** of Ukrainian production and imported flowers:

- Colombian roses are more durable and larger in size;
- Kenyan roses are also durable, but smaller in size;
- Dutch roses are more delicate;
- Ukrainian roses are thinner stems and smaller buds.

According to most market participants, imported cut flowers are better for transporting, as they retain a marketable condition even after a long road and can spend some time in water; for roses, the average vase life is 9-14 days. Such durability of imported roses is predetermined by special climatic conditions of cultivation. Usually flowers are imported from equatorial countries (Kenya, Ecuador, Colombia), where they are grown in the mountains. In these countries there are no temperature fluctuations between different seasons, but there is a stable temperature fluctuation + 25-30°C during the day and up to +10°C at night. This allows plant to form a larger and thicker stem. Combination of such factors like thickness of the stem, its structure and the thickness of the neck of the flower allows flowers to have a longer vase life.

«Flowers imported from these countries (Kenya, Ecuador, Colombia) are better for transporting, retain a marketable condition and after being placed in water, they also have a pretty long vase life. This all depends on the cultivation, genetics, bud size and used protection product». – **Viktor Tkachuk, Dolina company, importer of cut flowers**

«For example, you were presented two bouquets, one of the Ecuadorian roses and another one of Ukrainian ones. The next day, in 90% of cases Ukrainian rose will bend its head. Ecuadorian roses were grown in completely different conditions, treated with pesticides, and they also have a woody stem, so they absorb water better and have the ability to feed each leaf. Therefore, the Ecuadorian roses will stand in the vase for 2 weeks without any problems, it will only darken in color and the bud might reduce in volume, but it will never fall off». – **Representative of logistics company of cut flowers and ornamental plants**

Representatives of Ukrainian producers of roses state their roses can be in vases for more than seven days. This is according to their tests of rose for their vase life.

The quality of the rose, according to some experts, depends on its color: roses of red and other dark colors are more durable compared to flowers of lighter shades, perhaps this is due to the fact that damage is not so noticeable on dark petals. Therefore, dark roses on sale have higher quality compared to lighter ones. This is especially noticeable on imported flowers: roses of lighter shades require special packaging, for example, individual layers of soft paper.

Among the reasons for the lower durability of roses of Ukrainian production experts mentioned the following factors:

- Unfavorable climate conditions for growing roses: in our climate it is possible to grow roses for cutting only in a greenhouse, bringing the thickness and length of the stem to the size of the roses that are grown in the conditions of the equatorial climate is very expensive. If you create conditions close to the equatorial, the rose will be more expensive than imported.
- Absence or discrepancy of climate control in greenhouses (not all producers, Camellia and Ascania-Flora – exclusion).
- Failure to adhere to growing technologies, desire to reduce technology costs, cost-cutting for microfertilizers, plant protection products, lighting (if artificial lighting is needed) and ventilation, due to high prices for electricity, gas, etc.
- Moreover, according to some experts, there is no real competition on the market of cut flowers, which leads to the fact that producers do not always sell fresh flowers but continue to grow bushes of roses that are outdated for the production of high-quality flowers.

«Camellia for example. They used to grow Grand Prix red rose. They continue growing Grand Prix because Camellia, for example, does not have to compete with Ukraflora and other growers. They are big, powerful. In Holland we have 13 growers who grow Grand Prix and they are competing with each other. When one plays games with freshness nobody will buy anymore, because we have 12 another alternatives». –

Importer of flowers and ornamental plants, expert from the Netherlands

Quality of other flowers grown in Ukraine (not roses) is usually low, as they are, in most cases, grown by small private entrepreneurs who do not have greenhouses with required climate control and watering, they do not possess all knowledge about cultivation technologies or cannot adhere them. Some experts stated there are some developed farms where they cultivate flowers of high quality. Except for tulips from major producers, such as Camellia, and eustomas from such a large producer like Service Flora.

«Our local ranunculus, as far as I have heard, it is inferior in quality to the Dutch one. There might be some difference in cultivation technology». – **Representative of logistics company of cut flowers and ornamental plants**

However, there is a category of buyers who consider Ukrainian flowers, like eustomas, to have higher quality, as they have more flowers on the stem. Moreover, producers lay

greater emphasis on the fact that Ukrainian flowers spend less time on the road, so they are fresh. It is believed that in order to grow domestic flowers it is used less, so they are safer and, accordingly, if we consider this criterion for quality assessment, have higher quality.

«Ukrainian eustoma is more beautiful compared to one from the Netherlands where all flowers are produced according to one standard: five buds and some spare buds. In average Ukrainian flower has 10 inflorescences on a stem, minimum five, and about 20 closed buds». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

4.1.4. Transportation and storage

Imported roses are transported in boxes, where the flowers are densely packed, in specially equipped cars (trucks) where stable conditions can be provided: ventilation and temperature +5°C. Monitoring the adherence to all these conditions is multi-stage approach, where driver has an on-board computer controlling the temperature sensors placed in the boxes with flowers. Some importers prefer transporting flowers in water:

«What distinguishes our company from the rest is that our flowers are transported in water. For this we use special tanks, which allow flowers to absorb water during transportation and retain all characteristics. We do not save on logistics, because quality is a priority to us. Most suppliers transport flowers in boxes, and it may affect the quality». – **Alena Storchak, CEO of Ukraflora**

Importers store flowers in specialized refrigerators until they are shipped to wholesalers.

«We store cut flowers in our refrigerators of 750 square meters. Flowers wither quite fast. If it goes to the wholesalers next, we store flowers not more than 1 day. For retail we may keep flowers for several days, a week is the most, depending on time when the flower was bought». – **Alena Storchak, CEO of Ukraflora**

Flower shops store flowers in refrigerated display cabinets. As for the kiosks, not all of them are equipped with the necessary refrigerated display cabinets, so flowers can lose their freshness.

«All retail shops that are dealing with small wholesale have refrigerators, where the temperature is maintained from +3°C to +8 °C. Flowers can remain there just in the box for a while, even a Kenyan rose. It can just lay in the box. If freshly cut flower has not yet been stored and there were no problems during production like rains, excessive humidity, this box can easily be stored in the refrigerator for a week. Then these flowers are taken from the boxes, put in the water. Flowers go through rehydration process as they

absorb water and remain marketable for a quite long while after that». – Viktor Tkachuk, Dolina company, importer of cut flowers

4.1.5. Import Structure

According to general assessments of the main players, market of cut flowers is import-dependent. Significant part of cut flowers is imported while planting material is imported for local production.

Cut roses are imported the most, import of tulips and chrysanthemums depend on the season. Wide range of other flowers is also imported but in smaller volumes.

«The main flowers imported to Ukraine are roses and chrysanthemums. Roses take approximately 50% of all imported flowers, chrysanthemums – 25%, and other flowers – 25%. All kinds of flowers are imported».

– **Dutch expert in the market of cut flowers, worked with the largest importers**

Flowers are mostly purchased at Royal FloraHolland and other auctions in the Netherlands.

There are two ways to buy flowers from Ukrainian companies:

- Direct purchase from companies. Then companies providing logistics services deliver the purchased flowers either to warehouse of this company or to the warehouse of the buyer. One logistics company carries out delivery to several customer companies and individual customers, e.g. florists. Some importers may have their own trucks for delivery of flowers, in this case they can make deliveries not only to their own stores, but also provide logistics services, for example, Camellia.

Through intermediary companies that carry out all processes related to purchase and delivery to Ukraine. In this case, the customer companies select products directly on the website of the intermediary company, where the price is indicated in local currency and already includes costs for logistics services and customs clearance.

«We use the services of a company that has signed an agreement with the Dutch, and it sells their products in Odesa and throughout all coastal region. Information is provided in Russian with the final price, including the cost of customs clearance. It is very convenient». – **Viktoriia Saiko, head of Floristry school Artichoke, owner of the Artichoke boutique.**

Through brokerage companies that take orders from customers in Ukraine and purchase directly from producers, mainly in Kenya, Colombia and Ecuador. Flowers are delivered from the Netherlands to Ukraine by logistics companies. These are such companies like Dolyna and ZNS Group.

«Schemes of delivery are well-established as there is a transit location in Amsterdam, this is the largest in volume flower hub in the world. All flowers are flying from Kenya and other countries to Amsterdam by planes. After that flowers are delivered by trucks across the CIS countries. We have partners among truck companies that have warehouses and deliver flowers from Amsterdam to Ukraine. These small truck companies are importers, because they carry out customs clearing. We deliver flowers to the Netherlands; truck companies take care of customs clearance and deliver them to Ukraine. Therefore, we are not importers, we are exporters. We export flowers from Kenya and Israel». – **Viktor Tkachuk, Dolina company, importer of cut flowers.**

In all abovementioned cases, logistics companies play an important role. There are quite large ones, that deliver flowers all over Ukraine. Florists make orders approximately once a week, logistics companies deliver from 2 and up to 6-8 trucks per week (depending on the season and perspective of holidays).

According an expert from the Netherlands, main exporters from the Netherlands to Ukraine are:

- De Gooijer International, Aalsmeer, the Netherlands;
- OZ Export, Aalsmeer, the Netherlands (<https://www.ozexport.nl/about/>);
- IBH Export, HQ in Aalsmeer, the Netherlands (<https://www.ibh-export.nl/>);
- Kurt Schrama Blumenexport, De Kwakel, the Netherlands (<https://www.schrama.nl/en>);
- Astra Fund, the Netherlands (<http://astraflowers.com/>);
- Zeester Bloemen en Planten BV, Honselersdijk, the Netherlands;
- M&M Flor (<http://www.mmflor.com/index.html>);
- Limflor, Honselersdijk, the Netherlands (<http://www.limflorbv.nl/>);
- Export Unie Flora, offices in the Netherlands and Russia (<http://www.euflora.eu/en/index.aspx>);
- Flower force, Honselersdijk, the Netherlands (<https://www.flowerforce.nl/>).

Main importers mentioned by Ukrainian experts are:

- Ukraflora, Kyiv, Ukraine (<https://ukraflora.com.ua/>);
- Megaflora, Kyiv, Ukraine (<http://megaflora.com.ua/>);
- Exotic Flora, Kyiv, Ukraine;
- Luxflora (<http://luxflora.com.ua/>);
- Primaflora (<http://primaflora.com.ua/>);
- Holland To You (<https://htu.com.ua/>), makes deliveries to the northern region of Ukraine;
- Camellia (<https://camellia.ua/ua>).

The main countries where cut flowers are produced: the Netherlands, Colombia, Ecuador, Kenya, Ethiopia, Malaysia. Also, flowers are imported from Israel, Italy, Poland, and some from New Zealand, Australia and Mexico.

«During my last visit to the wholesale companies, I would say number one is still Holland, number two is Ecuador, number three is Kenia. Kenia will beat Ecuador soon». – **Importer of flowers and ornamental plants, expert from the Netherlands**

4.1.6. Import and Domestic Production

Ratio between import and domestic production depends on the season, holidays and types of flowers:

- The share of imported flowers increases on holidays as domestically produced flowers are not enough to meet increased demand.

«Demand on flowers increases on holidays and during wedding period, when domestic production is simply not enough to meet these needs and the share of import is increasing». – **Viktor Tkachuk, Dolina company, importer of cut flowers**

- The share of imported flowers increases from October to the end of March.
- According to many market participants during the season of local flowers production, from March to October, domestic demand is met by flowers produced in Ukraine; at other times – the same types of flowers are imported.

The domestic production of flowers is mainly concentrated on roses, tulips, eustomas, chrysanthemums and peonies.

According to some experts, around 70% of cut flowers on the market is imported. All experts unanimously agreed that in total imported flowers are dominant on the Ukrainian market, due to the fact that local producers are not able to provide the necessary volumes of flowers throughout the year. Only roses are grown by domestic producers on an industrial scale. Tulips are grown in much smaller volume and only till spring holidays. There is available Ukrainian eustoma from May to September on Ukrainian market. It is usually cultivated in unheated greenhouses, such in winter time Ukrainian eustoma is not available. Some share of flowers in Ukraine is grown by individual private entrepreneurs but they cannot provide the required volume and quality on a permanent basis.

Some experts noted a tendency towards decrease in volumes of imports, which is mainly caused by a high cost of both flowers and logistics services. Import of flowers is related to the risks at customs clearance and exchange rate fluctuations. Another reason for the decrease in import volumes is the dumping policy of local producers during the spring-summer season which are trying push foreign competitors out of the market. During the economic crisis, when the payment capacity of the population has dropped and the 10 UAH difference in the price on roses became essential for the consumer, people started buying more flowers of local production.

«Import has its difficulties. First, they are time related: from the moment a customer has made an order, until they receive the flowers. In Ukraine, the client may get flowers within an hour. Probably there is no retail point where there are no local flowers, because they are cheap and easy to buy. There is no need to look for brokers or contact companies in the Netherlands. Therefore, local production takes a large market share». – **Viktor Tkachuk, Dolina company, importer of cut flowers**

«The main reasons for the purchase of local roses by our company are the price, availability and less risks. When I import flowers, I pay customs fees, and everything related to it. When I work with local supplier, I order flowers on daily basis based on needs. I have less risks and the price is lower. The quality of the local flowers depends on the delivery. I cannot say that imported roses have higher quality compared to local ones. We import different varieties from the ones we buy locally». – **Alena Storchak, CEO of Ukraflora**

During early autumn, nonprofessional segment (households) supply a lot of chrysanthemums of inexpensive price category.

Ukrainian producers of cut flowers are gradually replacing imported ones in average price category and lower. Flowers grown in Ukraine are easier to buy, because there are no risks

related to customs clearance and lower logistics costs. Price on Ukrainian roses is lower compared to imported ones and have a rather high quality achieved by high-tech modern greenhouses. It also may be related to tulips. For the Ukrainian consumer the quality of local eustomas and peonies is acceptable. Flowers of the luxury segment are less popular. The volume of imported flowers increases during popular holidays, when local producers are not able to satisfy the demand for quantity and quality of flowers.

«Roses in our assortment are mostly from Ukrainian producer. Speaking about ratio, we have about 90% of local roses, and 10% - of imported». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

«Sales points are oriented towards their customers. Some kiosks may not have imported flowers. Local flowers are enough for them. Someone lays emphasis on imported flowers, especially if we are talking about stores in the city center, as the customers there prefer flowers of premium segment, with a big bud, heavy and beautiful». – **Viktor Tkachuk, Dolina company, importer of cut flowers**

4.2. Potted Plants

For potted plants market evaluation, there were interviewed the following experts and market participants:

- producers of potted plants;
- importers;
- shop managers;
- representatives of phytosanitary services.

The main objectives under study:

- potted plants market volume;
- types of potted plants available on the Ukrainian market, most popular plants;
- quality criteria of potted plants, and quality of plants available on the market;
- seasonal demand for potted plants;
- transporting and storing of potted plants;
- main importers and plants they import;
- the ratio of import and domestic production.

4.2.1. Market Volume

Evaluating the market, we have taken into consideration a **real import estimation and insignificant domestic production**, excluding plant growing for personal needs in households, thus the ***total value of potted plants in prices for end-consumer comprised 130 million USD in 2017***. If the share of the total output of B2B segment is 15% and the remaining 85% is sold in retail, the expenditures of one household per potted plant in average is 7 USD per year (197 UAH with the exchange rate of 2017). According to most experts, the market showed positive dynamics in 2018, so we can assume that import grew at least by 9% while domestic production – by 10%, hence the estimated market value for the final consumer is ***142 mln. USD*** in 2018. Under the same ratio between the consumer and the business markets this means that a household has increased its expenditures on potted plants up to 8 USD per year.

4.2.2. Product Range

There are distinguished two categories of potted plants: indoor plants and potted plants for outdoor decoration or gardening. The most popular in both categories is the flowering group. In product range for these categories prevail different types of plants. Orchid (namely phalaenopsis) is purchased the most among indoor flowers. It is quite often used as a substitute for cut flowers and given as a present on some events. Different varieties of this plant can be seen practically at every location where house flowers are sold. Also popular are indoor plants, which require relatively little effort to care for them like cactus, succulents, spathiphyllum, dieffenbachia, dracaena, chlorophytum, echeveria. Importers of indoor plants stated that they bring here hundreds of varieties of indoor plants, so we can say that our market has a very wide product range in this category.

«We sell all potted plants, but 70% of them are phalaenopsis varieties. This popularity is caused by insufficient marketing of other flowers. It's very simple nowadays: phalaenopsis is very promoted and everyone wants to sell phalaenopsis». – **Importer of flowers and ornamental plants, expert from the Netherlands**

«Dracaena plants used to be very profitable. These palm trees with narrow leaves. They are still purchased for offices, sometimes for kids as they require not much care efforts. Both phalaenopsis and dracaena should not be watered almost at all, but they need to be sprayed. There are also dieffenbachia and spathiphyllum. These are items of an old product range that is still sold». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Among street potted plants the most popular are marigolds, petunias, surfinia, coleuses, begonias, verbenas and forget-me-nots. Roses in pots are also popular. These are mostly plants that grow well in our climate. Petunia and surfinia are the most popular in the spring and summer while chrysanthemums in pots – in the autumn.

Product range of potted plants is usually stable, the same varieties of plants are sold from year to year, but each year appears around 5% of new plants.

Talking about price categories of potted plants, we can say that the core is made of plants of average price category. For example, the largest network of garden centers, Epicentr, which also sells potted plants, has the following structure product range: 10-15% – premium segment, 15-20% – cheaper flowers from Ukrainian producers, and 70% – average price segment.

«Probably 10% are premium plants, sometimes up to 15%; another 15-20% are cheap flowering plants from Ukrainian producers that is targeted for older ladies. These might be violets, begonias or roses». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

4.2.3. Domestic Proportion and Import

The share of imported potted plants differs for indoor plants category and outdoor.

Plants for outdoor decoration in most cases are cultivated in Ukraine. Only seeds of rare varieties are imported.

«There is a mass production of flower seedlings that will be later planted on the streets. These are marigolds, petunias, surfinias and verbena. We do not import seedlings of these flowers. We import only varieties that we have not yet managed to propagate». – **Iryna Malakhova, Duomex company, importer of ornamental plants and cut flowers**

Indoor potted plants are mostly imported; representative of a retailer states the share of indoor plants of Ukrainian production doesn't exceed 10% of total indoor plants market in

Ukraine. Other experts also noted that the production volume of potted plants in Ukraine is small and it is not enough even for sale by producers in their own stores. One of the largest Ukrainian producers of indoor plants, Camellia, stated that they have 80% of indoor plants of own production and 20% are imported. Imported flowers expand the product range in the stores.

«Indoor flowers are grown in Ukraine, but the amount is insignificant and hardly even covers the needs of the companies that sell them directly». – **Alena Storchak, CEO of Ukraflora**

We have only few large producers of indoor potted plants, but they have a limited product range. The reason is that the production of these plants in small volumes is not profitable. If plants are of high quality, they are expensive. It even turns out to be higher than the price of imported plants.

«Foreign companies specialize in one particular type of plants. They grow millions of these pots that results in reduction of production cost. For example, production of 10 thousand plants require high production cost. It's easier to import than grow here. Expenses on electricity, fertilizers and human labor are too high». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Indoor potted plants are also grown by private individuals in Ukraine. For example, there are clubs of amateur florists who grow saintpaulias.

4.2.4. Structure of Import

The following categories are imported:

- Budwood of indoor flowers for nursing by producers of indoor flowers. Budwoods are not produced in Ukraine as it is not economically profitable. This category, according to experts, will continue to be imported. Budwood of indoor flowers are imported from the Netherlands and partially from Denmark.
- A numerous variety of indoor potted plants is imported to Ukraine. Potted plants are mostly imported from the Netherlands. A small share of plants is imported from Denmark, namely potted roses, campanulas, gerberas, hibiscus. Special varieties

are grown in Denmark, the ones that cannot be bought at auctions in the Netherlands. Some indoor flowers are also imported from Poland and Hungary.

Main importers of potted plants are Ukraflora, Megaflora, Camellia, Exotic Flora, Floremix; these companies are usually engaged in import of both potted plants and cut flowers. Business Buket supplies plants to Epicentr. Some flowers are imported by Plantpol (<http://www.plantpol.com.ua/>).

Most often potted plants from the Netherlands are bought at the Royal FloraHolland auction, where plants from different countries are available. Very rarely flowers are bought directly from producers.

«We buy flowers from different sources, where it is more profitable. Not always one can find the needed amount of plants at the auction. Not always an auction can give you the price you need. There are many factors. We cannot say that we buy flowers only at the auction». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

According to experts potted plants may also be imported illegally, as well as plants of other categories. By their estimation about 60% of potted plants are imported illegally.

4.2.5. Seasonality of demand

Seasonal demand means demand during holidays, when it is a custom to give flowers. These days potted plants may be presented instead of cut flowers. Potted plants are popular especially on March 8 and February 14. Potted plants can also be presented on Knowledge Day (1st of September) and the Teacher's Day. Therefore, demand for this category increases before these holidays.

The most popular are flowering plants like potted roses, narcissus, hyacinth, kalanchoe.

«The greatest demand is since Valentine's Day to March the 8th. All plants are purchased during that period. Only students buy flowers for Day of Farewell Bell ceremony. On March the 8th, completely all flowers are being purchased. There is a Teacher's Day after that when indoor plants are very popular». –

Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia

Marigolds and hortensia are the most popular during May holidays. During this total demand for flowers increases, including potted plants. They are used as graduation gift from students to teachers. Though cut flowers remain the most popular gift for this occasion.

The least demand is since middle of June to July.

Outdoor potted plants are popular in summer and autumn. Usually these are annual flowering plants. Ukrainians prefer plants that remain in full bloom at the time of purchase. For example, chrysanthemums are popular in the autumn; petunias, surfinias and other annual flowering flowers are chosen during spring-summer period.

4.2.6. Quality Criteria of Potted plants

The main quality criterion is the plant's health. Experts check whether the plant's appearance corresponds to the standard, such as the thickness of the stem and number of buds. There is also control of health of the root system. Buyers also pay attention to such parameters as color and plant height.

«Flower quality is namely plant's vitality and immune system». – **Iryna Malakhova, Duomex company, importer of ornamental plants and cut flowers**

Root system is one of the main prerequisites of a healthy plant; it should be undamaged and formed by replanting, so that the plant will adjust well at home. Experts check the health of the root system by removing the plant from the pot.

«Pull the plant out of the pot and look at the quality, first, how clean and fresh the roots are. The roots can tell everything about the plant. The same is with the fish, it may look great, but when you see white bones once you have cut it, you know that the fish is fresh. If the bones are brown, then this is a bad fish. The same with plants». – **Importer of flowers and ornamental plants, expert from the Netherlands**

Important quality criteria are vitality and healthy look for a long time in ordinary conditions, not in a greenhouse with artificial light, pesticide treatments, irrigation systems and other comfortable conditions. Potted plants should be able to survive in the home environment as there are no special irrigation systems, lighting and other factors available in the greenhouse. Moreover, indoor plants grown in greenhouses may be very toxic and they are not very safe to be placed at home, according to one of the experts.

«Cut flowers are of good quality, but the Dutch indoor flowers leave much to be desired, because they die very quickly, especially flowering ones. As I understand, it's because they are grown in artificial conditions. Once they are transferred to conditions with no fertilizers, other lightning and moisture conditions, the way it is in a regular apartment, plants are in shock. They may easily die, especially orchids». – **Representative of logistics company of cut flowers and ornamental plants**

Importers of this category of plants can check the quality of the product by visiting greenhouses where this product is produced. Usually, those who supply a more expensive category of products visit manufacturer to check the products personally.

«Large share in our stores is supplied by Floremix. They have been working with plants for a long time so they can personally select plants, visit greenhouses». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Companies that specialize in distribution of flowers stated that quality of product from one manufacturer is not stable, it may vary depending on the season.

«Each separate time plants are different. They may differ depending on season. However, there are suppliers with much higher quality of plants than others». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

The quality of potted plants also depends on the country of origin. Potted plants of Ukrainian production are of inferior quality compared to foreign ones, since Ukrainian producers do not have direct specialization and small production volumes do not favor automation of production. The best quality flowers are in Denmark, but they are also the most expensive ones. According to experts, potted plants of Polish production also have higher quality compared to, for example, Dutch, but also, respectively, more expensive.

«Potted plants are more expensive in Poland than in the Netherlands. But at the same time, all experts stated that the quality of Polish plants is better compared to Dutch ones. Denmark supplies flowers of supreme quality, but they have a higher price. In addition, the distance to us is longer, therefore, flowers from Denmark are supplied very rarely, only for some special orders». – **Alena Storchak, CEO of Ukraflora**

4.2.7. Conditions for storage and transportation of potted plants

Indoor potted plants may lose their quality characteristics during transportation. Transportation and change of storage conditions can be a shock for plants. After all, indoor plants are mainly stored at +15°C, they are transported at +5°C, while they are being loaded, they remain on open air, where the temperature may vary, depending on the season.

«Under normal conditions, plants remain at +15°C, then they are transported at +5°C. When they are being loaded, they remain on open air, the temperature can be +25°C». – **Importer of flowers and ornamental plants, expert from the Netherlands**

Importers stated that plant transportation is very risky. Temperature conditions or other conditions necessary for transportation may often be violated and plants may lose their quality.

«Transportation is a very high risk. Temperature regime may be violated. If it is stored with other plants, the plant may get infested ...». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

There are also problems with product storage. For good product storage, special drip irrigation is required. Such irrigation can be found in greenhouses, but when the plant goes on sale, such conditions are no longer available.

4.3. Planting Material: Seed, Bulbs, Seedlings

For market evaluation of planting material there were interviewed experts - market participants:

- Importers of planting material;
- Representative of phytosanitary services focusing on planting material.

The main objectives of the study:

- Market volume of each segment of the planting material (seeds, bulbs, seedlings, etc.);
- Types of seeds, bulbs, seedlings available on Ukrainian market, most popular items;
- Seasonal demand;
- Transportation and storage;
- Main importers and range of their products;
- Production in Ukraine and its share with relevance to import;
- Quality criteria and evaluation of quality of planting material on the Ukrainian market.

4.3.1. Market Volume

We estimate ***total value of planting materials in prices for end-consumer in 26 million USD in 2017*** based on assessing a real import and domestic production of some categories of plants, excluding plant growing for personal needs in households. Distribution between B2B and B2C segments is 70% to 30%. According to most experts, market continued to grow in 2018, so we can assume that import grew at least by 8% mainly in bulbs and seeds. Domestic production grew not more than 5%, hence the estimated market value for the end user in 2018 – ***28 mln. USD.***

4.3.2. Product Range

Planting material is comprised of flower bulbs, seeds of ornamental plants and seedlings of flowers and plants. The roots of flowers and ornamental plants are also used for breeding and meristem. All the above-mentioned categories are used for planting in open soil as ornamental plants and for nursing for further use as cut flowers. Also, some of the bulbs, seedlings and seeds are planted into pots, for example: hyacinth, crocus, narcissus as well as both seedlings and seed of cyclamen plants.

Bulbs. Tulips are the most popular among bulbs of flowers that are being imported to Ukraine. Tulips, according to various experts, make up 70-80% of all imported bulbs. Bulbs of lilies, gladioluses, narcissuses, crocuses, hyacinths and callas are present on the market though in a much smaller amount. The popularity of tulips is explained by the consequences of the Soviet past, when the range of flowers was very limited and consisted mainly of tulips and dianthus. The tastes that were formed in those days make themselves known, and now Ukrainians are willing to buy tulips out of old habit, and accordingly, there are growers in Ukraine to satisfy this demand. The production of tulips is quite simple, so most producers have achieved a high quality of their products. Dianthus flowers are not grown in Ukraine due to a very complicated production technology.

The most popular varieties of tulips are: Strong Gold (yellow, share is 15-20% of all tulips on the market), Snow Lady (white), Roman Empire (red). New more popular varieties are constantly appearing on the market, these days, for instance, terry tulips are in great demand.

«For the past few years, everyone wants to have terry tulips, that is, not one terry petal but a full flower, something resembling a rose. It looks more expensive». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Expensive exclusive varieties of tulips can be mostly found in shops in the capital though in a small quantity.

«Last week in Kyiv I came across a bouquet of Ice Cream tulips in underground passage on Lva Tolstoho Square. There usually a lot of flowers are sold. This type of tulips is considered to be the most expensive.

The bouquet of these tulips was astonishing, I would have never imagined that this variety is cultivated for bouquets. However, it is available, and the price was not very expensive». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

The price on tulip bulbs in Ukraine ranges from 12 to 40 cents per bulb. Bulbs of tulips of different price categories can be found on Ukrainian market, the cost depends on variety and size of the bulb. Rare and new not greatly propagated varieties are more expensive than the most popular varieties. Larger bulbs that are to be grown for cut flowers, are also more expensive compared to garden varieties. In this case, bulb after arriving into Ukraine doubles in price compared to original purchase price back in the Netherlands.

Seeds. Experts stated that the list of seeds of ornamental plants is very diverse and includes hundreds of varieties; these are predominantly annual plants. Marigolds, petunia, surfinia, begonia and coleus are the most popular types of flowers, seeds of which are sold in Ukraine. Seeds of these flowers are used for both sowing directly on flowerbed and seedlings. Lawn grass takes a large share among seeds of ornamental plants.

In open source assortment analysis, there were found 230 types of seeds of flowers. The most diverse varieties are aster, petunia, zinnia, marigolds, dianthus, tropaeolum, ipomoea and viola. Seeds of these flowers are represented by dozens and hundreds of varieties.

Seedlings of flowers are also represented by numerous items on the Ukrainian market. The most numerous are seedlings of annual plants: marigolds, petunia, surfinia. In large numbers also represented such flowers like begonia, coleus, asters. Green plants are grown from seedlings in fairly large quantities to be used as accessories for bouquets (e.g. sea lavender, asparagus, gypsophila, anthurium and strelitzia). Gerberas are used to be popular, but now they are grown very rarely. This is partly due to the difficulty of growing these flowers. Seedlings can be used for growing either on flowerbed or as street flowers in pots.

«We had a very good market for cut gerbera, there was around 23-25 hectares of gerbera in Ukraine. Now there are only up to 3 hectares. Apparently, people ceased to receive aesthetic pleasure from these flowers. Although, each flower variety requires a particular attitude. Gerbera production has been neglected

with time; on top of that it is significantly more difficult to grow». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Peony roots are the most popular among planting material as well as asters and dahlia.

Separately, it is necessary to mention seedlings for nursing and further sale (both cut and potted plants).

Seedlings of roses take a large part of the market in the B2B segment. Companies like Ascania-Flora, Camellia, Tandem, Fresia buy roses directly from Topflower BV, a supplier in the Netherlands. This company is the main supplier of planting material for the Top 4 producers of cut roses (Camellia, Ascania-Flora, Tandem and Fresia), and according to their own estimates holds 80-85% of the Ukrainian market.

A big amount of tulip bulbs is supplied to B2B sector as well as small farms, that grow flowers for sale, for further nursing in greenhouses. Only Camellia grows tulips on an industrial scale and in specially equipped modern greenhouses.

Eustoma flowers are grown in much smaller volume though the seedlings are also bought in the Netherlands.

Peonies and gerberas are also grown from seedlings (roots) that have been purchased in the Netherlands. Gerberas are mostly supplied by Topflower BV.

Approaches to product range formation are different. Big trading networks, like Epicentr, conduct a detailed analysis of purchases and try to foresee demand on plants; they order bigger volume of more popular plants and, respectively, less popular plants are ordered less.

Importers of flowers mentioned that they use purchases as a guideline, meaning that they import only those flowers that are ordered by their clients.

4.3.3. Proportion of Import and Domestic Production

The ratio of imported and domestic products varies by category. Virtually all the bulbs (97-99%) are imported. Most flower seeds that is currently sold on the Ukrainian market were

imported. However, the market of ornamental plants has been increasingly replenished with seedlings of flowers grown in Ukraine from the Dutch seeds.

The Netherlands are the absolute leader in the production of bulbs, and even such countries like France and Germany do not grow bulbs on their own, even though these countries have old and well-established traditions of growing ornamental plants as well as a large production volume. The existent monopoly of the Netherlands in the production of bulbs is predetermined by climate conditions that are favorable for cultivation of bulbs; established traditions also play an important role the same way as a well-developed and tested technology. The production of bulbs requires high labor costs, expensive modern equipment and a very careful observance of the production technology. In order to make production profitable and cover all the costs of machinery, the volume of produced bulbs must be large enough; in the Netherlands it is hundreds of hectares. There is a small number of tulip bulbs of Ukrainian production on the market, but according to experts the overall share does not exceed 2% of all the bulbs present on our market.

The seeds of flowers are almost entirely hybrids, reproduction of which requires a special technological condition and a painstaking process of breeding; therefore this category is mostly imported.

«All flower seeds on the market are seeds of hybrids as they are almost impossible to be grown in Ukraine due to a complicated selection process». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

Part of seedlings on the market is imported, another part is of domestic production. The share in the import of seedlings on the market has decreased, since this category was mastered to be grown in Ukraine and domestic production is much cheaper. Accordingly, the production of seedlings in Ukraine is increasing.

«Seedlings is grown in Ukraine. One just needs to buy Dutch seeds and grow seedlings here, in Ukraine».
– **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

4.3.4. Structure of Import: Countries and Imported Planting Material

Flower bulbs are almost 100% imported from the Netherlands. Seeds are mostly bought in the Netherlands. A much smaller amount of seeds is imported from Germany, Denmark, the United Kingdom and Japan (suppliers of flower seeds are Japanese companies with offices in European countries). Seeds can also be imported into Ukraine from the Netherlands unpacked, in bags and packed here afterwards. Respondents mentioned the following seed companies: Syngenta, PanAmerican, Sakata (Japan), Benary (Germany), Nova-Flore (France). Seedlings are mainly imported from the Netherlands. Our companies are mostly working with offices of abovementioned companies in the Netherlands. Mini-products, like meristems or mini-seedlings that are grown in laboratories, are often imported from Denmark.

Companies-leaders in production of bulbs:

- Haakman Flowerbulbs (<http://www.haakman.com/ru/>);
- Amsonia (<https://amsonia.nl/>).

The main suppliers of bulbs for retail are Yaskrava and Ukraflora (bulbs); main suppliers of bulbs for wholesale buyers are Yaskrava and Florium. Large nurseries import plants by themselves and make up about a third of the import category.

Main importers of the planting material are: Ukraflora, Camellia, Exotic Flora, Agro-Market, Florium, Lili-Line, Interflora, Yaskrava, Dablpopil. Seedlings of perennial plants are imported only by Florium and Sotka, some nurseries also import this category for their use.

«When we start calculating all customs clearance, transportation costs, document execution. All these costs on the way from the Netherlands to Ukraine, the price will be double». – **a nursery representative**

4.3.5. Seasonality of Demand

Planting material has a significant seasonality of demand. Seeds and seedlings of ornamental plants are planted in the spring; therefore, the peak sales are precisely in this period. Bulbs are planted partly in autumn, partly in spring, so they are mostly sold in that period. Thereby, companies involved in the import of planting material form an order, that in

a few months will be shipped from the Netherlands. So, the bulbs that are to be shipped in September are usually ordered from May to July. Then the item arrives at the end of August-early September. In the autumn are usually purchased also bulbs of flowers that are planted to grow cut flowers and potted plants for sale on February 14 and March 8. Some tulip bulbs, already chilled and at a higher price, are bought in winter and planted a month or several months (depending on the variety) prior to March 8.

«In autumn we will deliver bulbs to those who want to chill bulbs by themselves, and in winter to those who want a little more expensive bulbs, but already chilled so that they can be immediately planted in a greenhouse». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

4.3.6. Quality of Planting Material

There are no quality standards for planting materials in Ukraine, there are several associations that are fighting for the introduction of these standards, but nobody has approved any standards yet.

The quality of bulbs is determined by the size (it should meet the standards for this type of flowers). Also important is the absence of pests and diseases. High quality bulb should not have any mechanical damages. Quality bulb, according to Ukrainian customers, has a high germination index, namely 90%. Moreover, a high-quality bulb should get enough nutrients to survive winter, this factor was mentioned by several experts.

«If more than 90% of all delivered varieties has germinated, this would be great. If we have bought 100 bulbs, and sold 95 flowers that grew from these bulbs, this shows a good result». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

«Absence of pests and damages, correct cultivation. During vegetation there is an accumulation of nutrients, which help the bulb to be able to handle the period of rest and produce a good flower during the next vegetation. It but only happens if it has accumulated nutrients during the first vegetation». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

There are garden or open-soil tulips and other flowers and tulips that are used to produce cut flowers. Tulips that are sold as cut flowers should be higher compared to garden tulips.

«For tulips the circumference of the bulb is measured. The sizes are usually 11/12 and 12 + centimeters. 11-12 centimeters bulbs are used to cultivate garden tulips or those varieties that are planted directly into soil. 12+ bulbs are used to cultivate cut flowers. Their price is higher by 10%. It is believed that the larger

the bulb is, the bigger supply of energy it has to germinate into flower». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Some distributors that import bulbs to Ukraine mentioned control of planting material on the farm a few months before the bulb would be exported, especially during the taking out. Germination of bulbs is monitored from buyers' reviews.

«We are checking bulbs on compliance with the dimension requirements somewhere a month or two before digging out. We are also checking, whether the bulb is healthy, if it is not damaged». – **Iryna Malakhova, Duomex company, importer of ornamental plants and cut flowers**

Some distributors stated that they do not test the bulbs, but they hope that a producer with good reputation would provide bulbs of high quality. In some cases, they check availability of phytosanitary certificate, but this certificate is given at the time when bulb is transferred to refrigerator, therefore, the development of virus is possible when bulbs spend some time in the refrigerator.

«We do not have the opportunity to send people to the Netherlands and check. Bulbs of tulips are dug out from the ground at the end of August. After that, they are placed in the refrigerator for chilling, in order to allow them to be brought into the greenhouse in winter and get a flower until March 8. Therefore, you can demand phytosanitary certificates, confirming that bulbs have not been infested with diseases on that stage. In most cases the Dutch have these certificates as quality control is observed. If consistency of the bulb is solid, it is not damaged. But the virus can develop either in the fridge or warehouse during those months that bulbs are being stored there. That is, everything is based on trust. And you know that, for example, Haakman Flowerbulbs or Amsonia will never let you down». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Consumers of bulbs reported cases when on Ukrainian market could be found bulbs of poor quality that have been bought in the Netherlands. This is explained by the desire to buy cheaper planting material. Cheaper bulbs on the Dutch market quite often might be ill or unripe, they may also be untreated from pests. Unripe and untreated bulbs are usually become damaged during transportation. Moreover, bulbs are quite often getting damaged due to violation of transportation conditions.

«There was a case when we encountered poor-quality bulbs. When we started investigating what has happened, it turned out that not only did they buy cheap bulbs (high quality bulbs can never be cheap) but they also loaded these bulbs into a truck without air circulation. As a result, under this stable temperature

and a high humidity in the truck, a fungus has developed that fed on the growing point and caused 40% of the yield loss». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Quality of seeds is determined by such factor as germination ability. Also, very important is the genetic purity of seeds, that is, the correspondence of what is described in the passport of seeds or flowers to what emerged after sowing. These criteria are difficult to monitor based on external signs, besides, seeds are often packed, and you cannot see how it looks, so the quality of seeds is checked during sowing. Afterwards suppliers ask for customer feedback so the next year they will be working only with manufacturers that have got positive feedback.

«Germinating capacity is the main criteria of seed quality. Relevance to variety characteristics is also important (no combined grade). We communicate with our customers and get reports if instead of red flower, they got orange, or yellow, or completely not the flower that has been stated on packaging. After that I contact my supplier and ask why it all turned out the way it did; why the flower was yellow instead of red». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Quality of seedlings is determined visually: it should be green, without visible damage to the leaves and roots. The height of seedlings should correspond to the age and variety. It might have a passport, where the varietal characteristics are indicated, and plant should correspond to the passport. Development of the root system is also very important.

«This is a purely visual and theoretical analysis: beautiful, green, not spotted. If it has a passport, then it also includes qualities of a variety. Attention can be payed to the development of the root system. Better root system means better vegetative system of the plant and, accordingly, better vegetation system for better ornamental purpose». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

One can visually check the quality of seedlings by pulling the plant out of the cassette; it is also possible to check quality of the root system and demand phytosanitary certificates.

«Seedlings are transported in the cassettes, so it is possible to pull out and see development of the root system, if it is white and beautiful, then it is alive». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

In practice, the quality of seedlings is checked mostly visually, phytosanitary certificates are not demanded as they are very expensive. Phytosanitary certificates are usually made when a large batch is transported.

«We check the quality only visually, see if the plant is alive. Because phytosanitary certificates are expensive, each certificate is about 100 euros, therefore, in most cases there are no certificates ... We check phytosanitary adequacy only when it is necessary to some big client that it should be done legally, with all paperwork. That is the only case when we would order some certificates, but usually we do not do it». – **importer of planting material**

Moreover, the quality of seedlings can be seen after planting. If plants were grown as planned, seedlings could be considered of good quality, but the growing conditions also play an important role in this situation.

In addition to external characteristics, quality of the planting material can be assured by producers' reputation and duration of their work on the market, so distributors and importers try to work with trusted producers.

«Seeds are delivered in packs and it impossible to see through the pack. But even if you open the pack, you will not be able to determine the quality of seeds. The quality is visible only after germination. We work with well-known brands that have been on the market for hundreds of years (50-130 years), and they have already proven themselves to have high quality packages and seeds». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

Our distributors of planting material understand that in order to grow a high-quality and uninfested planting material, it is necessary to create special laboratory conditions, where sterile conditions can be provided, so they buy material from producers who can provide these conditions. Danish laboratories are considered to be the best.

«But the fact is that industrial production differs from garden production. We cannot afford to have any risk. And if I could buy a meristem, grown from a single cell and purified of all viruses for just three euros, I will do it. And it is stated in the passport that, it is a virus-free system that simply cannot get infested. It is not amenable to mutations... That is, it has a passport, and all information in it corresponds real situation. Any other variant would mean surprises, depending on how lucky you are». – **Iryna Malakhova, Duomex company, importer of ornamental plants and cut flowers**

Experts claim that seedlings of the Dutch production are of higher quality, compared to Ukrainian, and it can be explained by strict adherence to growing technology and more technologically-equipped production in the Netherlands.

«Besides the seed itself, you still need to have some skills, knowledge of technology, experience and all required conditions. Let us say, there are correct greenhouses in the Netherlands. They 100% follow a production process, including control of temperature, irrigation, ventilation and air humidity. In Ukraine it is as luck would have it. There is ventilation in some greenhouses, some do not have it. Such a small factor as air humidity can affect the quality and it is indeed very difficult to control, because we almost do not have such high-tech greenhouses like in the Netherlands». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

4.3.7. Conditions for Logistics and Storage

In order to transport bulbs and seedlings, without losing their quality, special machines that provide chilling are required. Dry and cool climate should be provided for transportation of seeds.

According to experts, transportation conditions are quite often violated, which creates an environment for the development of diseases of planting material.

«It is usually a thermo building, a booth with thick walls that holds a stable temperature or the one where temperature can be increased. Plants are usually imported in such cars. But again, there is no air ventilation, so diseases might start developing. But from such seedlings, water evaporates from the soil, respectively, the climatic conditions are created that favor the development of aerobic or anaerobic bacteria which in big quantities can damage the ornamental purpose of these plants». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Though transportation companies claim to create all the necessary conditions for high-quality transportation.

«We observe temperature regime during transportation, we order only functioning trucks and refrigerators, so that there were accidents on the road». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

The bulbs are packed in boxes that are put on top of one another and then ventilated. Seedlings are transferred in so-called trolleys, that is, in carts with wheels. Seedlings take less space, so they are more profitable to transport.

«Seedlings are transported on trolleys; these are carts on wheels that have several shelves. Usually trolley can hold 64 cassettes, 100 seedlings each. Trolley occupies space of a pallet. It costs a lot of money, namely 2 times of a total product cost, while total transportation expenses cost two times less». – **importer of planting material**

Some distributors have their own warehouses for product storage. Manufacturers claim that they are ready to carry additional costs for the sake of better quality.

«We have 2 months of delivery, but we immediately send the first machines back as soon as they arrive, because we store products only up to 2 weeks and not 2 months». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

There is a problem when conditions in the warehouses for bulbs are usually created especially for some bulbs, most often tulips, while retaining in the same conditions other bulbs that require another type of storage.

«Sometimes gladioluses can be transported only under the temperature 9-10°C, because lower temperature also is not acceptable. We store it in the refrigerator. The temperature there is no more than 10-12°C. It will be stored there until it goes to people. Lilies should to be kept in refrigerators. Storage conditions are different for each plant». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Moreover, special warehouses that provide all necessary storage conditions are available only from the distributor. In retail outlets, where bulbs are sold in retail, as a rule, there are no such conditions; even such major networks as Epicentr. Proper storage conditions can only be guaranteed by specialized stores that sell only bulbs, but we almost do not have such stores.

«Even big supermarkets cannot provide these storage conditions. Most often, tulips are located right next to the exit... Temperature regime for plants specifically will not be kept in regular non-specialized stores that sell only bulbs and roots». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Seedlings that have been imported could not be stored as they must be immediately planted to soil.

«Seedlings can be transported to greenhouses upon arrival but there is not enough peat and plants will simply die, because they will not be able to grow, there will be no space for root to develop. Therefore, if



seedlings are stored under regular conditions, like room temperature and absence of direct sun rays up to 10 days it will be totally fine». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

4.4. Ornamental Plants

For market evaluation of ornamental plants there were interviewed experts - market participants:

- Owners or directors of nurseries;
- Representatives of associations;
- Managers of garden centers;
- Importers of ornamental plants.

The main objectives of the study:

- Market volume;
- Types of plants available on Ukrainian market, most popular items;
- Production in Ukraine Vs import;
- Demand across seasons;
- Quality criteria and evaluation of quality of ornamental plants on the Ukrainian market.

4.4.1. Market Volume

Statistic data on domestic production of ornamental plants in Ukraine is collected unsystematically, in general and without subdivision into categories. As for the data on imported products, in 2017 the total value of imported ornamental plants to Ukraine comprised 4.7 mln. USD. According to Top importers the share of ornamental plants is not substantial compared to cut flowers and is not a key segment for import.

Even experts and companies that work directly on the market fail to make a detailed evaluation of market volume due to its closed nature and lack of data as such.

Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association that unites key producers of ornamental plants, estimated that annual market volume of ornamental

plants comprises 100 mln. EUR. This number was mentioned by representatives of ornamental market on several focus groups held by the Association.

According to experts, ratio between import and domestic production is 40% to 60%, in favor of domestic production. It is worth mentioning that share of imported and domestic plants varies depending on category of ornamental plants. The following categories are grown domestically: coniferous plants, shrubs and perennial grasses. Broad-leaved trees are the main category for import.

Kleffmann Group evaluated the market based on **real import estimation and domestic production**, excluding plant growing for personal needs in households, thus the ***total value of ornamental plants in prices for end-consumer comprised 118 mln. USD in 2017.*** This evaluation coincides with the results of research conducted by experts who estimated the market volume by 100 mln. EUR (around ***110 mln. USD***). Assuming that the share of the total output of B2B segment is 40%, and the remaining 60% is sold in retail, the expenditures of one household per ornamental plant in average is 4,7 USD per year (125 UAH with the exchange rate of 2017). According to most experts, the market volume continued growing in 2018, while share of domestic production decreased. We can assume that import grew at least by 20%, while domestic production – by 12%, hence the estimated market value for the final consumer is ***137 mln. USD*** in 2018. Under the same ratio between the consumer and the business markets, this means that a household has increased its expenditures on production of ornamental plants up to 5,5 USD per year.

4.4.2. Product Range

All categories of ornamental plants are represented on Ukrainian market of both foreign and domestic production.

Main categories of ornamental plants:

- Broad-leaved trees;
- Shrubs;
- Coniferous plants;
- Annual plants;
- Perennial plants.

Coniferous plants are the most demanded among ornamental plants. The most popular in Ukraine are Eastern Arborvitae (Smaragd, Brabant, Columna, Danica, Hosery), black pine and junipers (savin juniper, Tamariscifolia in particular, Mint Julep, Blue Chip, Gold Star, Prince of Wales). The main reason for their popularity is predetermined historically as there was a deficiency of coniferous plants in the Soviet Union. Nurseries that appeared after collapse of the Soviet Union begun a mass growing of different varieties of coniferous plants because of a great demand at that time. Moreover, coniferous plants are the best solution for our strict continental climate and can be used not only in the garden yard but also as landscaped areas in cities and parks because it is virtually the only type of plants that remains green throughout the year. Another reason for popularity of arborvitaes is the tradition to use these trees for covering fences that are an integral part of private grounds at country houses.

Maples, linden, rowan-trees, birches are the most popular among broad-leaved trees. Such trees like poplars, oaks, elms, catalpa, etc. are grown on an industrial scale. Among flowering ornamental plants, the most popular are sakuras and other ornamental cherry blossom trees. *«The most popular varieties of trees are maple, linden, rowan-tree and oak... In demand also are flowering trees like sakura».* – **Andrii Pohrebnyi, Director of Gardi nursery**

During the last years greater attention has been paid to landscaping small areas where mostly dwarf trees are planted which causes increased demand on dwarf plants.

The most popular among shrubs are privet, spiraea, barberry and cornus; but such plants like hortensia, weigela and cotoneaster are grown mostly on an industrial scale.

Plants can be divided based on growing method:

- open ground growing;
- container gardening;
- greenhouse growing.

Almost each nursery has all mentioned above categories though in different proportions.

«Categories in our nursery depend on growing technology. The first is an open ground growing when we dig only in autumn or spring along with the ball of earth; the second is a container gardening». – **Andrii**

But, Founder of Osokor nursery

Ukrainian market differs from foreign mostly by more classical preferences as some experts mentioned old-fashioned taste of Ukrainians.

There is a little number of trees and shrubs of exotic or unusual varieties the same goes to solitary trees and shrubs of sophisticated shapes. This is caused by the price on such plants as it is usually much higher from average and the small share of Ukrainians can afford it. Nurseries in general are max. 25 years old as the market is comparatively young and there are no large sized trees because they did not have a chance to grow yet.

4.4.3. Proportion of import and domestic production

Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association, during the interview gave his evaluation of ratio between import and domestic production which comprised 60% to 40% for the segment (without subdivision into categories), where 60% means ornamental plants of domestic production.

The ratio between imported and domestically grown plants on the market varies depending on category. Among all coniferous plants that can be found on the market the biggest share

is grown in Ukraine. 80-90% of shrubs presented on Ukrainian market are also grown in Ukraine. Such categories like garden roses, perennial grasses are almost completely grown in Ukraine which is predetermined by two key factors: 1) the import of such plants is expensive and inconvenient; 2) plants grown in Ukraine are of high quality and in sufficient amount with lower expenses and wide range of varieties.

«We, Ukrainians, have learned how to grow; the second is that there used to be no product range and we sold everything that could be found on cemeteries, namely such plants like Sedum, Saxifraga and some Hosta, almost everything. Now we have good products and product range matches foreign one. This is the main reason why people buy from us». – **a nursery representative**

4.4.4. Structure of Import: Countries and Categories

The main countries, from which ornamental plants are imported:

- The Netherlands;
- Belgium;
- Poland;
- Germany
- There is also import from Italy, Denmark and France.

There are two main categories of ornamental plants that are imported to Ukraine:

- Bare Root Trees;
- Trees in P9 containers for nursing/ further growing [P9 container is 9*9*9 cm. and 0.5l in volume].

There is almost no production of plants of this category on Ukrainian market and experts do not foresee establishment of their growing in the near future. Such trees are most often imported from the Netherlands. Nursery plants require a rather complicated production technology that cannot be maintained in Ukrainian nurseries due to a lack of relevant experience and machinery. According to one representative of nurseries, only 6 nurseries throughout Ukraine buy nursery plants of such trees for nursing. Overall up to 10 trucks per year are imported to Ukraine. Moreover, cultivation of such trees is complicated due to a

rather severe Ukrainian climate, which do not contribute to the cultivation of nursery plants of high quality.

«Because there is no such nursery in Ukraine that would specialize only in ornamental plants grafting and selling these bare root trees in sufficient amount of high quality. It takes longer to grow these plants; and it is technologically harder to accomplish, with crown for instance. Among those who purchase nursing plants for nursing here in Ukraine, there are Gardi, Eva, Elit Flora, Klub Roslyn, Sad Vashoi Mrii, Kiparis. But on average there might be purchased around 10 trucks». – **Andrii But, Founder of Osokor nursery**

«We buy nursing plants for nursing in the Netherlands. We buy a trunk that had been cut short and here in Ukraine we start shaping its form». – **Andrii But, Founder of Osokor nursery**

- Nursery plants of shrubs for nursing which are usually imported from Belgium. According to representatives of nurseries, Belgian nurseries have a wide range of high-quality shrubs because of a suitable soil and growing technology.

«We purchase all shrubs in Belgium because there is a good product range there. Moreover, the soil in Belgium is very saturated with sand that facilitates a good development of the root system. There are no shrubs of such quality and in such range in the Netherlands, so we buy them in Belgium». – **Andrii But, Founder of Osokor nursery**

- Seedlings of perennial plants. Seedlings are imported for nursing, for example, Sad Vashoi Mrii. It is possible to import seedlings for nursing and further reproduction like in the Solncecvet nursery. The most often seedlings of perennial plants are imported from the Netherlands, Poland and Germany.

«Seedlings are bought from such countries like the Netherlands, Poland and Germany. I am nursing mostly such seedlings». – **a nursery representative**

- Bonsai was mentioned among original forms of trees, but other variants are possible. For example, bonsai trees that are sold in garden centers in Epicentr are imported from Poland. Landscape gardeners quite often import this category of trees from big nurseries in Germany.
- Large-sized trees that are over 25 years are also imported, because our nurseries are quite young and such trees did not yet have time to grow.

- New varieties of trees, perennial plants, shrubs that have just entered the market and are grown in limited number of nurseries.
- Grafted coniferous plants, azalea and heath plants of high quality. These categories of plants are either still not grown in Ukrainian nurseries because they cannot guarantee high quality plants; or they are too hard to grow due to climate.

Large-sized trees, new varieties of trees and grafted coniferous plants are predominantly bought from well-known nurseries in the Netherlands and Germany.

There are three categories of importers:

- Garden centers that import plants in order to extend their product range mostly formed by supply from domestic nurseries.
- Nurseries that import for nursing such plants like bare root trees, shrubs, seedlings of perennial plants.
- Landscape gardeners that import plants for implementation of their projects.

4.4.5. Quality Criteria: Ukrainian and Imported Plants

Most experts focus on practical manifestations of the plant's quality, namely well-developed root system and the number of branches on the shrub or a tree.

The quality of plants is determined by special standards. Standards are comprised of the list of parameters for development of each plant depending on age and purpose, namely development of the root system and a required number and type of branches for different plants at a certain height, etc. There are also requirements for the height and thickness of the barrel, its evenness and some other parameters. Of course, the plant should be healthy, not infested by insects and other pests. There are currently no approved and generally accepted standards in Ukraine. Some experts mentioned standards of other countries:

- Russian (<http://www.green-ekb.ru/file/standarts.pdf>);
- Canadian (<https://cnla.ca/uploads/pdf/Canadian-Nursery-Stock-Standard-9th-ed-web.pdf>);

- American (https://cdn.ymaws.com/americanhort.site-ym.com/resource/collection/38ED7535-9C88-45E5-AF44-01C26838AD0C/ANSI_Nursery_Stock_Standards_AmericanHort_2014.pdf);
- European (<http://www.viveristesdegirona.com/news.html?id=45>).

The work on writing and consolidation of standards is being held in Ukraine these days by Plants Industry Association (<http://auri.org.ua/ru/project/standarty-posadochnogo-materiala-assotsiatsii-ukrainskaya-rastitelnaya-industriya/>). Association's representatives are planning to finish work on standards and consolidate them in the near future.

Adherence to quality standards requires additional costs on plant production, as it means additional operations like formation of plants. Also, in order to improve the quality of the plant there is a need for application of additional fertilizers, such as quite expensive peat.

«Implementation of standards into plant production means an implementation of modern technology of plant growing, usage of modern materials, machinery and equipment (usage of high-quality substrates, smart fertilizers, timely topiary, etc. All these factors predetermine plant quality that would result in increase of plant cost». – **Larysa Zubova, Director of Sad Vashoi Mrii nursery**

Most representatives of Ukrainian nurseries and people who work in the industry would benefit from the implementation of quality standards for planting material. These standards will favor a clear competition in tenders for state purchase of garden material, as a high-quality plant grown in accordance with all standards requires more investment from the state, compared to products that do not meet all the standards.

«It is impossible to compete with administrative forestry enterprise regarding high quality and price ratio. For instance, let's take one plant like spiraea with the height around 50 centimeters. In our nursery this will imply that plant has a lot of brunches, but there you will find only two branches on the plant». – **Andrii But, Founder of Osokor nursery**

Many owners of nurseries stated that they already follow European or Canadian standards for the quality of products and not only it helps in selling plants at higher price but also adds more convenience to working with plants.

«In 2009 we implemented European standards at our nursery in order to be used at our work. This helped us choose correct quality parameters and channel all our efforts into producing plants that meet the

required standards. It is hard to achieve but our company motto is: Quality is a way to success! ». – **Larysa Zubova, Director of Sad Vashoi Mrii nursery**

Though some respondents suggested that standards do not reflect quality of some original categories of ornamental plants. For example, it is hard to fit to standard proportions such plant categories like solitary trees or perennial grasses.

«Yes, there are some standards, but we honestly cannot adjust our production to these standards. For instance, when client comes to the nursery, he does not want a big plant, he is not interested in those standards. There are hostas that have been very expensive for the last four years only since I can divide one shrub into twenty parts. What standard can be applied to this plant as it is not a tree where we can measure height, tree crown, habitus, etc.». – **a nursery representative**

Most owners or managers in big Ukrainian nurseries have experience of work or cooperation with nurseries in the Netherlands or other countries so that they know how to grow high-quality plants but not all technologies are open and available for Ukrainian producers.

«One of the main advantages of purchasing trees from nurseries in the Netherlands is a possibility to learn a growing technology and observe the growing process in the nursery that has a great experience and guarantees high quality of plants. Moreover, specialist from the Netherlands visits our nursery in order to teach us. But despite our efforts we are not able to produce perfect nursery plant third year in a row». – **Andrii Pohrebnyi, Director of Gardi nursery**

According to main players on the market, the biggest achievement of domestic floriculture is that shrubs, perennial grasses and annual flowers grown in Ukraine already have quite high quality and can satisfy needs of the internal market.

«We have learnt how to grow correctly such plant categories like deciduous shrubs. The same refers to coniferous shrubs, perennial plants and lianas». – **Andrii But, Founder of Osokor nursery**

The harder situation is with growing trees in accordance with European standards, but Ukrainian nurseries are currently working on it.

«Sadly, it is impossible to produce wayside trees of perfect shape in Ukraine, for now only the Dutch are able to do it while we are working hard to master it». – **Andrii Pohrebnyi, Director of Gardi nursery**

«Our company has been producing wayside trees for the last 10 years in both soil and containers. The production is hard and energy-consuming, but we learn fast. Our trees at this moment meet all the standards, like trunk evenness, crown formation, they are dugout and packed according to technological norms and marked afterwards. The size is not quite big, tree girth is 20+ centimeters but we are still improving...». – **Larysa Zubova, Director of Sad Vashoi Mrii nursery**

Reasons that can cause worse quality of plants grown in Ukrainian nurseries:

- There is an absence or lack of practical experience in the business, as the average age of Ukrainian nurseries is 10-15 years and up to 25 years, while European nurseries can reach 150 years. This is the main reason why growing technology is still developing and improving at the moment.
- Lack of well-established infrastructure in Ukraine that would be used by a sector of ornamental plants so that fertilizers, peat and pesticides are not as affordable as in countries that have long been engaged in the cultivation of ornamental plants. For example, nursery growers noted that they are buying pesticides registered for agricultural crops, taking into consideration only the active substance.
- Economic factors may have an impact on growing technology, for example, nurseries can use cheaper fertilizers, cheaper peat and seedlings of lower quality.
- Lack or insufficient amount of proper mechanization for all stages in growing ornamental plants, and especially trees.
- The continental climate is less favorable for some plants, especially for growing seedlings. Dutch technologies need to be adapted to our climate, which is known for extreme temperature fluctuations, namely colder and longer winters, hotter and droughty summer.
- Lack of a well-developed phytosanitary service that would timely monitor the appearance of pests and diseases.

5. Domestic Production of Cut Flowers and Ornamental Plants

5.1. Ornamental Plants Cultivated in Nurseries

For production estimation of ornamental plants in Ukraine there were interviewed the following experts:

- Owners of nurseries;
- Managers of nurseries;
- Managers of garden centers;
- A representative of professional association.

The main objectives of the study:

- Quantity of nurseries in Ukraine, and which of them are the biggest;
- Plants grown in Ukrainian nurseries;
- Transportation and storage of plants;
- Cooperation of nurseries;
- Differences between Ukrainian nurseries and nurseries in other countries;
- Problems Ukrainian nurseries face.

5.1.1. The Largest Nurseries in Ukraine

According to Andrii But, owner of Osokor nursery, there are around 150 nurseries in Ukraine, but there are only 15 of big companies that are VAT taxpayers (VAT taxpayers are companies, sales revenue of which is 1 mln. UAH per 12 months).

«As for the growers of ornamental plants in Ukraine, nowadays we have around 15 serious growers of ornamental plants, and by serious, I mean those companies that are VAT taxpayers». – **Andrii But,**

Founder of Osokor nursery

Key Ukrainian nurseries mentioned by market players (list is given alphabetically):

1. Agro-Flora (Kharkiv) (<http://agro-flora.com/>);
2. Biosfera-L (Kyiv) (<http://biosphere.com.ua/>);
3. Gardi (Kyiv) (<https://www.gardi.biz/>);

4. Dekoplant (Vinnytsia) (<http://www.dekoplant.com.ua/>);
5. Elit Flora (Lvivska region) (<http://www.elitflora.ua/uk/golovna/>);
6. Eva (Kyivska region) (<https://evasad.com/>);
7. Zelena Kraina (Kyivska region) (<https://zelenakraina.com.ua/>);
8. Zeleni Yanholy (Zakarpatska region) (<https://landshaft.info/ru/>);
9. Kvitkarochka (Kyivska region) (<http://www.kvitkarochka.com/>);
10. Kiparis (Kyivska and Odeska regions) (<http://gardenindustry.org/kiparis/>);
11. Klub Roslyn (Lvivska region) (<https://plants-club.ua/>);
12. Kornelis (Zhytomyrska region) (<http://www.kornelis.biz/>);
13. Mala Hollandiya (Zakarpatska region) (<http://www.malahollandiya.com.ua/>);
14. MegaPlant (Kyiv) (<http://megaplant.com.ua/>);
15. Natalis (Kyivska region) (<http://natalis.ua/>);
16. Osokor (Poltavska region) (<https://osokor.com.ua/>);
17. Pitomnik Ivashchenko (Kyivska region) (<http://pitomnik-ivashchenko.com.ua/>);
18. Sad Vashoi Mrii (Dnipropetrovska region) (<http://garden.dp.ua/>);
19. Solncecvet (Kyivska region) (<https://www.solncecvet.com.ua/>);
20. Florex (Kyiv) (<http://www.florex.ua/>);
21. Forest (Cherkaska region) (<http://www.pitomnik.ua/>).

5.1.2. Formation of Product Range

Most nurseries in Ukraine do not have a clear specialization and grow a wide range of ornamental plants: coniferous and deciduous shrubs, ornamental trees.

Some nurseries may have specialization, that is, they grow certain varieties of plants in larger amount, compared to other types of plants. For example, the Solncecvet nursery specializes in perennial grasses, while Dekoplant nursery specializes in the cultivation of garden roses. The Gardi nursery specializes in landscaping of cities, and therefore grows a large number of plants for landscaping of large objects.

«There is a number of plants that we grow in very big volumes and supply them for landscaping big objects in cities». – **Andrii Pohrebnyi, Director of Gardi nursery**

Part of the nurseries are conducting analytical work and based on the results of detailed analytics develop a product range, foresee more and less popular positions in the near future. For example, the Dekoplant nursery, conducts a detailed analysis of what plants have been sold and in what amount, starting from 2006. Based on the statistical data certain patterns of demand in the nursery were identified so now they can predict what will be in demand in the next few years.

In this case, owners of nurseries quite often cannot adjust the product range and grow more popular plants, since nurseries have a limited area and there is not always a free space for more popular plants; in order to grow new plants old ones are needed to be rooted up, but money have already been invested to the grown ones. Moreover, it is risky to grow certain popular plants on a large area, as fashion on plants varies quickly and unpredictably.

«For now, we are not able to change our product range. We would like to grow more. Cereals are of great demand nowadays and we would like to grow one or two hectares of lavender, but we cannot refuse from some other plants. Everything depends on landscape designer». – **a nursery representative**

Nurseries form their product range in accordance with following criteria:

- ✓ popularity;
- ✓ adaptability to local climate;
- ✓ labor costs on growing;
- ✓ diversity;
- ✓ suitability for further reproduction (it is important for some nurseries).

The final product range is also influenced by preferences of owners of these nurseries.

Experts provided detailed comments on each criterion:

- Popularity, meaning plants must be popular among Ukrainian customers and meet their tastes. Share of original plants that are not typical for most nurseries is relatively small, not more than 5-10%.

«We have a wide product range, alongside some standard plant varieties we also offer something extraordinary like multi-graft trees, junipers grown on vertical planes, rare trees like Persian ironwood, etc. When developing our product range, we use European market as a guide and search for new plants. But

the most important is that we grow plants adapted to our climate». – **Larysa Zubova, Director of Sad Vashoi Mrii nursery**

«The share of extraordinary plants is not over 5%». – **Andrii But, Founder of Osokor nursery**

- Adaptability to local climate. Plant needs to feel comfortable in the climate of the nursery it is grown at, so that there was no necessity to invest more for achieving a resalable condition.

«We grow plants that grow well in our conditions and do not require any additional manipulations like control of soil moisture, soil acidity, air humidity, tolerance for winter conditions, heat tolerance, etc. We do not grow plants that require some special care like heath plants and rhododendrons. We also do not grow varieties that will freeze in our climate conditions and do not experiment with platanus, beech and fir. There might be something left but we do not grow such varieties». – **Andrii But, Founder of Osokor nursery**

- Labor costs on growing. Plant should grow under such conditions that can be provided by the nursery. Recently, due to the problem of personnel, it became more difficult to grow plants that require a lot of manual work. At the same time there are nurseries that start increasing share of plants that include some operations that cannot be automated, for example, Gardi increases the share of grafted plants.

«We develop product range based on different factors. For example, it is important to know how much labor efforts this plant will require including weeding. We must be sure that nursery has all resources for growing high-quality plants». – **Andrii Pohrebnyi, Director of Gardi nursery**

- Diversity. Product range should be as diverse as possible so that more plants could be sold to one buyer and attract as many buyers as possible. Quite often nurseries grow not only ornamental plants, but also fruit and berry trees and shrubs. Representatives of all the nurseries said that they are following the novelties, try to include them in the range in order to be different from other nurseries and attract the buyer. At the same time, the share of new products does not exceed 10%, most often the share of new products in the range of products does not exceed 5%.

«Landscape designers are creative people. Nobody knows what they or their customers would come up with. For example, customer has seen some cereal plants, some picturesque scenery and wants it for himself. This can get completely unpredictable and that is the reason why we need to have a lot of different plants in big volumes». – **a nursery representative**

«We monitor new trends on the market as it is important to stay up-to-date in our business like any other».

– **Andrii But, Founder of Osokor nursery**

- Suitability for further reproduction. Some nurseries perform grafting themselves, so it is vital for them that budwoods assimilated well in the nursery conditions.

«The third factor that influence our choice for product range is that we need to be able to multiply this plant by ourselves». – **Andrii But, Founder of Osokor nursery**

Separately, we can say about dwarf plants presented in the product range: some nurseries try to avoid growing such plants, because they give a much smaller increase over the same period of time and they are harder to sell with the same price increase, if compared to not dwarf plants of the same age.

«I can show you on the field a particular example when after the same treatment and period of growing a dwarf form of ash tree was much smaller compared to acacia that already has a half-meter sphere. Despite the same age it is very hard even impossible to explain to our customers that these two plants cost the same». – **Andrii But, Founder of Osokor nursery**

5.1.3. Growing ornamental plants in the nurseries

The experience of work in Dutch nurseries allowed Ukrainians to study the technology of growing plants and repeat all the necessary operations in their nurseries.

«Key owners of nurseries have studied in the Netherlands, they visited this country and observed how everything is grown there. Most of those who do not learn from the Dutch grow plants that are not popular on the market. You would not want to buy a bad tree even if it is cheap». – **Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association**

Most trees and shrubs are grown from nursery plants purchased in the Netherlands or Belgium. Nurseries are interested in finding the material of the highest quality, they personally go to fields where planting material is grown, control the quality of grafts, which are dispatched for nursing.

«We grow trees from nursing plants that we buy in the Netherlands. We buy only the best. We never buy leftovers or residuals from fields. If we choose all plants from one field, we pay the price. But usually we buy only size 12-14, which are genetically formed plants, that grow much better compared to the others. If

one must choose from the same field but size six, that would be a group of trees that would be behind in development». – **Andrii Pohrebnyi, Director of Gardi nursery**

Perennial grasses are also grown from seedlings purchased abroad (the Netherlands, Germany, Poland). An option is, when the bought seedlings are multiplied and already reproduced specimens are sold in Ukraine.

Some people try to graft trees and shrubs, but the majority stated that even if it is possible still it is much easier to buy a plant in P9 (the smallest pot size) and grow up. Moreover, it is possible to graft only those plants which are grown in enough quantity in the nursery, in order to expand the product range, nursery plants have to be bought.

The peculiarity of nursery work is that many plants are grown with the expectation that they will be sold in 5-7 years, this makes quite long payback period of this business. Plants can be grown from year to year and indefinitely, older plants are more expensive, and it is more profitable to sell them.

Ukrainian nurseries include in their technology all standard plant cultivation and planting operations. The cultivation technology involves the formation of plants with the help of planned cuttings, so that the crown of the tree meets all the standards. Trees are tied to special columns. The formation of a developed root system is achieved by regular plant transplantations. Every three years, plants are transplanted, and special digging machinery is used for that.

Almost all related products that are necessary for growing plants in nurseries are imported. The mixture which is used for growing plants is comprised of foreign peat, to which other components are added. Fertilizers of foreign production are usually used; the most mentioned were Osmocote (https://everris.com/products/ornamental_horticulture/7604-osmocote/). Pesticides for plant processing are also predominantly used of foreign production. In addition, pesticides for ornamental plants are difficult to find on the Ukrainian market, and if you can find them the technology is not familiar to the representatives of nurseries.

Some nurseries do not use fertilizers and pesticides at all. One of the reasons is that they do not have an agronomist who could professionally do it, and the other, is that plants grown without fertilizers and pesticides get adapted better after planting (after purchase).

«We practically do not use fertilizers as such. Only when we cultivated the soil for the first time, we applied some manure, but nothing has been used for the last five years. We usually do some grafting, sowing and irrigation. We do not add any growth regulators as it is impossible for such production volumes. One other thing is that we need to have a person with experience that would apply all the pesticides and we do not have such person». – **a nursery representative**

Many nurseries are adapting Dutch technology to the Ukrainian climate and soil, conducting their experiments.

«We plant a part of sweet briars in the autumn. The Dutch never do it because they have an opportunity to plant it in February. In our climate conditions we can go to the field only in April–late March the earliest. So, we are losing two months. When we plant it in the autumn when we can go to the field, plants survive and in the early March when sun is shining but we still cannot go to the field it starts growing». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

Ukrainian nurseries are fall behind mechanization from European ones, though they have some machinery. Almost all large nurseries in Central and Eastern Ukraine have an automatic irrigation system, except Kornelis. There is a large amount of precipitation in the western Ukraine and plants can grow without additional irrigation, though each year the climate changes and becomes drier, so owners of nurseries from Western Ukraine also think about irrigation. In the nurseries there are also machines for cultivating (tractors). Second-hand machinery of foreign production is usually purchased, which is repaired and then, according to respondents, works "as new".

Insufficient mechanization prevents operations necessary for the cultivation of quality plants in full or leads to a delay in growing time.

Many nurseries have greenhouses, very rarely these are modern glass greenhouses, more often it is a homemade greenhouse from the film. More and more plants are grown in containers or special bags, as it simplifies their transportation and allows them to sell and plant container plants throughout the year.

5.1.4. Storage and Transportation

In order to store some plants for winter, there are special refrigerators in the nurseries that are used in autumn to store excavated plants with bare root, and in spring they are used to store plants that were bought for nursing, before planting into soil or in containers. Part of

the trees and shrubs are needed to be covered for winter, but some hibernate in the open ground.

«We use refrigerator two times. First time is in the autumn when we dig out bare root trees on the field and transfer them to refrigerator. The second time is in early spring when we buy seedlings of plants and transfer them to refrigerator. We can say that survival rate is quite high, and we are satisfied with the result, so availability of refrigerator helps us a lot». – **Andrii But, Founder of Osokor nursery**

Often, large nurseries transport plants to customers themselves, they have their own transport for that. Smaller nurseries do not provide plant transportation services because they do not have their own transport.

5.1.5. Cooperation Between Nurseries

Owners and staff at nurseries often communicate with each other at various specialized events: exhibitions, fairs. The industry of ornamental plants in Ukraine is still small, so all the representatives know each other, often communicate and visit nurseries, look at how plants are grown locally and socialize in social networks.

Nurseries often buy plants that are lacking in the range of the products at their own garden center from one another. There are also purchases of plants that nursery requires for participation in a tender for the construction of a city object.

«Yes, we sell our plants to other nurseries but only if we cooperate. For example, there is an offer for a tender and I see that I do not have some plants like roses, as we do not grow roses. But we have won a tender with my partner and each of us has a section to cover. My partner is responsible for construction part and I will have to deliver 3 thousand roses, so we buy nursing plants from other nursery, grow them and then deliver». – **Andrii But, Founder of Osokor nursery**

5.1.6. Difference from Foreign Nurseries

Time of operation: our nurseries are quite young (under 25 years) and do not have such a great experience like famous European ones Dutch and German nurseries; that is the reason why they have not mastered some technologies yet.

Climate peculiarities: the sharp continental climate in Ukraine is more severe compared to the climate in Germany and the Netherlands, conditions here are more extreme.

«If we planted a Norway maple or just a regular maple that we see everywhere, in the Netherlands it will grow up to 2 meters per year if it is actively irrigated and receives nutrients. You will get a beautiful long even two-meter high stem. In our climate and soil conditions the tree will be two times smaller compared to the Dutch. It is harder to get such an even stem which is one of the main tree characteristics. Sometimes it is even impossible». – **Andrii But, Founder of Osokor nursery**

Wide range of plants in most nurseries: there are no narrow-specialized nurseries in Ukraine. Our nurseries produce a wide range of products, while European ones have a narrow specialization as they grow only a certain type of plants. This complicates working process and requires higher expenditures for the purchase of several types of machinery used for various types of work needed for growing the entire range of plants. The work organization at the nursery also requires creating conditions for many plant varieties.

«I need to have a lot of special machinery for my work: the one that allows digging trees, another for digging out shrubs, planting machines and machines for mixing compost. I would not need tractors if I worked only with shrubs as I would need only a transporter. That is the reason why nurseries in the Netherlands, Germany and Belgium specialize only on one type of plants». – **Andrii Pohrebnyi, Director of Gardi nursery**

Wide specialization is a condition for working on the market nowadays, since there is currently no demand for large batches of one product and there is no possibility for selling plants that are intended to be grown in other nurseries.

«Market underdevelopment hinders our desire for specialization. For example, if I grow one product segment, I will work only with B2B clients, not with the final customer, but with businesses. But this business is not created yet as there are no networks of wholesale garden centers. I am not talking about stoke markets or auctions as I do not think we will ever have those. Such thing as specialization will appear

only after market is being developed and there are around ten thousand garden centers across Ukraine». –

Andrii Pohrebnyi, Director of Gardi nursery

Absence of co-operatives. For example, cooperatives in the Netherlands help solving problems with product sales, for example, a cooperative can buy a fairly large volume of products that might be interesting to wholesalers.

«The cooperation between farmers is well developed in the Netherlands. Farmers usually do not deal with sales, they create cooperatives. The main task of a farmer is to grow nursing plants, flowers, bulbs anything. They usually specialize on one-three plants or varieties. After creating a cooperative, they sell their product at the auction, so they do not worry where and how to sell». –

Oleksandr Dusaniuk, Managing director of Dekoplant nursery

Orientation of production on the domestic market: foreign nurseries are more export-oriented compared to domestic market, while Ukrainian nurseries are more oriented on the Ukrainian market.

«Production of roses in both Serbia and Bulgaria has been well developed for many years now, but domestic consumption is zero. Meaning that all that has been produced will be sold to western Europe as a raw material – the bare root. Later companies in the western Europe will pack and sell these roses. In Ukraine situation is on the contrary, companies are small and try to fill in some niche on the market and estimate what amount they will be able to sell for the highest price possible but by themselves on expos and fairs. Even though the range of varieties is quite wide the amount is small, and quality is somehow average». –

Oleksandr Dusaniuk, Managing director of Dekoplant nursery

Domestic market orientation for private retail consumers: 80% of ornamental plants are consumed abroad by the residential sector, and 20% by private one. In Ukraine situation is completely the opposite: 20% of production is consumed by residential sector and 80% is consumed by the private sector.

5.1.7. Problems which Nurseries Face

Representatives of nurseries that participated in the research mentioned the following problems that they face during the work:

- Lack of personnel needed for the nursery's operation. Almost all respondents, representatives of nurseries, faced this problem. This is since the borders have opened and a lot of workers from different areas of specialization moved to other

countries, including Poland, where salaries are higher. Moreover, agrarian universities do not prepare agronomists for growing ornamental plants as greater emphasis is made on agricultural crops. As the representative of one of the largest nurseries says:

«Any company that is planning to extend has a problem with personnel on different levels, starting with regular worker and up to management. This is a constant issue for those who want to develop. There is never enough agrarians or qualified salesmen». – **a nursery representative**

Lack of gardeners who could care for plants is a separate problem that impedes the development of the market for ornamental plants. Lack of gardeners leads to situation when plants die, get ill or planted incorrectly due to lack of proper care. Clients of nurseries may spend significant amount of money on planting material, which then dies due to unprofessional care. This is the reason why customer does not buy new plants after that.

- Problems with realization of grown products:
 - Representatives of nurseries admit that it is hard to guess correctly the product range in accordance with the taste of customers as there are no marketing specialists that would predict demand changes on some categories of plants.

«The fact that we always have to be up-to-date about all that is happening on the market and what will be in demand in the next few years is the hardest aspects of our work. There are usually some dominant plants in the product range, and it is very hard to predict». – **Andrii But, Founder of Osokor nursery**

- Municipal administration has had a little interest in landscaping of cities, which greatly reduces the demand on ornamental plants.
- There is no gardening culture among population, there are no legislative norms that would oblige people landscape territory adjacent to the house.

«There is such problem in Ukraine that people are not as intelligent as in Europe. People do not grow plants in their gardens». – **a nursery representative**

- Low purchasing power of the population, which does not allow spending money on ornamental plants, and accordingly reduces the profit of nurseries.

«The most global problem is a low income among population. Most people cannot afford to do a beautiful and high-quality landscaping their gardens». – **Andrii Pohrebnyi, Director of Gardi nursery**

- Lack of well-developed infrastructure that would allow quick and easy access to all materials needed for plant breeding, for example:
 - There were complains that there are no pesticides developed exclusively for nurseries.
 - It is not so easy to find fertilizers, containers. According to representatives of the nursery Kornelis, the search for the best price and quality requires more effort compared to what is happening in the Netherlands. The latter have experience of work at nurseries in the Netherlands and they are currently doing business in Ukraine, so they have something to compare.

Small number of nurseries and a young market are the main reasons for low development of infrastructure, therefore, the related institutions did not have time to develop.

- Problems connected to renovation of machinery park which is vital for nursery's operation: the lack of funds for the purchase of machinery, high prices for customs clearance, unfavorable terms for lease of machinery or the lack of services for nurseries as well as lack of state aid.

«We do not have machinery as it is very expensive. We also do not have a distribution area like in Europe. The biggest problem is that we cannot lease machinery for 1-2% per annum. The cost of mechanization is much higher compared to one abroad. In the Netherlands or Poland state supports producer if he needs a tractor. It might be an interest rate or tractor price can be partially refunded». – **Andrii But, Founder of Osokor nursery**

- Import dependence of nurseries, combined with high prices for imported products and cost of customs clearance makes ornamental plants less profitable.

«Production in the nursery depends on the import. There is no company that would produce containers we usually use ones produced in Poland as well as fertilizers and CPP. Though there is Ukravit²⁵ that produces generic CPP at affordable price. The other main components are substrate and peat from the Baltic states. What else, bamboo and machinery of foreign production». – **Andrii But, Founder of Osokor nursery**

²⁵ Ukrainian producer of crop protection products <https://ukravit.ua/ru/>

- Potential risks during the sale of plants grown in nurseries, as most of the plants grown there are not included in the State Register of the Plant Varieties in Ukraine and not suitable for distribution in Ukraine (<http://www.minagro.gov.ua/rating/files/r2.pdf> –register). So far, there have been no cases where plants were banned from selling, but this option is possible and causes concern for the owners of nurseries.

«You can grow whatever you want but you should include in the price list only those plants that are included to State Register of the Plant Varieties in Ukraine, this refers to both agricultural crops and ornamental plants. There are some lilacs, roses, but there are a lot of plants that are not included to the register. So basically, we are outside the law». – **Andrii But, Founder of Osokor nursery**

- Impossibility to register land officially where nursery is located into private ownership and unregulated land market ([land market problem](#)). This deprives the nurseries of the guarantees of return on investment, jeopardizes their future existence, makes investments in nurseries risky. For example, it may restrain nurseries from such investments like technical equipment for the irrigation system, greenhouses. Profit from such investments can be expected after a certain period: from two to twenty or more years and the owners have no guarantees that the land they use will still be in their lease, that is, they will be able to continue growing ornamental plants on it.

«I would say that land issue is the most problematic as the land market is still not open but, at the same time, agroholdings want to lease land and it creates competition. As a nursery we would like to own 30 or 50 hectares of land that would guarantee our further production. In 5 or 7 years we would be able to buy this land, but it is forbidden at the moment». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

- Lack of loans with a low interest. Banks currently have no offers for nurseries that would consider their capabilities and such an important feature of the work like seasonality of profits. Due to this fact nurseries do not have an opportunity to upgrade and purchase additional machinery and equipment.

«I am currently in need of warehouses and refrigerators with the total area one thousand square meters each. This would cost me 500 000 EUR. If I could get a credit with interest 5% or 7% per annum, I would have the most modern equipment, increase my production volumes. This means that I will earn more and will be able to return money, but instead, I need to slowly save this money for 10 years and slowly build

everything I want. We cannot get loans for business plans, it is only possible to get if it is secured by immovable property somewhere in Vinnytsia or Kyiv». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

- The problem with maintenance of specialized machinery: service centers are either hard to reach or there are none. Manufacturers and distributors of machinery are not interested in service organization, since the number of nurseries is not large and there are not a lot of potential clients. If there is a problem with the machinery, nurseries are forced to call specialists from abroad, which is very expensive.

«If there were any problems with machinery the expert from Germany would come for repairs but it is too expensive». – **a nursery representative**

- Bureaucracy and time required to collect all the necessary documentation. This is difficult for representatives of Ukrainian business, but even more so for foreigners, as they are accustomed to the fact that all bureaucratic issues in other countries are solved much faster. Representatives of nurseries often need help to address issues with documentation.

«In state institutions the situation is as follows: first you need to sign some paper, pay and only after that you need to return this paper. Of course, you can do it by yourself, but it is much easier to find people that know how to do it properly. It will take some time. Foreigners do not understand this mechanism». – **a nursery representative**

- Difficulties encountered when crossing the border, especially during customs clearance. Some representatives of nurseries among difficulties mentioned also a long time, during which products are delayed at the customs, difficulties with the registration of documents as an excuse for bribe request.
- Difficulties associated with climate and weather conditions that can cause plant losses. For example, the long and cold winter of 2018 caused significant losses of plants in most nurseries, which led to financial damage.

5.2. Domestic Proportion of Cut Flowers

For evaluation of cut flowers production there were interviewed experts - market participants:

- Representatives of producers of cut flowers;
- Importers of cut flowers;
- Representatives of flower shops;
- A representative of florists' association.

The main objectives of the study:

- Flowers produced in Ukraine;
- Biggest producers of cut flowers;
- Conditions of cut flowers cultivation;
- Quality criteria.

5.2.1. Top Producers of Cut Flowers

In Ukraine only roses for cutting are grown on an industrial scale.

«In general, we are beyond competition regarding greenhouse business, as we have the largest greenhouse facility in Ukraine, which grows roses under glass. It is unique to have all processes related to production of cut roses in one place. In Europe, nobody grows roses on such scale in one place». –

Representative of the Ukrainian producer of cut roses

Among top producers of cut flowers market participants mentioned the following companies:

- 1) Ascania-Flora (<https://ascania-flora.ua/>) has the largest greenhouse complex for growing roses. It is in Kyivska region, has 23 hectares of greenhouses. Ascania-Flora specializes exclusively in growing roses.
- 2) Camellia (<https://camellia.ua/ua>). Company is in Kyivska region, has 7,5 hectares of greenhouses, where they grow roses for cutting. The company also grows seedlings of flowers, indoor flowers and tulips.
- 3) Fresia (<https://ca.ligazakon.net/document/21937125/dossier>).

The company is in Dnipropetrovska region, has 4,7 hectares of greenhouses, where roses are grown.

- 4) Tandem (<https://tandem.agrobiz.net/>). The company is in Lvivska region, in Drohobych. Has 6 hectares of greenhouses, where roses are grown.

There are also smaller scale producers like:

- Flora-Vest (<https://floravest.business-guide.com.ua/>). There are 2 hectares of greenhouses, where roses are grown.
- TOV Fakt (https://youcontrol.com.ua/catalog/company_details/38284164/). The company is located in Berdychiv, Zhytomyrska region. There are 2 hectares of greenhouses, where they grow roses.

Bulb flowers for cutting in most cases are grown in the private sector, it is unprofessional production of flowers, the minimum batch starts from 20,000 bulbs and can reach up to several hundred thousand. The biggest share of bulb flowers grown in Ukraine is taken tulips, while irises, lilies are grown in a much smaller volume. Tulips are most often grown in the Lvivska, Dnipropetrovska, Kharkivska and Kyivska regions. Before the conflict on the east of Ukraine, many tulips were grown in Luhanska and Donetska regions. Some volume of tulips is grown in the Odeska region.

«Tulips are mostly grown by a number of small private entrepreneurs. These are people who have experience in agronomy. They can even work, even by means of their families or sometimes hire additional workers. They either have already built or yet building Dutch greenhouses next to their home. I do not really think that production volume is based on big legal companies like Camellia or Ascania-Flora, whose advertising we can see on big boards». – **Representative of logistics company of cut flowers and ornamental plants**

A big-scale producers of the bulb flowers for cutting in Ukraine are Camellia and Fresia. Camellia grows up to 300 000 bulbs per season: 200 000 tulips and 100 000 irises. Fresia grows around 250 000 tulips per season, they used to grow lilies, but they have refused from this idea.

Eustomas are also grown in Ukraine, but in small volumes and on unprofessional scale. Experts mentioned only one company that grows eustomas on a large industrial scale,

namely Service Flora in Zaporizka region (<http://serviceflora.com.ua/>). There are also small producers of eustomas in Kyivska, Mykolaivska, Odeska and other regions.

Other cut flowers can also be grown in Ukraine, but in small volumes and by nonprofessional producers. These can be such flowers like ranunculus, matthiola, peony, chrysanthemum, gerbera and dahlias.

«Eustoma is grown in the summer, but it is not produced in huge volumes. It is possible to count on fingers, where eustoma is grown in Ukraine on an industrial scale. There are also some gerberas, a little bit of chrysanthemums, quite a bit of dahlias. In a very small volume, there could be found some mattiolas, ranunculus and gladioluses. We call these growers private households, this is another business category».

– **Alena Storchak, CEO of Ukraflora**

«Chrysanthemums are grown in Mykolaivska, Khersonska and Odesska regions; there are around 50 people with the total volume of greenhouses of 20 ares each». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

5.2.2. Varieties of Cut Flowers Produced in Ukraine

Ukrainian producers, both small and large, grow a classical range of flowers that would have a guaranteed demand. Producers of flowers in the open ground are mostly season-oriented, as they choose varieties that grow well in our conditions and do not require heating or cooling.

The industrial producers of cut roses apply different approaches to the formation of product range:

- Ascania-Flora does not have a wide range of varieties, but they produce each variety in large volumes;
- Fresia and Tandem offer a wide range of varieties but grow a small volume of roses of each variety.

It should be noted that companies that work on the Ukrainian market of cut roses are trying not to repeat the range of each other, that is, avoid growing the same varieties

«Fresia does not communicate but Fresia grows a lot of specialties. So, they have a lot of varieties in small amounts. Ascania-Flora have small amount of varieties but big amount of plants. And Camellia is somewhere in the middle. Fresia is different, they have completely different varieties also. Tandem we know they have the popular of varieties». – **Expert from the Netherlands, supplier of cut flowers**

According to experts, our producers of roses have rather conservative tastes, they rarely consider growing new varieties.

«The taste is different. The taste is a little bit more old-fashioned. They do not like much novelties or too much special things in Ukraine. They go for the basic stability and the basic varieties». – **Expert from the Netherlands, supplier of cut flowers**

Ascania-Flora is a great example of well-developed range of roses by local producer. The representative of this company mentioned that they have in their range 20 varieties of spray roses and 15 varieties of single head roses. Another 30 varieties are grown as a test for further selection into the range for cultivation. The company stated that the ratio between red and white roses in the assortment is 50% to 30%. Large companies are studying demand at the market, and develop their range based on that demand. According to the expert, the demand for certain varieties of roses varies quite slowly. The range of flowers mainly consists of varieties of classical colors: red and white, which are always in demand. Such conservatism can be explained also by specifics of cultivation besides the customers' tastes, as roses are usually replanted every 4 years, the area of greenhouses is limited, therefore the range of flowers varies slowly. Part of the assortment consists of roses of original colors like two-colored and lilac roses.

«If market preferences can change very dynamically, then we, the manufacturers, are not so dynamic. Because there is a period when we can receive harvest and only later, we can move to another plant. Even if we changed flowers, despite the variety, we will be growing them for the next 4 years. We have 20 hectares in total divided into four 5-hectare fields and every year we are changing flowers on one of these 5-hectare fields. We can change varieties once every 4 years». – **Representative of the Ukrainian producer of cut roses**

The unconventional varieties and colors are required by small companies as they are mostly ordered by retail outlets to make the display more attractive. Moreover, unconventional varieties may be of interest to people who often buy flowers. However, most Ukrainians buy flowers a few times a year, and they are limited to traditional varieties of roses of traditional colors.

«All sales outlets are trying to differ in one way or another. For them exclusive or exotic flowers are needed for display-window diversification. I think that those buying flowers every day will be interested in new

varieties and it is what we are striving for, but unfortunately we have not grown to that level yet, most consumers buy flowers 2-3 times a year». – **Representative of the Ukrainian producer of cut roses**

5.2.3. Growing Technology

The Ukrainian climate alongside its extreme temperature fluctuations during the season and extreme weather changes between seasons, e.g. cold winter, hot summer, leads to the fact that most cut flowers need to be grown in greenhouses, because otherwise the flower does not reach in growth a commercial appearance. Without greenhouses, you can grow only summer flowers: peonies, dahlias, gladioluses and delphiniums.

Roses that we grow on a large industrial scale cannot be grown without greenhouses even in summer, because they need a stable temperature without which the stem will not grow to the desired height. In the open ground, roses suffer from heat or temperature fluctuations.

Ascania-Flora and Camellia have modern mechanized greenhouses, which are equipped with automatic drip irrigation, climate control, modern artificial lighting system and other essential elements typical of the technological greenhouse.

«We use a technology of growing in closed ground as roses are grown on artificial substrate with drip irrigation. All greenhouses have all signs of modern production, the first distinguishing parameter is its construction: all these greenhouses are very high and equipped with strong lighting, we have lighting from 15 to 20 thousand lux. Secondly, all greenhouses have computerized automatic irrigation system and climate control. There are also such possibilities like closing window blinds, vent ventilation, air ventilation inside the greenhouse, a fog system and an external sprinkling irrigation of the greenhouse. There is also a system of greenhouse whitening in summer during the hot season». – **Representative of the Ukrainian producer of cut roses**

Moreover, these companies have highly qualified agronomists who have adapted the technology of growing roses to the Ukrainian climate and adhere to it. This allows getting roses of rather high quality, but even such modern technologies and availability of good specialists do not provide the same qualitative characteristics of roses, as in Ecuador, Colombia and Kenya. It is particularly difficult to assure that Ukrainian roses get such characteristics like long and high stem as well as a large bud. Given the Ukrainian climatic

conditions, it is very difficult and expensive to provide a stable temperature and humidity, which is often economically impractical.

«Certainly, you can create conditions under which it would be possible to grow a rose with a large bud and long stem. But there appears a question about ratio of price to quality, as such rose will be more expensive. And there is no sense trying to compete with flowers from Ecuador that have the same parameters». –

Representative of the Ukrainian producer of cut roses

The most expensive roses in Ukraine are grown by Camellia, who invests a lot of money into the mechanization of greenhouses and storage systems for roses. Many experts consider Camellia roses to have the highest quality among Ukrainian roses. A producer like Ascania-Flora also grows high quality roses, but this company does not focus on the most expensive segment of the market, so the roses are slightly inferior in quality due to reduction of cost of production technology.

«The most expensive is Camellia. They invest a lot of resources in growing technology. They have cooling, they mechanize greenhouses and, accordingly, it makes flower more expensive. But this modernization has a great influence on the quality of the flower. As a result, they get flower with a beautiful bud and a long stem». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Specialists believe that Ukrainian roses, in general, are inferior in quality to Dutch flowers, because they have smaller buds and shorter vase life. This is explained by the peculiarities of growing and storing. On the one hand, the Ukrainians have, for the most part, a lower purchasing power, and therefore producers are trying to cheapen the growing technology by using cheaper pesticides, fertilizers etc. On the other hand, experts from the Netherlands pointed out a lack of competition at the market for cut flowers, which does not encourage producers to grow flowers of the highest quality; for example, the bush of roses should not be growing more than 5 years till it must be transplanted, in Ukraine roses can grow even longer.

The industrial producers of roses have the following problems in production:

- There has been a significant drop in the purchasing power of the population, and, as a result, the demand for flowers, which is not an object of first necessity, has also declined. Producers who have invested heavily in modern greenhouses have been

forced to reduce the price of flowers, and to make it happen they have resorted to technology cheapening.

- There has been a repeated rise in gas prices since laying the foundation of greenhouses. Taking into consideration the fact that during winter temperatures in Ukraine are lower compared to the Netherlands, more gas is needed to heat the greenhouses. This explains the lower competitiveness of Ukrainian roses.

«This is very unprofitable in Ukraine, it is a very expensive business. We have very expensive energy carriers. Have you seen how much do they pay in the Netherlands for one cubic meter of gas compared to us? That is, they have less expenses in the Netherlands, prime cost is lower than in Ukraine, much lower».

– **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

- Ukrainian producers are very dependent on currency fluctuations, since most of the components for the production of cut flowers are imported. As noted above, seedlings of roses are bought in the Netherlands; fertilizers and pesticides are usually bought abroad, the same as a soil substrate.
- There is no scientific research in Ukraine that would help producers of ornamental plants in optimization of growing technologies.

«We do not have an institution that does, let's say, research. We always learn from our mistakes. Let us suppose, there is no research on the work of growth regulators, how the soil acidity affects the rose». –

Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia

- There is a shortage of specialists required to produce flowers. There is a lack of agronomists, gardeners, production specialists who could properly plan their range of varieties.

«We do not have enough competent staff: gardeners, agronomists. There is no head of production who can competently develop a seasonality of a product: what flowers should be sold now and what flowers are yet to be grown. One can grow plants that eventually will be thrown away, because you will not be able to sell them as it is a low season for this flower, but you have grown 20 thousand; the sales period for this flower is a month but you will not be able to see it. You have planted, you paid for the soil, you paid for planting material, but you have not sold it». – **Tetiana Portfilova, Head of Sales Department of potted plants,**

company Camellia

- There is no insurance from production risks, which makes the growing of flowers especially dependent on external factors, for example, from the stable supply of gas for heating greenhouses.

«If you suddenly were cut of the gas in the greenhouse, or the gas supply in the pipe is not good enough to warm the greenhouse, then all your planting material will simply perish. And no insurance company will reimburse you in full, it will be very difficult to prove, and it will cost a lot to prove it». – **Iryna Byelobrova, the president of Association of Florists.**

Other flowers, besides roses, as mentioned above, are mostly grown by small private farms in small greenhouses or open ground. Large flower growers, besides roses, also grow other flowers, for example, Camellia is growing tulips, but mostly until March 8th. Service Flora, located in the Zaporizka region, grows small volumes of eustomas on an industrial scale. These two companies grow flowers in glass and modern greenhouses. Smaller producers grow flowers in greenhouses covered with a film, or in glass greenhouses but somewhat worse equipped technologically. Quite often these greenhouses have already been in use, they have just been bought out by Ukrainian entrepreneurs and repaired.

«We have old greenhouses, it is a built-up structure, possibly bought in Poland in pretty bad condition and repaired. The skill of the Ukrainian people is well-known to everyone, they simply build what they can from film. Film, of course, will not be suitable for the tulips, because these flowers will not be able to make it through the winter there as they require heat, maintenance of a certain humidity and temperature and overall special conditions». – **Representative of logistics company of cut flowers and ornamental plants**

Experts stated that tulips and other flowers in such greenhouses are grown without strict compliance with the technology, for example, there might not be used fertilizers, pesticide treatments are not always been made and phytosanitary tests are not performed. The only thing that manufacturers do not save on is planting material. Bulbs and seedlings are used of foreign production.

The difference in growing technology lays in fact that, for example, the eustoma bush is used to produce two harvests of cut flowers.

«The Dutch are growing it as a one-time crop, but in our country, it is grown for two harvests. That is, after the flower she blossomed, it is being cut, and is growing again after that. And in two months the second harvest is collected». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

Private producers face special issues during growing flowers, which are different from the problems faced by large producers. The small producers of cut flowers have the following problems:

- The complexity of growing cut flowers.
- The shortage of specialists required to produce flowers, since such small producers cannot offer competitive wages, and they have no opportunity to train agronomists after universities, as only the agronomist that has just graduated from university has not enough knowledge and experience in growing flowers. Moreover, most agrarian universities in Ukraine do not have such specialization as ornamental flowers. However, experts pointed out that small greenhouses are quite often opened by people with agrarian education and experience of work as an agronomist. If the owner does not have agrarian education, they will not hire an agronomist for production.
- The unavailability of pesticides, fertilizers and growth regulators for flowers, mainly due to the high price. For small producers, the cost of these protection products is higher than for large flower producers that these products in large volumes. Representatives of this sector also mentioned that protection products that in most cases might be required are quite often lacking on the Ukrainian market.

«Around 50 types of pesticides are used during the period of growth of chrysanthemum. There is no company in Ukraine that will provide these pesticides, stimulants or fertilizers. All these products are bought personally, even though they are very overpriced. Producers have to buy these pesticides abroad, practically directly from producer». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

- Expensive planting material is imported from the Netherlands. It is sold through local importers, that put too high prices on it.
- Inaccessibility of laboratory analysis and phytosanitary tests. Due to the lack of agronomists, such small producers do not know what analyses should be taken, how and where to take them.
- Difficulties with selling the produced flowers.

- Small growers do not have any forward contracts on flowers they grow, so they act at their own risk. Usually, such flowers are sold in kiosks or in markets. One of our respondents had two flower shops in one of the regional centers, where he sold flowers grown in his own little greenhouse.
- There is no market analysis data available in Ukraine for potential producers to study and decide on a market niche for themselves.

«If I have a plot of land and I want to grow some flower, I can address a certain governmental structure, and they will tell me whether a niche is already full for this flower or is not. That is, they provide such reports about all flowers, and I am only the one to choose whether I am going to work in the niche that is already full and try to grow an even better flower, or I will try something new». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

- According to experts, the biggest problem is the lack of state support, which is expressed in the absence of tax privileges, loans, public services that would provide phytosanitary control services.

«When I address to the government of my country, and I will be given a loan. Provided that if I start producing real products on the second or third year after building greenhouses and everything else, I will be released from paying interests. If I start to produce products for import, the government gives me an additional loan, so that I can improve my production sphere further if I decide that first loan was not enough. In this case I will be given a grace period while a part of the money from previous loan will be closed. This all is called a state support. But there is no such thing in Ukraine». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

5.3. Domestic Production of Potted Plants

The information for the analysis was kindly provided by producers of potted plants, a representative of the phytosanitary service and representatives of the distribution of potted plants.

The following objectives here were discussed: potted plants produced in Ukraine, main producers, conditions and quality of plants produced in Ukraine.

5.3.1. Producers of Potted Plants

Experts named the following producers of potted plants:

- Camellia (<https://camellia.ua/ua/catalog/cat/nashi-cvety/indoor>);
- Dutch roses (Gardi) (<https://www.gardi.biz/greenhouse/>);
- Plantpol (<http://www.plantpol.com.ua/>);
- Flowers of Zakarpattia (<https://pfister.com.ua/>).

Roses, including potted, are cultivated by Lviv company Tandem. The producers have a limited product range, they mainly produce outdoor potted plants

Ukrainian Zelenbuds cultivate seedlings for potted plants. This organizations are in each city, and in large cities in each district of the city.

«Zelenbud supply us with seasonal products, namely seedlings and small flowers. For example, Pelargonium, which is popular among older women». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Expets also mentioned smaller producers of potted plants:

«There are also smaller greenhouses. Locally, probably in Borispil there are few greenhouses, in Kiev there are few more. Where old greenhouses used to be, there are garden centers now. We just have one of the biggest greenhouses. I think we are leaders. The quality of other plants may be worse, while our company invests into quality». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

«Even the Poles relocated their production capacity Planpol to Ukraine. They are in Lutsk region now». – **Iryna Malakhova, Duomex company, importer of ornamental plants and cut flowers**

According to experts, certain types of indoor potted plants in some volumes are produced by households. For example, they cultivate Saintpaulia, Gloxinia and Fuchsia. This may be viewed as an additional income for some people or hobby for retired people.

«Usually this is a room in ordinary apartment, where racks are situated. This is good for plants which don't require large space, for example, Saintpaulia». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Production of potted plants develops quite slowly, because it is a business that brings profit in a rather distant future. Nowadays in Ukraine they develop businesses bringing faster profit.

«I assume, potted plants are not produced in large volumes, because it's a long time. It takes about 4 months for the plant to make roots, evolve. In Ukraine it is considered as wrong approach if business doesn't bring profit for 4 months». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

5.3.2. Product Range of Potted Plants Producers

In Ukraine potted plants for street greening are cultivated. These are plants for which our climate is suitable: Petunia (Surfinia Group), Coleus, Begonia.

«Usually, only plants, for which climate is suitable are cultivated in large volumes. There are cultivated Petunia (Surfinia Group), Coleus, Begonia». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Local producers have difficulties in forecasting the demand, even though they analyze the product range.

«We use our sales data. If we sell a thousand units of a monoculture in two days, we, probably, should increase its production. There are situations when we cultivated a thousand units of a plant and sold only 100 items. The rest 900 were thrown out. Next year we will have only 100 units of this plant or will not cultivate it at all». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

Producers try to launch some novelties, but quite often these new plants are not in demand and producers must refuse from them.

«We learn from our mistakes. We may introduce something, and these plants may either be successfully sold, or we may have 100% of losses. We may think it could be sold well, but in reality, it is not.». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

New items are usually selected at exhibitions or in magazines, or by client's requests, wishes. New items have a very small share in production. For example, in Camellia they have one new plant for every 100 items in their product range.

Often producers form their product range based on their intuitive feelings, not guided by some mathematical calculations. Responsible for sales managers, flowers are often an impulsive purchase, which cannot be predicted by any calculations. In order to sell more flowers, they often make more vivid packaging. It is believed that the main factor of purchase is still the price, followed by color and height of the plant.

«This is not a research, it's a market sense, it either exists or not. If you have it, then you are a successful manager, if you do not have it, you will have to change the place of work in 2 years». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

«We choose more colorful wrapping. You can put a flower in a transparent package, but you can choose a package that will immediately fall into the eye, and nobody will pass through this flower.». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

5.3.3. Cultivation Technologies of Potted Plants

Large companies cultivate potted plants in modern automated greenhouses. Automation of greenhouses includes lighting, climate control and automatic irrigation. Large producers have professional agronomists who guarantee the observance of growing technologies. However, even in large companies they also have problems: they usually have rather large assortment. Respondents stated in the Netherlands, on the contrary, usually one type of plants is cultivated. Wide range makes it impossible to create special conditions for each type.

«In the Netherlands they cultivate mono plant in greenhouses. For example, for years, they cultivate chrysanthemum. Unfortunately, we do not have such opportunities, we cultivate what we have. Our greenhouses are constantly renovated. Thus, we have difficulties combining different plants in one greenhouse. For example, some plants need 12 hours of light day, the other may need 4 hours. We make in the greenhouse few zones where potted plants requiring the same conditions are situated. This is very difficult». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

Potted plants are usually cultivated from seedlings bought at an auction in the Netherlands, less often in other countries. All related materials, such as soil and pots, are imported. The Ukrainian producer does not produce a sufficient range of products to satisfy the needs of our producers of indoor potted plants.

«With the soil it is not very simple. For each plant you need a certain mixture: a certain mixture for flowering plants, certain for green ornamental plants. Soil acidity and content are important. Soil of higher quality is usually of foreign production». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

There are also private producers of indoor potted plants. They usually cultivate plants in space not adapted for these objectives, even in apartments.

5.4. Domestic Production of Planting Material

Seedlings of flowers and ornamental plants are produced in Ukraine, seeds are mostly packed, and a small amount of tulip bulbs is grown.

Experts mentioned the following producers of seedlings:

- Camellia (<https://camellia.ua/ua/catalog/cat/nashi-cvety/indoor>);
- Plantpol (<http://www.plantpol.com.ua>);
- Zelemin (Lviv) (<http://zelemin.com.ua>);
- Gardi (<https://www.gardi.biz/greenhouse/garden-plants/>).

Some seedlings of roses for the B2B sector are propagated in Ukraine, but it is made illegally, and secondly, such seedlings are of fairly poor quality; their survival rate is only 40-50%, while Dutch seedlings survive in 90-95% of cases. According to experts, 10% of all seedlings of roses in Ukraine has been propagated illegally. According to the expert, the self-propagated seedlings of roses are of low quality, because companies do not adhere to the technology of cultivation.

«These 10% of seedlings of Ukrainian roses has been propagated illegally. The problem is that they do not know how to do it properly. Seedlings from the Netherlands survive in 90-95% of cases compared to 40-50% of Ukrainian production. I do not know why they are doing this as they do not receive any profit from it». – **Expert from the Netherlands, supplier of cut flowers**

The main distributors of seeds, which pre-pack, pack and sell products from Ukrainian and foreign producers:

- Nasinnia Ukrainy (share on market of seeds is 70%, <http://ukrseeds.net.ua/>);
- Vassma
(<https://uk.wikipedia.org/wiki/%D0%92%D0%B0%D1%81%D1%81%D0%BC%D0%B0>);
- Golden Garden (<https://goldengarden.ua.market/catalog>);
- Profesiine Nasinnia (<https://ogorod.ua/shop/tm/profesijne-nasinnja>);
- Badvasy (<https://badvasy.agrobiz.net/>).

There were single mentions of flower bulb producers. Experts mentioned a producer of tulips in the Chernivetska region (production area is 0,5 hectares). Moreover, according to experts, there are also 2 hectares in the Volynska region where bulbs are produced and another in the Khersonska region near Kakhovka, they also mentioned Lili Line company (<http://www.lili-line.com.ua/>).

«Although, there are 1% or 2% left. We have once grown flowers in the Crimea, but it is no longer so. I know the one who worked in Chernivtsi. He has worked in the Netherland for 10 years and now he has half a hectare where he grows tulip bulbs for sale. This is a very small area compared to the Netherlands where there are thousands of hectares. So, you can easily say that we do not grow them». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

In Ukraine bulbs are mostly grown in small volumes at private farms, that cannot provide appropriate production technologies and do not have all the necessary machinery.

«For example, they produce bulbs for forcing of plants like one person not far from Chernivtsi. It is not a company, it is just a person who has worked in the Netherlands for eight years and has gotten experience and decided to start his own production. In spring we have here an epic scenario of big tulip fields. He has a hectare of tulips there, and people from all Chernivetska region go there to see. As far as I know, the only company that deals with this type of work is Lili-Line. Moreover, we know that in the Netherlands, for example, the bulb is planted in the net, and everything is mechanized there. Process is arranged so that when the time comes tractor will simply pull out the bulbs, quickly wash and process them and that is it. Here in Ukraine, he does everything manually. He has some type of machinery, but it is a simple one. This is a very hard work». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

In this case, the quality of our bulbs is very low, namely they have low germination index, and even if the bulb germinates, it may not have inflorescences. According to experts the main reason for this situation is the violation of cultivation technologies.

«I was very surprised this year. 40-50% of "blind tulips" is being grown and sold. Our manufacturers make production cheaper. For example, if the Dutch manufacturer was told to use water-soluble fertilizer, where the concentration of N:P:K: should be 20:20:20 then they would use exactly such type of fertilizers. Our companies will use concentration 18:18:18. Even more so, they might not add phosphorus at all, and it is known that the quality of the bulb depends on phosphorus». – **Olena Boltovskaya, Rosana company (phytosanitary treatment of plants)**

Main barriers for mechanization and increase of production volume are:

- lack of market stability and confidence that investments will be returned;
- high taxes;
- absence of profitable loans for producers, that would help in business development.

6. Distribution of ornamental plants, planting material and cut flowers

For analysis there were used information from the following experts:

- Representatives of professional associations: Ukrainian Association of Florists and Ukraine Plants Industry Association;
- Experts from the Netherlands (mainly experts in cut flowers: suppliers of rose seedlings, consultants, suppliers of cut flowers to Ukraine);
- Representatives of logistics companies;
- Leaders of cut flowers production and one smaller producer;
- Flower shops, where they also have florists' services;
- Representatives of importers of planting material;
- Importers of full range of plants (cut flowers, potted plants, planting material, ornamental plants), leaders on the market;
- Representative of the biggest chain of garden centers – they have potted plants, seeds and seedlings of plants, ornamental plants;
- Representatives of producers of potted plants;
- Representatives of nurseries, one of which has garden center;
- Representatives of garden centers;
- Representatives of landscape design companies.

The main objectives: distribution process in general and in each sector.

6.1. General Information on Distribution of Ornamental plants and Cut Flowers

In Ukraine experts characterize the distribution of cut flowers, potted plants, planting material and ornamental plants as chaotic and unsystematic. Experts say there are no wide shop chains selling ornamental plants and cut flowers. We can only talk about some exceptions, e.g. flower shops of Camellia, where cut flowers and potted plants are sold. Camellia works only in Central and Eastern regions of Ukraine.

Chain of construction supermarkets Epicentr develops distribution of ornamental plants, planting material and cut flowers. There are often stands with cut flowers. Also, cut flowers can be sold in small quantities in supermarket chains, for example, Ecomarket, Silpo.

A lot of cut flowers, potted plants, planting material and seeds are sold in kiosks or in pop-up markets. Planting material and seeds are sold in hypermarkets of a wide profile, for example, Leroy Marlene and Auchan. There are no specialized store chains.

The lack of infrastructure for the sale and transportation of flowers and ornamental plants is a problem of the market of cut flowers, planting material, potted plants and ornamental plants. This hinders its development. Flowers, bulbs, potted plants and ornamental plants cannot stay fresh for a long time. They need special conditions of transportation and storage to save their quality. Quick sales are also important. The last requires correct choice of product range, promotion and marketing. This cannot be done by individual small shops and kiosks. Storage and transportation infrastructure are well established only for large flower selling chains. Now flowers are often stored in unsuitable for this premises, not always transported by special transport, the stores rarely have a well-thought out marketing policy and an analytical approach to the choice of product range.

«Flower is a product that requires special storage, special transportation. Infrastructure in general is important. It cannot be done by one supplier. This is due to the fact that the flower must be brought, then distributed in the right conditions with the help of specialists. Then the flowers must be sent in special transport to different regions. Enough transport should be available. In these regions, the flower must reach certain distribution centers with special conditions, where it is taken care of by trained staff. In my opinion, there is no such infrastructure in Ukraine». – **Alena Storchak, CEO of Ukraflora**

Violation of conditions during transportation and storage are often made with the desire to reduce the products price, to have possibility to sell them cheaper. Political and economic instability in Ukraine are the reasons of underdeveloped logistics. For now, it is risky to make large investments. Even large companies are not ready to invest into logistics and infrastructure, such as construction of special warehouses where you can store flowers.

«On the one hand, simple desire to reduce costs is there reason why some things are neglected. On the other hand, it is impossible to build technological logistics regional centers or simply branches of companies such as ours. We do not have representative offices in regions, because it is expensive. We are

not ready to make such investments at the moment. If we consider that we are the largest company in Ukraine and we are not ready, then it is unlikely that someone else will do it.». – **Alena Storchak, CEO of Ukraflora**

Large number of kiosks and small flower shops doesn't facilitate the development of organized infrastructure of sales and transportation. Kiosks and small shops often offer lower prices. In these kiosks and small shops there may be employed staff unofficially, which reduces the owner's expenses for wages. In addition, kiosks are located in places convenient for the buyer: near metro stations, residential areas, so the flowers are bought without any special effort on the way to work or home.

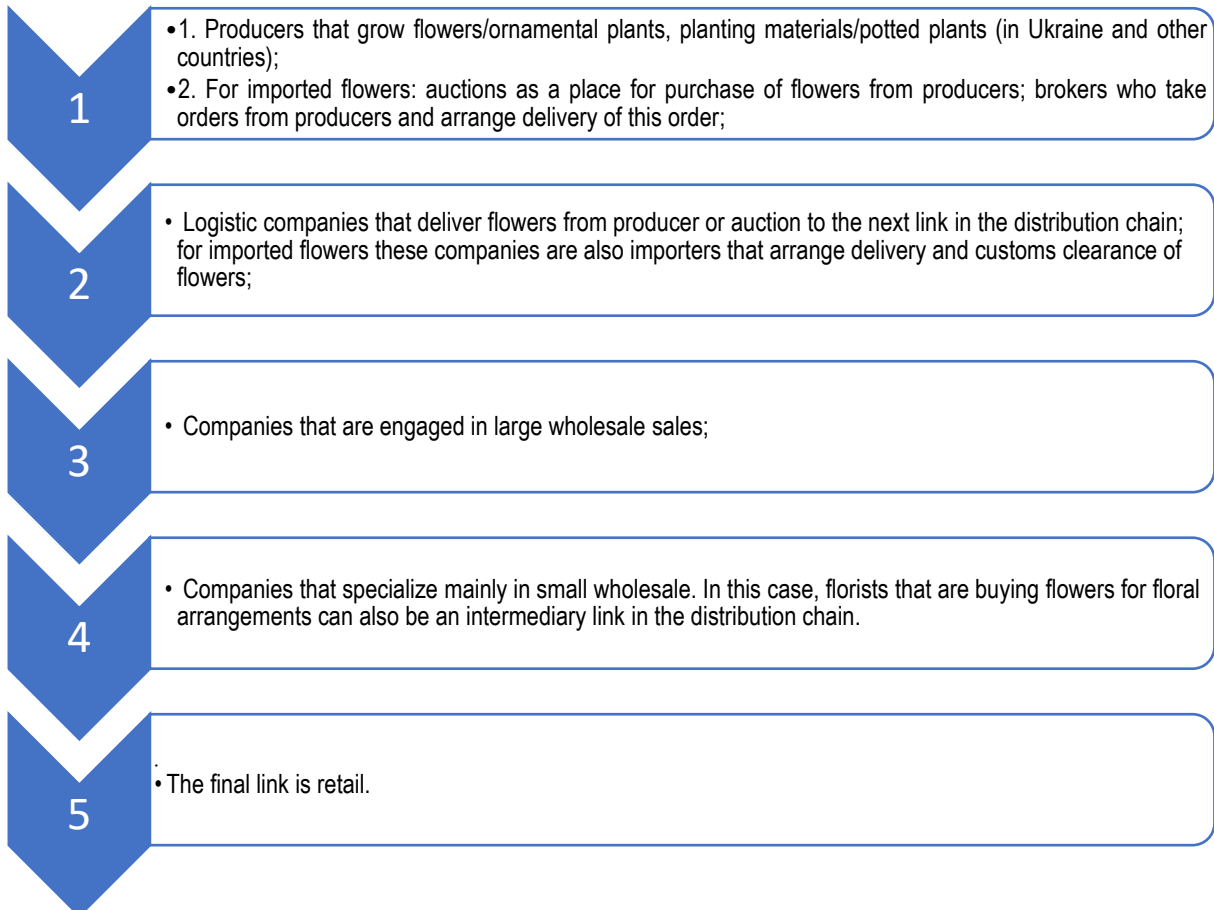
There is no marketing policy in most cases in small shops and kiosks. Expensive boutiques use some marketing techniques. For example, shops offering expensive bouquets usually have pages on social networks (Facebook and Instagram), where they promote their bouquets. Boutiques can also offer free delivery and other services to make shopping more comfortable.

Market participants notice marketing activities of Camellia. For example, outdoor advertising, sponsorship for fashion shows. Also, the company invests in personnel: in the shops they usually have trained staff and confident sales people.

As another example of noticeable marketing activity is the Epicentr supermarket chain. They have professional staff, printed promotion materials of their own plant products, including cut flowers.

6.2. Distribution Structure

The distribution structure of imported cut flowers, flowers grown on industrial scale (Camellia, Ascania-Flora) as well as planting materials, potted plants can be shown as follows:



«About 60% of our flowers are sold through wholesale distribution channels. Approximately 30% we sell through a retail sales network while import takes from 2% to 5%». – **Representative of the Ukrainian producer of cut roses**

Such a complicated and multi-layered structure is due to the lack of large sales networks of ornamental plants, potted plants, cut flowers and planting material. Small kiosks and boutiques cannot provide sales volumes. The product usually goes through many chain items before it reaches a buyer, therefore plants increase in price very much. Large volumes of sales can only be done by a large chain, such as the Epicentr, where the product has shorter way before it is sold to the end user.

Additionally, it is worth mentioning private florists-freelancers, who buy flowers and other necessary for floristic compositions of goods either directly at the auction (and have them delivered by logistics companies, importers) or buy everything at the wholesalers'.

Experts named 4 the largest logistics companies. Logistics companies are responsible for delivering flowers from the auction in the Netherlands to Ukraine, including customs clearance. After that these flowers are shipped to large wholesalers that later supply them to smaller wholesale companies. Small wholesalers distribute flowers between all the sales points. Almost all these four logistics companies operate throughout Ukraine, except for the Ukraflora, that is currently selling cut flowers only in some regions. The major wholesale companies are Ukraflora, Exotic Flora, Luxflora and Megaflora.

In some cases, growers of cut flowers may have their own retail outlets where they can sell their own and imported flowers. One producer can easily provide with products several retail outlets.

Large wholesalers usually to retail shops, where they sell leftovers of flowers, planting material, potted plants and ornamental plants.

6.3. Distribution of Cut Flowers

As for the retail sale of flowers, it should be noted that in Ukraine most flowers (according to expert's estimates, up to 80%) are sold in small specialized stores or flower kiosks. There are almost no chains of stores selling cut flowers, the only exception is the network of shops from Camellia, but they are located only in Kyiv. Chain of construction supermarkets Epicentr also increases its sales of cut flowers, where more stands with cut flowers are appearing. Cut flowers can also be sold in small volumes in supermarkets, for example, Ecomarket, Silpo. Periodically, stands with cut flowers appear in such supermarkets like Auchan and Velyka Kyshenia. There might be small stores in big cities owned by one owner, it is approximately 2-8 shops. These shops might be either luxury segment boutiques or stores for middle class segment. In cities with a million-plus population, e.g. Kyiv, there are boutiques selling luxury bouquets. Moreover, bouquets created by florists in

the medium plus and more price segment are actively sold in online stores, that also have pages in social media.

It is worth mentioning that cut flowers can be bought in sufficient range only in large cities or nearby towns. There are no sales of cut flowers in the regional centers, as there are only small departments in the funeral services. Even in big cities, besides Kyiv, there are might be problems with supply of flowers to wholesale warehouses, where, according to experts, flowers are delivered once a week and in insufficient volume.

Wholesale companies often participate in various exhibitions in order to advertise their own company.

In order to attract buyers in retail and small wholesale, suppliers widely use discount systems, create sales promotion, draw people with attractive offers on some items.

6.4. Distribution of Potted Plants

Chain of construction supermarkets Epicentr is the leader in distribution of potted plants. The director of the chain of garden centers Snizhana Odnoroh estimates their chain distributes about 60% -70% of all potted plants sold in Ukraine. They have 45 stores all over Ukraine, and almost each of them has a garden center or a separate space for ornamental plants. The main customers of the Epicentr network are retailers who buy plants for homes and their gardens. There is also a small wholesale: they sell plants for offices and other business needs, such as exhibitions.

In addition, indoor potted plants are sold in other chains of supermarkets such as Auchan, Silpo, Leroy Marlene, Velyka Kyshenia and other large supermarkets. Among disadvantages of this distribution channel we may mention missing of special conditions needed by flowers: temperature regime, automatic irrigation, etc. Garden center by Epicentr are an exception. Lately they make efforts to design the garden centers, among other things they have a "fog" system installed. They also treat plants with pesticides against pests and diseases. But even they cannot create ideal conditions, provide appropriate professional care for plants.

Online shops develop, for example, Agro-Market (<https://agro-market.net/>).

Most share of potted plants is still sold in single boutiques, kiosks. In the capital there is a large number of such boutiques. There are even small chains consisting of several stores, for example, Kvitkova Poliana, which has 4 stores (<http://kvitkova-poliana.com.ua/contacts>). As it was mentioned before, potted plants are sold in the chain of shops Camellia.

Some share of indoor potted plants is sold in garden centers. In Western Ukraine such garden centers can compete with the Epicentr in prices, because they have more opportunities to transport goods from abroad, including using illegal or semi-legal schemes. Also, garden centers may have cheaper plants of their own production. The only disadvantage is that they cannot offer such wide range of products as garden centers of Epicentr.

«We have small, regional competitors. For example, in Western Ukraine there are nurseries which work directly with Poland, importing plants themselves. They have quite wide product range and price. There are competitors in Odessa region, but they don't have import, thus, they have not wide enough product range.

». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Potted plants producers and importers mentioned the only problem: chains of shops and garden centers don't feel responsible for storage of plants; thus, its quality may deteriorate with time. Usually shops and garden centers pay for the plants after they were sold.

6.5. Distribution of Planting Material

Key channels for selling bulbs, flower seeds and seedlings:

- big networks of hardware stores, that have garden centers, the biggest in this segment is Epicentr;
- sometimes it is possible to buy planting material in the independent garden centers;
- sale of planting materials via the Internet and catalogs by mail is also quite common.

Some respondents noted the tendency for the purchase of planting materials in retail, namely buyers generate via the Internet a group order on a significantly large batch of seedlings and make one group order for all. This allows them to buy seedlings at wholesale



prices and have a wider range to choose from, compared to traditional sources for selling planting material.

6.6. Distribution of Ornamental Plants

The distribution of ornamental plants in Ukraine is underdeveloped. Such conclusion has been drawn due to a small amount of big garden centers and absence of special network stores that would sell garden material.

«There are no big garden centers or networks in Ukraine. Well if speak about garden centers, there are some good ones in Kyiv like Eva, Dalas, Interflora and Natalis. There might be ten good garden centers in total». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

One of the main ways for distribution of ornamental plants is a sale through the network of garden departments in supermarkets like Epicentr, Nova Linia. The largest network of specialized garden centers is represented by Epicentr. According to the representative of this trading network, up to 40% of the total planting material of ornamental plants in Ukraine is sold through their network of hardware stores, almost every one of them has a garden center. According to other experts, up to 15% of ornamental plants are sold in Epicentr's trading network. Auchan's sales network sells small volumes of ornamental plants. Metro network leases its space to garden centers.

Another distribution channel, by which a significant part of ornamental plants is sold, is a direct sale from the nurseries; most nurseries own one or more garden centers. If necessary, most large nurseries can organize the delivery of their products to any part of Ukraine, so many nurseries have a garden center only at their own premises and offer a delivery service, namely shipping nursery plants by mail; some nurseries have their own online stores.

For example, Gardi nursery has been developing its own online store for three years (<https://shop.gardi.biz/>); Sad Vashoi Mrii nursery also has its own online store; also, worth mentioning a grand store Florium that specializes on planting material (bulbs and seedlings) and ornamental plants (nursery plants of shrubs and trees) via the Internet. Only few nurseries export small part of their product range.

Wholesale distribution of ornamental plants is carried out by nurseries mostly to landscape designers, garden centers (which do not belong to a nursery), retail chains, such as

Epicentr and municipalities. Part of the plants is also sold to other nurseries. Not all nurseries use all abovementioned sales channels, for example, some may not sell products in garden centers, and the others may not sell them in shopping malls. Some nurseries are more focused on cooperation with community services but the other is more focused on the private sector.

«Our main clients for ornamental plants are municipal enterprises, namely everything connected to landscaping of cities; landscape companies and some garden centers. Part of produced plants is sold at retail to cities located nearby like Kremenchuh, Poltava, Komsomolsk and Kyslovodsk». – **Andrii Pohrebnyi, Director of Gardi nursery**

«Garden centers and landscape companies comprise 60-70% of our sales, the other 30% are divided into three parts: 10% is sold to private customers in Zhytomyr, Vinnytsia and Kyiv; other 8-10% is exported and the last 8-10% goes to landscaping of cities and sold to Epicentr». – **nursery representative**

All nurseries that agreed to take part in the research sell their products all across Ukraine. The vast part is delivered to Kyiv; the demand is also high in Kharkiv, Dnipro, Odesa and other big cities where landscape gardening is popular, and all the gardening material is bought from domestic nurseries.

«All financial funds are located in Kyiv, so the biggest share of our plants is sold in Kyiv. Furthermore, we increased our production volume by 70% because we won a tender in Kharkiv. I am sure that Kharkiv can compete with Kyiv when it comes to a number of planted flowers if not in absolute magnitude then in a number of plants per resident». – **Andrii Pohrebnyi, Director of Gardi nursery**

Business representatives mentioned such problems of distribution:

- Product distribution for B2B is almost completely non-existent; there is no interaction between nurseries, it is difficult to sell material that may be needed for other nurseries (for example, shrubs and nursery plants for nursing), it's almost impossible to find a market for sales.
- Search of new clients takes time and effort. In order to attract more clients, nurseries are forced to have an extremely large product range, the cultivation of which requires a great deal of machinery and people.

Garden centers are mostly concentrated near the capital and big cities where there is a problem connected to a lack of land and its high price. As a result, the size of such centers is comparatively small, and they do not have an opportunity to have their own nursery nearby. These centers usually sell plants grown in other nurseries. It has been confirmed by Taras Fesenko, Representative of landscaping and garden center Versal: there are approximately 100 garden centers around Kyiv and the region, there are also garden centers outside the capital, but they are predominantly small. For instance, the area of garden center Versal is 0,4 ha. Garden centers outside capital are usually located next to one nursery and are their part. This is caused by the price on land and man power.

6.6.1. The Biggest Garden Centers

Among the biggest garden centers are:

- Dalas (<http://www.dalas.com.ua/>);
- Eva (<https://evasad.com/>);
- Natalis (Kyiv, <http://natalis.ua/roznicza.html>);
- Belgravia (<http://belgravia-garden.com.ua/>);
- Botanic Market (<http://botanicmarket.com.ua/>);
- Versal (Kyivska region, Vyshhorod, <http://sc-versal.com/>);
- Edem Flora (<http://edemflora.com.ua/>);
- Lizgard (<https://lizgard.com.ua/>);
- Demetra (<https://demetra.com.ua/>);
- Green Mart (<http://greenmart.com.ua/>);
- Ukraflora, importer of plants also has a garden center (<https://ukraflora.com.ua/>);
- Sad.ua has three trading venues in Kyivska region and Odesa;
- Sad+Gorod (Lutsk and Rivne, <https://sad-gorod.com.ua/>);
- Gallery (Sumy, <http://www.gallery-sumy.com.ua/>);
- Vash Sad (Odesa, http://www.vashsad.ua/about/company/garden_centers/all/);
- Sad Vashoi Mrii (Dnipro, <http://garden.dp.ua/>);

- Europlants (Chernivtsi, <http://europlants.com.ua/>);
- Dacha (Mykolaivska region, <http://florastyle.com.ua/>);
- Elit Flora (Lvivska region, <http://www.elitflora.ua/uk/golovna/>);
- Club Roslyn (Lvivska region and Kyiv, <https://plants-club.ua/>);
- Zeleni Yanholy (Uzhhotod, <https://landshaft.info/uk/>);
- Valentyn ta Nataliia (Zhytomyrska region, <http://vn.zt.ua/>).

6.6.2. Product Range in the Garden Centers

Garden centers usually sell all categories of ornamental plants but quite often besides the ornamental one's other plants like fruit and berry varieties can be found. This testifies to the wide specialization of centers. Garden tools can be also sold in the garden centers, like inventory, fertilizers, etc. Garden centers also sell indoor potted plants, in some there can be found seedlings of annual flowers, seeds and flower bulbs. Some part of garden centers provides services for landscape design, proper planting and care of purchased plants.

As for diversity of the price on plants, the buyer has also choice as there presented products of all price categories, although the largest percentage of plants belongs to the average price category. Yes, Epicentr divided their entire range of products into following categories:

- 50-70% – average price category;
- 10-15% – premium category;
- 15-20% – cheap flowering products of domestic production.

Some garden centers like Epicentr conduct a substantial purchase analysis and form their product range based on the results. Some develop their product range based on personal experience without market analysis.

The biggest profit for garden centers is achieved via the sale of adult coniferous plants, since this category has the highest value. The most sold items are garden flowers and fruit trees if they are present in the product range of garden center. Flowering plants are also very popular, compared to just green, apart from such evergreen shrubs like boxwood. The

most popular among the conifers are junipers and arborvitae; as for the shrubs – clematis and hortensia.

Garden center controls quality of plants in nurseries. In order to achieve it, representatives attend product dispatching and control what has been shipped from any nursery.

Plants are stored in each garden center differently: in containers, irrigation zone, some purchased plants are planted directly into soil. Representative of Epicentr stated that all outdoor plants in winter are stored on premises of the hardware store in retail space as no special storages are provided.

All plants that have not been sold during the season remain in the garden center during the winter, that is why plants should be adapted to the region and to the climate of the zone where garden center is located.

The biggest share of plants is sold during the season or season and a half, though some remain in the centers even longer.

6.6.3. Client Structure of Garden Centers

Garden centers differentiate two key groups of clients and focus their work on one of them:

- Owners of private and summer houses that buy ornamental plants for landscaping and decoration of garden plots. They usually buy few plants: one or several plants, combining the purchase of ornamental plants with fruit and berry plants.
- Landscape designers who buy many plants and usually have clear requirements for quantity and quality of products.

For example, landscaping and garden center Versal has 40% of small retail clients, 30-35% of landscape designers, 25-30% – regular customers who regularly buy goods and have discounts in this garden center.

Sad Vashoi Mrii stated that they have five categories of clients:

- 1 – retail clients, namely owners of private households and gardens;

- 2 – VIP-clients, that once have purchased plants for a large sum, received a VIP-client card and now has a significant discount;
- 3 – B2B clients that purchase plants for resale;
- 4 – landscape designers;
- 5 – construction companies.

All client categories have corresponding loyalty cards. This allows garden centers to divide clients by categories, track sales and have a more personalized contact with each target audience. Also, the extensive experience and analysis of purchases allows better formation of product range that will meet the customers' demands:

«Garden center has 18 years of work experience and combined with regular market analysis it allows us to monitor client's preferences and, as a result, choose our product range in the nursery for the future sale in garden center accordingly». – **Larysa Zubova, Director of Sad Vashoi Mrii nursery**

Garden centers use the following approaches to attract their clients: wide product range, discounts, high quality service, possibility for long-term cooperation and pre-established relations with clients, etc.

If the garden center does not belong to the nursery, then it usually sells plants from 4-5 different nurseries. According to the representatives of garden centers, they are constantly searching for new suppliers and ready for cooperation if favorable offers are presented. First and foremost, they are interested in new items on the market: new varieties, new breeding, products for lower price but of good quality. Interesting suppliers of plants that will be able to offer service support, like assistance in obtaining documentation (phytosanitary certificates) for plants.

«In order to choose a client segment for ourselves and search for new clients we need to offer a new product on the market. The other important factor will be the price, meaning that if you know product quality in several different nurseries but one of which will offer the most favorable price, client will definitely work with that one». – **Taras Fesenko, Representative of landscaping and garden center Versal**

Representatives of the Epicentr retail chain, mentioned a tendency for the decrease in demand for plants, reduction of the amount of plant products in the check. It is connected to

buyer's purchasing power deterioration and the uniformity of offers, for example, buyers are already refusing from purchasing hortensia and clematis in search of diversity.

«Several years ago, we sold the biggest share of street plants to one customer (landscape designers or clients that tried to landscape their gardens by themselves). The other type of customer purchased because he liked it or has seen it somewhere abroad and price is not of importance. But these days situation has changed, namely a small amount of plants is being sold to one client but there will be demands regarding plant characteristics and appearance. Client knows what he wants. Maybe it is caused by a number of available information and cost saving. Big plants are bought very rarely, they have to wait on their buyer». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

6.6.4. Problems the Garden Centers Face

Representatives of garden centers mentioned the following problems that they are facing in the everyday work:

1. Seasonal work is typical for garden centers as main sales are carried out in the spring (around 70%) and in the autumn (around 20%), for the rest of the time the level of sales is low. Therefore, in the off-season, garden centers are faced with the problem of finding funds for such running costs as staff salaries, maintenance costs, and more. During the off-season a small profit to the garden centers is received from selling gardening tools and products.
2. Consequences of the crisis in 2014, when a change of power took place in Ukraine, a military conflict began in Crimea and in the Donbass region, many garden centers closed down: some due to the fact that the business capacities were located in the conflict zones, and some due to a sharp decline in sales profits, because main customers remained on the occupied territories or in the area where military operations still continue. Therefore, garden centers are forced to look for customers in other regions and adjust the delivery to those regions.

Price dumping by nurseries and competition between garden centers and nurseries. Nurseries sell plants directly to customers, such as landscape designers, at lower prices than in garden centers.



7. Export

The analysis was made based on interviews of the following experts:

- Representatives of professional associations: Ukrainian Association of Florists and Ukraine Plants Industry Association;
- Experts from the Netherlands (mainly experts in cut flowers: suppliers of rose seedlings, consultants, suppliers of cut flowers to Ukraine);
- Representatives of logistics companies;
- Leaders of cut flowers production and one smaller producer;
- Flower shops, where they also have florists' services;
- Representatives of importers of planting material;
- Importers of full range of plants (cut flowers, potted plants, planting material, ornamental plants), leaders on the market;
- Representative of the biggest chain of garden centers – they have potted plants, seeds and seedlings of plants, ornamental plants;
- Representatives of producers of potted plants;
- Representatives of nurseries, one of which has garden center;
- Representatives of garden centers;
- Representatives of landscape design companies.

The main objectives: exported categories, volumes of export, barriers for export, possibilities of export of Ukrainian plants.

7.1. Export of Ornamental Plants

7.1.1. Export Strategy

As stated by representatives of the business, the volume of Ukrainian export of this category is small, since companies are mainly oriented on domestic customer. Companies exporting ornamental plants export only a small part of their total production. Among such companies there were mentioned Dekoplant, Kornelis, Gardi, Natalis and Agro-Flora.

Dekoplant²⁶ as a nursery was established in 2003 to grow garden roses in Ukraine and export them to Europe. Over the time, price on garden roses decreased and it became more profitable to sell roses on the domestic market. Since 2015, the export of garden roses has resumed, but the nursery exports up to 20% of the total volume of garden roses they grow.

The **Kornelis**²⁷ nursery grows budwood of sweet briar for later use as a graft for garden roses. These budwoods are then exported to nurseries in the Netherlands. Shrubs are also grown for export in the nursery. They export about 10% of the plants grown in the nursery in total. Direct sales to the Netherlands became possible for this nursery thanks to personal contacts of the nursery's founders.

Gardi²⁸ and **Natalis**²⁹ nurseries sell coniferous plants and shrubs to Georgia. The size of their export is estimated by the representatives of the nurseries in trucks: "A few trucks per year".

Speaking about the export of their products, representatives of the **Agro-Flora**³⁰ nursery noted that the volume of their export is measured in the size of 7-8 trucks. One of the exporting countries is Uzbekistan, where they supply large-sized coniferous trees, the most popular among which are black pine and fir.

The part of plants for ornamental landscaping is exported to Belarus.

7.1.2. Advantages of Ukrainian Production of Ornamental Plants

Representatives of nurseries mentioned such advantages of plant production in Ukraine:

1. Cheaper value of manual labor, if compared to prices in Europe, for example, on plant grafting.

«Why do I specialize in grafting coniferous plants? I think this segment has high potential. Robots will not be able to do it as it should be done by hand. The leader in this sector are the Netherlands, Germany takes

²⁶ <http://www.dekoplant.com.ua/>

²⁷ <http://www.kornelis.biz/>

²⁸ <https://www.gardi.biz/>

²⁹ <http://natalis.ua/>

³⁰ <http://agro-flora.com/>

the second place. The cost of manual labor is very high so plant grafting slowly moved to Poland. Manual labor is the cheapest in Ukraine at this moment so this business will move to us next and we will be able to export in the future». – **Andrii Pohrebnyi, Director of Gardi nursery**

2. The ability to grow some types of plants of high quality, as the representatives of exporting companies pointed out, because their products already compete with the products of other European producers from Poland, Serbia and Bulgaria. Nursery plants of garden roses were mentioned among these plants.

«We should be proud that our roses are being sold to the Netherlands. But we know it for sure because we travel and monitor where roses are produced. I can say that the quality of Ukrainian roses is higher compared to Poland, Serbia and Bulgaria». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

Ukraine has the opportunity to grow plants that require large areas:

- there is a possibility to rent these areas;
- the cost of rent is relatively low compared to the cost in the European countries, especially when it comes to the regions somewhat distant from the capital and other large cities.

This allows one to profit even from plants that are considered inexpensive, but they require a large area to grow. Of course, such a conclusion comes from business representatives who were able to compare the work of nurseries in Ukraine and, for example, those in the Netherlands.

«We are having the following advantages: land is cheaper, and it is more profitable to grow plants that take a lot of space». – **a nursery representative**

3. Ukraine is geographically closer to the countries of Asia and the Caucasus, so it would be more convenient to import plants from Ukrainian nurseries to the countries of this region where there is a high demand on ornamental plants.
4. Fertile land allows good plant growth and use less fertilizers.

«The soil in Ukraine is very fertile. The most fertile humus layer is 60-80 centimeters. This allows to save money on fertilizers as it helps plants to grow better. Trees do not get ill and grow intensively if proper irrigation is used». – **Larysa Zubova, Director of Sad Vashoi Mrii nursery**



7.1.3. Barriers for the export of Ukrainian products

According to experts, market players, European market is the closest to us, saturated and is already under control of leading manufacturers from all over the world, where the undisputed leadership belongs to the Kingdom of the Netherlands. The volume of export from Ukraine does not yet allow us to call our country a key player on the market, moreover most of the grown plants is of lower quality at the moment, compared to plants grown in other European countries, and the price is not competitive. Though some varieties of plants can already compete with plants produced in other European countries, but it is not enough to compete with the leading European nurseries.

«Europe has a quite big market, besides Ukraine there are many other countries exporting plants. The Netherlands as well as Germany and England are exporting to another countries. Personal contacts are crucial in this situation, because people can buy from different places though the preference would be given to those suppliers where it is safe to buy, and price is not on the first place. If we want to offer plants of Ukrainian production, we must convince people that this would be good choice. A lot of clients do not want to work with new suppliers. There are a lot of factors that are against us, like the fact that we are located far away, and people do not trust us. Everything that we can offer our customers is already purchased either in Africa or Poland. They are not satisfied with the quality and amount». – **a nursery representative**

If we look at the reasons for a very small share of exports in detail, one can mention the following:

- Ukraine does not produce a sufficient volume of production that would be interesting to many customers abroad.

«Sometimes it happens when client needs several thousand plants of one type, and we do not have such amount. There was an order from Europe on juniper where client asked how many juniper trucks, we will be able to sell. After conducting a marketing research, we came to conclusion that even if we collect juniper from the whole country it would not make even one truck». – **Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association**

- The lower quality of most planting material grown in Ukrainian nurseries due to a smaller experience and less specialization.

«If company grows 5, 3 or 2 varieties it can fully concentrate these particular plants; we, on the other hand, have over two hundred varieties». – **a nursery representative**

- A large share of imported products in production of ornamental plants (nursing plants, fertilizers, soil, pesticides) makes growing process rather expensive as production costs increase, therefore it is difficult for us to compete with foreign nurseries regarding price.

«All goods necessary for plant production are twice as expensive as they are bought in Poland or the Netherlands. Technical containers are produced either in Poland, the Netherlands or Italy. Most fertilizers are also produced in Poland, the Netherlands or Italy. There is almost no domestic production in Ukraine».

– **Sergii Dovhopol, the founder of Biosphere-L nursery**

- Great physical distance to possible destinations in Europe, which makes transportation of such relatively small volume (that we can grow) very unprofitable.
- Roads of inadequate quality within Ukraine, which makes transportation within the country expensive:

«Truck from Ukraine to Tbilisi is by 25% more expensive than from Germany to Tbilisi even though the distance is much bigger. This is caused by quality of roads». – **Stanislav Dontsov, Executive secretary**

of Ukraine Plants Industry Association

- High cost of paperwork completion and complicated bureaucratic procedure. According to some business representatives, the procedure for the completion of documents requires a certain responsible person. All these additional costs for a Ukrainian manufacturer make Ukrainian products less competitive on the market.

«We spend 4-5% from the cost of one truck on the paperwork. It seems like a small amount, but we are becoming less competitive even compared to the price of planting material in Europe. The certificate of origin is 250-300 EUR in average while in Belgium it is 40 EUR. In Ukraine the cost for stockbrokers' contract at the customs is 150-200 EUR in average. I do not know how much it cost in Europe, but I think that they do not even need to go a broker. In Belarus it is twice as cheaper, you can register truck for only 100 EUR. All these costs should be covered by producer». – **Stanislav Dontsov, Executive secretary of**

Ukraine Plants Industry Association

- Restrictions in possibilities of plant transportation to new promising markets. Markets of Central Asia and Caucasus region are believed by Ukrainian producers of ornamental plants to have good export opportunities, as there is demand on these

products, which, according to their estimates, is not satisfied by domestic production in these countries. They see the lack of well-adjusted and convenient transportation routes as an obstacle, since transportation through Russia has become impossible/ complicated in recent years.

«We have experience of export to Georgia. There was an opening of a network like Epicentr and we were supposed to supply plants. There were issues with logistics, as trucks were not allowed to go through Russia, and it was too expensive to use ferry, so all plants have arrived already wilted». – **Andrii Pohrebnyi, Director of Gardi nursery**

Pohrebnyi, Director of Gardi nursery

- The discrepancy of climate zones with Western Europe, where winter ends earlier, so planting also starts earlier, while in Ukraine planting and sale of these plants occurs much later due to the long winter.

«We can grow high-quality plants, but the season is completely different. The garden center that we want to supply our plants to is selling plants when there is still snow on our fields». – **a nursery representative**

7.1.4. Prospects for the export of ornamental plants

Experts stated that ornamental plants grown in Ukraine could be transported to Belarus and countries of the Caucasus and Central Asia region like Georgia and Uzbekistan.

«Let us be realistic, Ukraine can sell plants on the markets that are less developed than ours. And a certain logical chain can be observed here: if market is more developed and competitive, their production volume is bigger, and it is hard for us to offer something. There might be some exceptions like partially finished product. Kornelis was the one to promote rootstock while Dekoplant sells roses and planting material to Europe on regular basis». – **Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association**

Some categories of plants like shrubs of adequate quality in Ukraine could be transported to Scandinavian countries.

«There are not so many nurseries in the Scandinavian countries as the climate is too severe there. As a result, they purchase a lot from Germany, the Netherlands, Belgium and Poland. We could sell plants from our nurseries at the same level». – **Sergii Dovhopol, the founder of Biosphere-L nursery**



Furthermore, the export of products can become possible only if the market develops, product volumes increase, product quality improved and new partnerships with potential product buyers are established.

7.2. Export of Cut Flowers

Speaking about cut flowers, Ukraine mainly exports the cut roses and very small volumes of other flowers (0.5%) of the total export of cut flowers.

7.2.1. Advantages of Ukrainian Cut Flowers

Ukrainian roses are grown in large volumes and in industrial greenhouses, equipped with the latest technology. This allows growing flowers of a high quality. According to experts' estimates, flowers grown in Ukraine are the best among such countries like Ukraine, Moldova, Belarus, Armenia, Azerbaijan and Georgia.

«Ascania-Flora, Camellia are growing roses on a high level already. And what makes this high level? High level of roses is provided by technical outfit. They use already led-lighting, they use new technics of heating, they use new technics of growing systems. And it is almost the same as in Holland». – **Expert from the Netherlands, supplier of cut flowers**

Ukrainian growers of roses are able to grow flowers in sufficiently good quality and in sufficient volume.

«We have had so many different awards for world record-breaking harvests, which now nobody can beat and think that nobody will. This is a certificate for a record harvest for some variety. It seems that we could even teach some». – **Representative of Ukrainian producer of cut roses**

As for Ukrainian producers, such large companies as Ascania-Flora and Camellia have very strong agronomists.

«We are talking about agrarian sector at this moment. I can say for sure that we have very strong specialists». – **Representative of Ukrainian producer of cut roses**

7.2.2. Shortcomings of Flowers Grown in Ukraine

Experts mentioned the following shortcomings of cut flowers grown in Ukraine:

- Ukrainian roses have a higher net cost, as the technology of growing in a greenhouse involves climate control, including such factors like heating, cooling, supplementary lighting and shading. Labor costs are also more expensive, compared to roses from Kenya, main country importer of cut rose in Ukraine.

«Speaking about winter period, in Ukraine it starts at mid-autumn and lasts until the middle of spring, this is almost half a year in total, even more. It is a period when producers must spend more on production, because they need to heat their greenhouses and use lighting, as the sun is almost gone. And in countries such as Colombia, which are located on Equator, the sun is shining all year and weather indicators do not differ significantly throughout the year». – **Ukrainian importer of flowers**

- Ukrainian roses are inferior in quality to roses from Kenya and other roses due to the fact that it is much harder to grow roses of corresponding quality in our climate.

«Ukrainian rose has a very short vase life, it is only few days. Kenyan roses stay in the vase up to two weeks. The reason is that they are grown at height above sea level, namely 1500 meters, which is considered to be favorable. When the flower grows in the greenhouse, only a bud appears, even though it has not been open yet. In those countries the day is very warm, +25°C and up to +30°C, or even +28°C, in the greenhouses there might be +30°C and humidity is very high. As the height above sea level is very high, at night temperature might be low, around +10°C. And such climate is the factor allowing the stem to grow constantly until the bud is about bloom». – **Ukrainian importer of flowers**

- Impossibility to increase the quality of roses by using more growth stimulators and other products, as it increases the cost of roses and it will be harder to sell such flowers on the domestic market. As it was stated above, roses for both export and for sale are grown in the same greenhouses, and most of these roses are sold in Ukraine. If you increase the cost of growing, such roses will lose the buyer.

«There is a bit different technology in the Netherlands, I do not know all the points there. There, maybe, another plant protection products are used in order to influence when the flower will bloom as well as application of fertilizers and irrigation». – **Ukrainian importer of flowers**

- The cost of transporting and acquiring the required documentation greatly increases the cost of a rose, which makes it much less competitive or makes exports less cost-effective, compared to sales in Ukraine.

«It is more interesting for us to sell roses in Ukraine. Export is a fairly expensive channel. Plus, there are customs fees to be considered as well as shipping costs, sales costs and there is no such thing if selling inside Ukraine, the turnover of the same product in Ukraine is much higher and logistics is much easier. It would be wrong to arrange transportation somewhere, carry additional costs and complicate our work». –

Representative of Ukrainian producer of cut roses

7.2.3. Export Opportunities of Cut Flowers

At the moment export of cut roses is economically unprofitable because their price does not compete with price and quality of Kenyan and Colombian flowers. Other flowers in Ukraine are not cultivated on an industrial scale, therefore they cannot be exported.

8. Problems of importers

Most importers had experience of facing serious problems while importing plants. Here is the list of mentioned problems:

- Frequent delays at the customs, despite plant cannot be stored for a long time. In the Ukrainian law there is no notion of "perishable products", so the period of verification is not limited. It is also very expensive to buy all the necessary certificates. Cost of plants is also influenced by VAT payment.

«At customs, our problems are not related to customs, they are related to time of border crossing. At the border the speed of the queue is critical for us. We have well-developed route and well-established scheme. Standard schedule with standard entry and exits of the car to and from partners. We have so well-established procedure that almost nothing can go wrong. Pay taxes and sleep calmly» – Alena Storchak, CEO of Ukraflora

- High customs payments significantly influence the price of imported plants for Ukrainian consumers.
- Customs clearance is also connected to difficulties of import of products into Ukraine. There is information about 4 key logistics companies, that import floricultural and ornamental products. Considering total market volume there should have been more such companies, thus there is an assumption these companies use uncompetitive methods to keep their market share.

At the same time few respondents mentioned increasing competition on the market, because there appeared new importers. This is vividly noticed on the market of planting material, which totally depends on import in Ukraine.

«Nowadays it is more difficult because more and more companies are entering the Ukrainian market, so competition is already large enough.». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

- Difficulties with keeping plants fresh during quite long transportation according to the requirements, for example, flowers are packed tightly in boxes without water:

«Everyone thinks he is the most important person in the distribution chain. Everyone has a profit in the chain, even if they do not produce any value. This chain of distribution consists of many links and makes flowers more expensive and less fresh. I personally want to give the buyer the best, to make sure that they come to buy more flowers the next week, or next month. Previously, when customs payments were normal, we carried flowers in the baskets in the water. This meant that the flowers were put into the basket by the manufacturers, then the basket was put on a truck, the truck goes to Kyiv, no one touches these flowers anymore. The flowers were wonderful. When the flowers are in the baskets, the air can circulate well. Now they pay a fee for a box, they try to pack more of them in a box. It spoils the flowers. The flowers are dry as a result. Some flowers cannot be exported without water.». – **Importer of flowers and ornamental plants, expert from the Netherlands**

- A separate problem is the illegal import of flowers and ornamental plants. In the vast majority of cases, gray schemes mean that either volume or the value of products are understated. The share of illegally imported products differs depending on the category. For example, according to different estimations from 10% to 50% of cut flowers are imported illegally; about 60% of the planting material is imported under gray schemes. Most experts agreed that the share of illegal import in the segment of ornamental plants is not significant. Only small volumes of plants could be imported illegally. The problem with illegal import is that it creates unfair competition. This affects the market and hinders transparent pricing policies: the importing companies that work with legal import, cannot have competitive price with illegal importers, which offer much cheaper products. In order to prevent illegal import and, accordingly, unfair competition caused by this illegal import, experts suggest state control should be enforced.
- Lack of professionals. Importers report the problem with recruiting due to the outflow of professionals abroad.

«Another of our problems is the outflow of personnel. However, I think it's everywhere, it's impossible to find professionals in general now, because everyone who could do something, went abroad». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Some representatives of Ukrainian companies involved in the import of ornamental plants, cut flowers, potted plants and planting material do not see any problems in the process of importing products. These are companies which are long in this business and are aware about all its peculiarities.

According to those who believe that there are no problems with importer, the main condition for the successful import is correct paperwork.

«It is necessary to properly do all paperwork, so that there were no delays. Because if a document is missing, the customs cannot clear it. Or some document is incorrectly filled in. We make sure that our suppliers send the documents to us for verification, we check that everything is right there, everything is indicated. We are aware of customs requirements, although they change from time to time. Because of this, we have the rule to verify the documents of our suppliers. They then send us the cargo. We do not have difficulties. The following documents are required: invoice, packing letter, quality certificate, phytosanitary certificate, export declaration of the sender». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

The checking at the border is also uncomplicated. One importer stated that at the border they just check whether plants are not infected with pests or diseases.

«Phyto-quarantine service check the material, whether there are pathogens of diseases or pests. If everything is OK, there are no problems. Samples are taken at the border, this is a preliminary review. But with large truck they have no possibility to check everything. And then when it is cleared, a second review is done by the quarantine service, which selects the samples again, checks and issues its document, if everything is correct. First, it is necessary to have high-quality material from our supplier, without pathogens of diseases and without pests. Then we have no problems. Well, if the material is bad, infected with any pests or diseases, the quarantine service does not issue a document, and without this document customs cannot be cleared». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

9. Future Development Forecast

In this part there will be described market trends and the forecasts of experts for further development, including ideas what can be done to help market development. This will refer to the market in general and to each category.

9.1. Last Year's Trends

Common trends on the market of flowers and ornamental plants.

After a general decline of demand on the market in 2014, experts are noticing a gradual increase, but still not up to the level of 2013 – early 2014.

«There are more customers, demand is increasing. Well, I moved and added a half a hectare, after 5 years I added another 3 hectares. Once it is being, it means that demand is increasing». – **nursery representative**

«Of course, market is a bit low now compared to 2013. There used to be up to 70 trucks in two weeks for March 8th now it is only one-third of previous volume». – **Representative of logistics company of cut flowers and ornamental plants**

One of the reasons for the impossibility of resuming sales of 2013 is the loss of territories, consumers do not spend more on flowers and plants per capita. This, in its turn, also caused irreversible changes in the geography of plant distribution and production: the closure of production and the limited ability to distribute in the Crimea and on the territory of occupied Donetsk and Luhansk regions.

- Some companies have not survived the crisis on the market in 2014, so they were forced to close the business; these were mostly small companies. According to an expert, there was no more than 10% of such companies.
- Market leaders began working with new regions to continue increasing sales volume. They also make efforts to increase their own customer base, so competition in all sectors is increasing.

«There is a growth in my company, but it is not caused by growth of the country's economy and increased consumer activity. This is only due to the fact that we are covering new territories and new customers». – **Alena Storchak, CEO of Ukraflora**

Sales volume of **planting material** is increasing, most likely due to retail sales. The only exception is a B2B market of seedlings. This is mostly caused by a fact that sales volume of rose seedlings is not increasing as producers have a restricted area for greenhouse and there is no need for more seedlings; no new producers of roses appearing on the market as the market is over-saturated. The import volume of flower seedlings also does not grow, because the imported seedlings are expensive, therefore growers grow seedlings from seeds independently.

«The market is growing a bit. It is hard for me to say about the others, but we are growing. As for the market, maybe it is growing up a bit, customers might be somewhat migrating to us from others, I am very hopeful about it, but it is hard to say. The market for tulip bulbs is growing the same goes for the flower seed market. Market of seedlings remains almost the same as it is mostly imported from the Netherlands so, accordingly, it is very expensive. In Ukraine people tend to grow seedlings themselves». – **Viktor Tsyupka, director of the Bonus company (importer of planting material)**

«I can only talk about our company. Because we grow every season by 30-40%. But we are a young company and we invest a lot of effort in order to develop and win the market». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

The domestic production of **cut flowers** has remained stable over the last years, and its volume was mostly influenced by weather conditions and yield, though the area of production remained unchanged.

«We have 22.3 hectares under roses and we also get the yield from them. The overall yield can be influenced by either varietal features or weather conditions, although the average annual temperature is stable. We can refuse from some variety and plant the other one with higher yield instead. This may slightly affect the number of cut plants. But in general, we will still get a steady number». – **Representative of the Ukrainian producer of cut roses**

The structure of import of cut flowers is changing as stores and even floral companies refuse from services by importers and switch to direct purchases and order flowers at auctions in the Netherlands, pay for products themselves and order a delivery service from a logistics company. This helps to get the required number of flowers and shorten the time purchase (flowers are not stored by the importer).

There is a development in domestic production of certain categories of plants and flowers. Young companies producing cut flowers are appearing on the market, small companies are

beginning to increase production areas, which may indicate a demand on products of this category.

«There is also TOV Facto the company located in Berdychiv, it is a fairly young company on the market, 2 or a maximum of 3 years. The Rozdol company also grew by 1-hectare last year. Well, these are also facts that confirm that market is still settles down and begins updating a little». – **Representative of the Ukrainian producer of cut roses**

Special attention of Ukrainian producers is focused on sweet briar, eustoma chrysanthemums, etc. Their quality differs from the imported ones, but these flowers are popular with the florists, because it can help lower the price of the bouquet.

Experts noted some changes in customer preferences and in their selection strategy. Demand on products of the expensive price category has not yet restored its position after decrease:

- Low demand for plants of an expensive price category is noted **in the nurseries**, while demand for products of a cheaper price category is increasing. As a result, nurseries increase the share of domestic products, while the share of import decreases. Experts attribute this tendency to two factors: the decrease in purchasing power of the population and the fact that Ukrainian production has been developing very fast.

«The market is getting cheaper. Earlier people were willing to pay 2-3 thousand euros for adult arborvitae or some other tree that they wanted to get already big. This happened when person has bought a house and wants to have an old garden next thing tomorrow morning. Now there are no such cases. Now the oligarchs have gotten not so well off or it simply has become not fashionable to show the wealth, and they are stating that they will buy cheap plants and wait 2-3 years till they grow». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

«It is a fact that there is a definite tendency for purchasing plants of Ukrainian production for many reasons». – **nursery representative**

In this regard, nurseries and garden centers have been more often offering a purchase with delay of payment. The full payment nursery quite often receives only in a few months. Previously, customers paid at the time of purchase.

«Rich people used to come to nursery and payed prepayment, and you can start working. But now they pay in two months, save every penny and know where it is cheaper to buy. The work is mostly based on the trust. We need to look for our clients and think how we can attract them». – **nursery representative**

- There is an increase in demand for cut roses 50-70 cm long, whereas earlier the preference was given to long stem flowers (90 cm). The lower roses are cheaper and easier in transportation and vase life is longer. In general, there is a tendency that during a purchase a crucial role the price plays, even if cheaper flowers mean lower quality.

«The people are already refusing from these meter-long roses (from 90 cm), but it is still common, and I am sure it will be, but the share of these roses in sales is very small compared to roses from 50 to 70 centimeters long». – **Representative of the Ukrainian producer of cut roses**

«This is just a market demand; the market requires these flowers and we provide them. Why these flowers exactly? Who buy them? Why is there such a demand? Almost all customers buy them. Because it is a cheap flower. When the flower has smaller head and bud, it will survive transportation much easier and the vase life will be longer, there are less unforeseen expenses associated with the fact that the flower wither after some time and the client did not have time to sell. It is always easier for client to sell it when flower is cheaper. As for the market, you understand that the crisis has affected all Post-Soviet states, the purchasing power is decreasing». – **Viktor Tkachuk, Dolina company, importer of cut flowers**

- Market players have not noticed a significant increase in demand for **potted plants** since this category is mostly imported, and therefore, an expensive product. Experts mentioned a small increase compared to 2014, but the sales volume is still lower than in 2013.

«Unfortunately, these days we are at zero level if we are talking about indoor plants. In general, the plant market is deep asleep». – **Tetiana Portfilova, Head of Sales Department of potted plants, company Camellia**

Under conditions of high competition, shops and distributors of indoor and other potted plants are forced to reduce their own margin.

- The level of awareness and diligence of buyers is increasing, tastes of Ukrainian buyers are reaching a level of European ones. After borders have been opened, Ukrainians began travelling to Europe more often. Buyers have more distinct and higher demands for plants, so it is difficult to sell product of low quality; buyers

require high-quality products and a wide product range. This insistence on high standards has been mentioned by representatives of garden centers, producers of cut flowers and planting material.

«If earlier Ukraine and all former Post-Soviet states were three years behind Europe regarding fashion, now, when borders have been opened, people have more opportunities to go somewhere, their horizons are expanding and their demands on what they see, its quantity and quality, increase. They have already become closer to Europe, and if there is a new flower, for example, at the winter exhibition, this means that over the course of a year it will also appear on the Ukrainian market». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

- There is a new category of buyers who treat ornamental plants, and indoor flowers, as an element of design, and avoid buying this category emotionally, as it was before. This is basically a younger generation of buyers. They usually go to the store with a clear idea of what plant and in which pot is best suited to the interior. According to director of the chain of garden centers, such buyers comprise around 10%.

«There are a lot of customers of younger generation. This younger generation is well informed by the means of the Internet, follows the newest fashion trends and links all the plants to design. They know a lot about pots, which ones go better with the design. They choose plants precisely in accordance to their demands, both external and regarding plant care, so that it was stylish ... It is a completely new category of customers. They already know what they want from a visual point of view, not from an emotional». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Market participants also noted some changes in the flower range:

- Nurseries increase their share of ornamental plants in containers, since it is more convenient for transportation and allows the sale of plants throughout the season.

«Why do we do this [increase the share of plants in containers]? First, our plants can be bought throughout the year, until the earth is frozen. Our plants are easy to transport. We grow 98% of the plants in soft bags to avoid damage of trunks during transportation in. Plants are slightly inferior in shape to those that are grown in the soil. We have planted young plants in the ground, but, most likely, we will sell very little from the soil, we will replace our plants in bags and continue to sell them in containers». – **Andrii Pohrebnyi, Director of Gardi nursery**

- Share of broad-leaved trees in product range of nurseries is increasing even though the basis of plant range is mostly comprised of coniferous trees and shrubs.

«Now I see a perspective, for example, the emphasis is used to be made on coniferous plants, now it is switched to broad-leaved trees». – **a nursery representative**

- Nurseries enrich their product range and update it at a slow pace. They start growing heat-loving plants that have never been grown in our climate before, but now these plants began adapting to conditions of our country due to a climate change. For example, there are different varieties of magnolia. Some experts noted the growth in demand for dwarf trees, which is caused by the fact that gardening is made nowadays at much smaller areas and much smaller varieties of plants are required.
- Share of ornamental green plants in the range of potted plants is increasing, even though the flowering group is still more popular.

«Nowadays more and more attention is paid to green plants. Anyway, a flowering group is sold more. But green plants, which are beautiful and remain green for a long time, they are being sold a little more ... These are green indoor plants with bright leaves, for example, but not flowering ones. People have started to buy them again. Maybe there is a realization that it is impossible for flowers to bloom constantly». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

- A very popular nowadays phalaenopsis, which was previously perceived as a luxury and expensive flower, is currently available in different price categories. The range of this potted plant has increased in the medium and even medium minus segments.

«Four and three years ago everyone preferred orchids. Now there are so many phalaenopsis plants and it has become so cheap that it has become medium and even medium minus price segments, even though it used to be sold as a part of medium plus segment». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

- Producers and distributors are focused mainly on promoting and presentation of potted plants: interesting and attractive packaging, sophisticated pots, window dressing for indoor plants.

«New ideas for window dressing as well as new designs of pots can be found at exhibitions». – **Iryna Malakhova, Duomex company, importer of ornamental plants and cut flowers**

- Producers and importers of **cut flowers** also try to meet the needs of the market: update the range (but the total volume does not exceed 10%), invest in attractive packaging of flowers. Among the latest offers the most popular are peony roses.

«The packaging is changing based on the flower. New trends are constantly appearing on the market. New film, new type of packing paper, new colors (matte and glossy), sequins, velvet, etc.». – **Alena Storchak, CEO of Ukraflora**

Market participants marked some changes in the distribution of plants in almost all sectors of the market, except nurseries of ornamental plants. Recently, no new nurseries or garden centers appeared on the market, even if there are some new ones, then they are of very small sizes. Existing nurseries are expanding and upgrading.

«There are no new nurseries. Even if there were some new garden centers, they were small ones. Namely, some kiosk and 15-20 acres of land in the best-case scenario. Such large garden centers like Eva did not appear». – **Andrii But, Founder of Osokor nursery**

At the same time, respondents noted that lower volume of ornamental plants has been bought at pop-up markets, as more and more buyers turn to professional sales points. This contributes to the fact that the share of chain stores and garden centers as a channel for selling ornamental plants is increasing.

«There is such tendency that market is becoming more civilized. There used to be a lot of pop-up markets, where plants have been sold on the street, on the highway, etc. Now more and more seedlings appear in garden centers, garden centers appear at supermarkets. As a good example, there is Epicentr, which has built up a chain of its garden centers almost at every store. In 2008-2009 such product segment has started appearing there and people bought it spontaneously. Back then someone saw plants at the Epicenter and said “oh, I did not know, that I can find seedlings here, I will buy some”. Now people are going to supermarkets directly to buy seedlings, because they know that they will be there». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

There is a tendency for the rapid growth in sales of plants at online stores, number of which is growing, especially when it comes to planting material and cut flowers. As a result, it increases competition in the field of Internet commerce.

«There are a lot of new and small importers, some small online stores, which means that market is developing very fast, so we see that a lot of plants is being imported. It happened literally over the past year or two. I understand that it has become easier to import because there are not so many importers of

such planting material. Now, there are new tools for development that had never existed before, for example, Internet shops, Internet sites, analysts, companies that are engaged in the promotion in the Internet». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Some experts noted that the infrastructure for the sale and growing of planting material is developing pots, fertilizers and pesticides for flowers.

But this can be only applied to planting material. Representatives of other sectors of the market mentioned quite the opposite, they stated the lack of relevant products. For example, Syngenta, one of the world's leading companies, has focused most its activities in Ukraine on crops and does not invest in the development of the market for ornamental plants and flowers.

9.2. Forecast for the Future

The market of ornamental plants in general can be called a promising and profitable sector, which can bring high profits.

«When we counted it showed that plant adds either 50% or 100% of its cost each year». – **Andrii But, Founder of Osokor nursery**

Most experts expect the growth and development of the market as well as development of nurseries and garden centers.

«I see very promising prospects, I can explain why. It is quite simple; the population of Ukraine nowadays is roughly 40 million people. Now we take our 100 million EUR that comprise the market and divide by 40 million. As a result, we get 2,5 EUR in average per one person in Ukraine. When we divide this by number of days per month, we will get 0,18 EUR. Multiply it according to exchange rate and as a result it appears that in average one Ukrainian spends 6-7 UAH on landscaping of cities. But it is impossible to buy anything for such amount of money, even a cup of tea or coffee. This means that there is a great potential for growth. The second nursery, Natalis, that is investing in forty hectares. But they have only six at the moment. Eva is planning to extend their production... One just needs to pay attention to the numbers that I mentioned. In poor European countries this number will be counted in tens of EUR and in hundreds of EUR if we talk about rich countries. We have a potential for substantial growth greater than 10%, 15%, 20%. But in order to achieve it we will need to continue doing what we are doing at this moment and hope that macroeconomic situation in Ukraine will settle down and state economy will grow». – **Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association**

Experts expect increase of market volume of planting material, potted plants and cut flowers.

They also expect development of distribution in all sectors. Reduction in the number of kiosks will be along with increase of number of stores and the emergence of chain stores.

«If we take Europe as an example, or big cities of Russia like Moscow, which are slightly ahead of us, the market should grow. In addition to growth, the market should become more civilized. For several years we have been waiting for the appearance of stores, garden centers of the so-called European format». –

Alena Storchak, CEO of Ukraflora

Online distribution is developing now and will continue to develop.

«Our project # 1 is online sales of our group of products. This is just what I see in the future on a national scale. Not to open stores in every city or town, but a high-quality internet resource and high-quality logistics». – **Alena Storchak, CEO of Ukraflora**

Ornamental plants

Experts expect that the practice of landscaping cities and towns will continue to gain popularity, mainly due to the introduction of the practice of compulsory green plantings along with the construction of new buildings and gardening on private plots. Landscaping will be more correct and well thought out.

«Green recreation zones during construction of new residential areas will be developed correctly, so that it will look beautiful and last for many years. The project will be done correctly because there is space for improvement. There are a lot of landscape designers in Ukraine that are ready and willing to create». –

Taras Fesenko, Representative of landscaping and garden center Versal

Planting material

Experts expect increase of the quality of the planting material because the market volume will grow with increase of import and production more planting material, thanks to mechanized production. Number of producers and importers will also increase as will increase the product range.

«The market is so unsaturated, there is still room to grow. There are people who do not run abroad for work, we all have something to work with». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

Potted plants

- Changes in a product range:
 - Increase of popularity of plants requiring minimal care, for example succulents.

«Our people become lazier, that is why succulent are popular now, they require minimal care. Young people already have European way of thinking. If ficus doesn't look good, first they try to use some fertilizers, but if it does not work, they buy a new one. Five or eight years ago, people tried to save ficus for a long time.». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

- Popularity of «green walls».

«In addition to potted plants, green walls gain popularity. This is vertical landscaping in combination with moss on irrigation. Many office workers are interested in them. From time to time they change plants, but they always have a beautiful and green wall». – **Snizhana Odnoroh, Head of the Garden Centers of Epicentr**

Cut flowers

Experts expect development of local production of those types of flowers that are not yet cultivated on an industrial scale. There is a potential for flowers, which can grow without additional heating in winter. Another potential – cultivation of local hortensia, which the market lacks. The flower is very difficult to import, because they need special conditions while transported; and they are quite easy to cultivate in Ukraine. It would be cost-effective to cultivate them in Ukraine.

«The biggest problem is transportation of hortensia from the Netherlands to Ukraine. One truck can only transport about 3,000 hortensias. It's much cheaper to grow them in Ukraine, but nobody does it. Hortensia is quite easy to cultivate; it doesn't need much electricity. Just greenhouse is needed, where hortensia is planted. Flowers will appear in few years. It may seem quite long, but I believe it will happen in the future, just like it did with the tulips. Other options depend on the greenhouses and on the available equipment. It is possible to cultivate chrysanthemums, orchids». – **Expert from the Netherlands, supplier of cut flowers**

In general, there is a potential of cultivation of almost any flower, except for roses, with which the market is already over-saturated. On the other hand, representatives of retail stores claim there is a monopoly in the production of roses, because 4 large producers of cut roses seem to operate together. The representatives of producers of cut roses strongly disagree with this opinion. A representative of Ukrainian producer stated, each company has its own price list, its sales terms and they cultivate different varieties. If varieties are cultivated by few producers, cut flowers differ in quality. It should be noted that all producers have almost the same expenditures for cultivation of cut roses, as these roses are cultivated in the same climatic zone. Since the cost part is the same, the price is the same. Producers state they target different clients than their competitors. High prices for cut roses are justified by high cost for winter heating, which are distributed throughout the year. Those who think that roses could be grown cheaper do not take these expenses into account.

«All flowers are promising, we don't have other flowers but roses. Roses are represented by 4 large producers which dictate their conditions». – **Ruslan Yeremenko, owner of Terika flower gallery, producer of eustomas, Mykolaiv**

Experts expect increase of share of cut flowers of Ukrainian production on the market.

«First, the US dollar becomes more expensive, thus the price for imported roses increases, it completability decreases. Second, while exchange rate is unstable, there are risks of making pre-orders of imported cut flowers. It is not clear what will happen in 10 days or two weeks when the flower arrives. Therefore, I believe the quantity of imported roses depends on the price for Ukrainian cut flowers. If all producers reduce price, import of cut roses will decrease.». – **Representative of the Ukrainian producer of cut roses**

9.3. Possible State Support of Floricultural and Ornamental Markets

This section combines ideas of experts that issued their opinion on possible ways to influence the development of the market of ornamental and cut flowers.

Many owners of nurseries are very skeptical about possible state support in the development of ornamental plant growing, which is caused by corrupt practice in areas associated with ornamental plant growing, namely departments responsible for landscaping cities and customs service. There was a problem with the Ministry of Agrarian Policy, which initiated the adoption of a law that was supposed to regulate activity of nurseries due to unsanctioned inspections of product range sold by the nursery.

«There were attempts to issue a law on regulation of the market of ornamental plants. It already included some norms. But besides some annual control, registers and lists this law did not offer anything else. Some Minister of Agrarian Policy of Ukraine was supposed to visit the nursery according to his subjective preferences, walk around the nursery and draw some conclusions. I guess it will be a perfect scheme for corruption». – **Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association**

Those representatives of nurseries who were less skeptic about cooperation with the government, mentioned the following possible directions of state support:

- Reduced import duties on products needed for nurseries and landscape architects, as this industry is very dependent on the import, but high duties make growing ornamental plants more expensive and less affordable.
- Limitation of the possibility of corruption at the customs by cancellation of lists of prices on plants, which is only seen by the customs officer.

«Corruption risks appear only due to the fact that representative of customs service is not able to evaluate costs on plants that are stated in documents correctly. Plants with the same characteristics provided in the description section but from different producers (nurseries) cannot cost the same. Producers have different expenditures and use their own growing technologies. As a result, officer based on his own impressions from costs of plants in previous shipments makes decisions that can greatly influence the price of customs clearance». – **Lyudmyla Beloded, representative of Beloded Landscaping company**

- Better control over customs during import of goods in order to minimize the smuggling of products for ornamental floriculture and ensure that all products are imported to Ukraine legally.

- Changes to Ukrainian legislation regarding simplification of the import of products for ornamental floriculture, i.e. fewer documents for import of products.
- State support for imported products, such as reduced customs rates. This step may be important not only for importers but also for producers in Ukraine, as most of the components for the production of ornamental plants are imported.
- Creation of preferential conditions for Ukrainian producers of cut flowers and ornamental plants. It could also include aid in the form of subsidies for fuel, cheaper loans for production, with instant monitoring of the targeted use of these funds and payment of taxes. Provision or facilitation in obtaining affordable loans for the purchase of machinery necessary for nursery operation. For example, this may be a project funding from a national bank that is prohibited at the moment.

«They promise that project investments will come into force next year. It means that I develop a business plan and upon the security of it bank will give me the money. Now it is forbidden by monetary policy of National bank of Ukraine as they consider it to be one of the areas for laundering of money». –

Oleksandr Dusaniuk, Managing director of Dekoplant nursery

- Providing the opportunity to encumber a leased land for a long term as a collateral for obtaining loans.

«Property right are promised to be used as a security when getting a loan. The land I use has been in lease for fifty years, so it is one of my assets so to say; but now it is not considered as such and cannot be used when getting loans at the bank». – **Oleksandr Dusaniuk, Managing director of Dekoplant nursery**

- Facilitation in creating of a plant hub at the Boryspil airport, which could revive the trade in the sector of ornamental plants in Ukraine and attract buyers from other countries.

«I think that emergence of some transport conditions can stimulate the import market, so that Ukraine can import directly, bypassing Amsterdam. This may be a terminal, large air hubs, like ones in the Istanbul, Dubai, Doha (Qatar). In such hubs plants can be chilled with air conditioners, transferred to another plane and sent to a different part of the world. That is, the same hubs as in Amsterdam. It would greatly stimulate the market if any airport in Ukraine had such hub». – **Viktor Tkachuk, Dolina company, importer of cut flowers**

- A series of steps aimed at liquidation of kiosks and other unofficial sales outlets of flowers and ornamental plants, which will promote the emergence of official flower shops and chain stores.
- Opening of the land market, which, according to the majority of respondents, will significantly revive the market of ornamental plants. Doing business associated with nurseries involves investing significant funds, the payback period of which is quite long.

«Land market should be open. This will push the market of ornamental plants forward. Nursery is a long-term investment. Irrigation and plots are also an investment. It is not interesting to do if the land was taken into lease. When land market opens it will be possible to buy land where nursery is located. What will be the price of this land is another point for discussion». – **Andrii Pohrebnyi, Director of Gardi nursery**

- Adoption of norms on obligatory greenery of land plots, gardens in cities, which would contribute to the increase of green spaces in cities and villages, which in turn will increase sales of nurseries only subject to transparent tenders for the supply of plants.

«I am aware that there are some norms like the one where there is supposed to be some number of square meters of green trees around the houses and these norms should be supported. The planting process in Kyiv is more or less stable because it is a capital but there are cities where no money is being issued on landscaping of cities. Government officials do not understand this, and it is not a priority for them». – **a nursery representative**

- Review of outdated building requirements that interfere with the work of the ornamental gardening sector as they are obsolete. For example, the height of a crown of wayside trees according to our building standards is 180 centimeters, when around the world it is 220 centimeters, such height makes it convenient, for example, for bicycle travel. And other paragraphs of these standards, that require changes.

10. Cooperation with the Netherlands

In this section summarized are the wishes of market participants about possible assistance of the Ministry of Agriculture of the Kingdom of the Netherlands. There is also information on existing cooperation of Ukrainian and Dutch businesses of ornamental plants and cut flowers.

10.1. Existing Cooperation

Representatives of the Ukrainian business of cultivation and sale of ornamental plants, cut flowers, potted plants and planting material have already fruitful cooperation on regular basis with companies from the Kingdom of the Netherlands. Here are the main aspects of cooperation:

- In the Netherlands, they purchase ready to sell plants: cut flowers, potted plants, ornamental plants. Some nurseries, garden centers, and most stores selling cut flowers, bulbs, potted plants, and planting material have among their products significant share of imported items.
- In the Netherlands most of the planting material is bought for further plants cultivation in Ukraine: seedlings of flowers and flower bulbs, seedlings for potted plants for further cultivation, seedlings of ornamental plants. Most nurseries buy young trees for further cultivation in the Netherlands.
 - Few importers have experience of cooperation with less well-known suppliers (not market leaders) of flower bulbs, buying bulbs of high quality for lower price. It gives the possibility to Ukrainian importer to have competitive prices and compete with market leaders who buy bulbs from market leaders at a higher price.

«There is a company that grows 70 varieties of bulbs of tulips in the Netherlands. They also cool the bulbs themselves. Theoretically, they might have worse quality, but we do not see problems, our customers do not see problems. These bulbs are cheaper and have good quality. However, they do not have a name because they don't invest in marketing and sales. Given that we have a company and a representative in the Netherlands, we were able to find them, and they supply us with bulbs. We work this way, although the

name still important and there still exist risks of trying something new». – **Boris Pashkovskyy, Executive Director of the wholesale online store Plantarium**

- Dutch producers free support to their partners who buy planting material, organize seminars and conferences, may visit the partners, and if this is a major industrial production, they provide support in Ukraine. This is relevant for producers of cut roses which buy seedlings, nurseries that sell planting material (seedlings and seeds). Dutch nurseries are interested in providing support to Ukrainian producers, so that they could cultivate high quality plants. If this support is given to importers they transfer it further to their customers in Ukraine.

«They help us when we are choosing machinery, with growing technologies. If we buy a product directly from nurseries, they will always show and tell us how to nurse these plants properly; and what to do so that plants looked good and were sold well because they are interested in result and product realization». –

Sergii Dovhopol, the founder of Biosphere-L nursery

«We provide our customers with growing technology, help them, if they have any problems. We help you understand why it is not growing; we come to the greenhouse, take photos, send them to Holland, and Dutch specialists advise us. Consultation, service, quality. For example, our company, together with the Dutch company Syngenta Flowers, regularly organizes training and seminars. Technical specialists from Syngenta Flowers come to Ukraine, we invite our clients, book a space, determine the day and we have a day-long training. It's a good opportunity to attend lectures from Dutch professionals. Our clients also can ask questions that they are interested in, share their experience. We may have 1 day or 2 days of such trainings. All the expenses are on Syngenta Flowers. We pay for the rent of a space and our clients arrive at their own expense in Lviv or Kyiv, where the seminar is held». – **Viktor Tsyupka, director of the**

Bonus company (importer of planting material)

Cooperation with nurseries in another countries

Besides Netherlands there is also a cooperation with nurseries in other countries:

- Big trees are also purchased in Germany.
- Many nurseries purchase shrubs in Belgium.
- Other products necessary for plant cultivation and plant selling may also be purchased in other countries.

10.2. Opportunities to Start Cooperation

Respondents mentioned that the partnership usually begins at exhibitions where representatives of our nurseries as potential buyers examine the quality of the planting material. Then selected at the exhibition nurseries are visited in person where representatives check quality of the planting material, which they are going to buy.

«Those who we do not know in person we usually find on expos and later we travel to other countries from nursery to nursery and get acquainted. We also monitor the quality of young plants and purchase if we are satisfied with it». – **Sergii Dovhopol, the founder of Biosphere-L nursery**

At the same time, representatives of the nurseries who were interviewed stated that they have a network of partner nurseries where they buy planting material, but they would be interested in new ones as well.

Increases the number of Ukrainian businessmen who find their partners via internet with the help of well-known trade platforms.

Also, a partnership can originate based on contacts from student days, if Ukrainians were studying or had internship in the Netherlands. Unintentionally acquired contacts may result in business partnership.

There are examples of cooperation between Ukrainian companies and Ukrainian people who have business in the Netherlands. Ukrainians who live and have companies in the Netherlands have a good understanding of Ukrainian mentality and demand, they also understand the market in the Netherlands.

Another way of establishing partnership is to get recommendations from those who have long been on the market. New market players can have a consultant who helps to find necessary products from partners in the Netherlands.

Favorable factors for future cooperation establishing possibility to get favorable payment terms (loans, delayed payment, etc.). Important are the terms of supply, conditions of cooperation. A priority will be given to a partner who can offer a fairly high quality for lower price (if compared to market leaders).

10.3. Possibilities of Cooperation with Nurseries in the Netherlands

Establishing new partnerships for the purchase of planting material from the Netherlands based on categories that are already being purchased. New partners are expected to have the same plants that are already bought from regular partners but at a more attractive price. That means that less well-known nurseries that grow up plants of high quality at attractive prices and with the possibility of delayed payments will be of greater interest. To some extent, they are interested in new, exclusive plants.

«The first thing we usually try to figure out is the price, because even in the Netherlands there more expensive segments and less expensive ones but of good quality. After that we can decide for ourselves».

– **Sergii Dovhopol, the founder of Biosphere-L nursery**

Our nurseries, garden centers and landscape designers purchase and will continue purchasing old trees that could not physically grow in Ukraine. They are also interested in extraordinary forms of trees like garden bonsai. However, these positions are still purchased in small quantities.

As mentioned before, other categories of plants and planting material are also purchased. Here products with high quality for justified price are especially interesting.

Most respondents are convinced that Ukrainian-Dutch joint ventures would be successful. Ukrainian advantages are fertile soil and not very expensive land rent.

It is possible to conduct scientific experiments in Ukrainian nurseries on the adaptation of Dutch technology to Ukrainian conditions.

Weaknesses, possible problems in cooperation with nurseries in the Netherlands:

- Plants that were grown for many years from the Netherlands are too expensive for Ukrainian buyer and only a small share of buyers can afford it.
- Plants from the Netherlands do not usually survive and grow the way they were supposed to in terms of Ukrainian climate.
- There may occur problem with transportation of plants across Ukrainian border.

Among barriers Dutch businessmen could face there could be mentioned:

- The current investment climate in Ukraine, inflation, and fluctuations in exchange rates can keep businessmen from investing money.
- Current land law may restrain from starting a business of plants cultivation in Ukraine. Among possible solutions there could be named agreement with a Ukrainian partner.
- Ukrainian businessmen usually hardly speak English or any other foreign languages, which complicates possible negotiations.

10.4. Possible Support from the Embassy of the Kingdom of the Netherlands

Ukrainian nurseries and garden centers in general, would be happy to receive assistance from other countries. For instance, taking into consideration their experience of communication with business representatives in European countries, they would like to receive support in order to organize their own business in a similar way:

- Possibility to obtain profitable loans and grants for the purchase of machinery. Ukrainians are interested in loans with low interest rates, like 3-5% per annum. There may be some other assistance with the purchase of machinery, such as selling or renting used equipment. Cut flowers producers are interested in buying of modern greenhouses by favorable terms.

«I am ready to buy plants for five hectares, if government will help me with loans, like the ones that the Dutch are getting, or at least invest in purchasing machinery from the Netherlands I will buy it instead of Chinese». – **Andrii Pohrebnyi, Director of Gardi nursery**

- Technological assistance for those who are just starting the nursery business, for example, practical training for nursery owners and highly skilled specialists. Possibility to learn best practices from companies in the Netherlands, from those who produce cut flowers.

«Support in training was the greatest support there is. Experts in the Netherlands and Germany are used to invite us and show how everything is supposed to be done, for example grafting or correct planting». – **Andrii But, Founder of Osokor nursery**

- Enforcing of intergovernmental agreements that would provide mutual recognition of certification between Ukraine and other European countries.

«It was our colleagues, not we, who issued a request for certification of planting material to the Ministry of Agrarian Policy of Ukraine. This request stated that Ukraine will recognize certificates issued by the Netherlands, England, Italy and Germany. They received an official answer from the ministry that stated: NO. Such ideas regarding simplification of issues related to certification have been constantly promote on both governmental and intergovernmental levels as it would reduce number of problems in the future». –

Oleksandr Dusaniuk, Managing director of Dekoplant nursery

- A step-by-step guide to organizing the import of plants from nurseries in the Netherlands: what to do, where and how to legalize the papers. This could have been done by the Ukrainian state, but representatives of the nurseries are more likely to seek help from the Embassy of the Netherlands.

«The majority is scared by how they will import their plants, how they will get customs clearance and how they are going to receive certificates. Not everyone knows the exact procedure. There is oversaturation by information but there no guidelines for step-by-step procedure when obtaining documents». – **Taras**

Fesenko, Representative of landscaping and garden center Versal

- Participation in events promoting greenery and nurseries. So, the representative of the Kornelis nursery stated that they would like to give the plants for landscaping a city, and this could have had a better effect if done together with the Embassy of the Netherlands.

«Last year in Zhytomyr there was a project in cooperation with the Embassy of Japan: they presented or helped to present trees that are to be planted on the streets. I am sure that Embassy of the Kingdom of the Netherlands can also arrange something similar. The Netherlands is the country with mass production of plants. We are ready to give away some trees but if we will do it alongside the Embassy of the Kingdom of the Netherlands the attitude among population will be completely different». – **a nursery representative**

- Grant for promotion of standards for planting material, which is being developed by the Ukrainian Plants Industry Association.

«We had one idea to publish a large circulation of brochures where all the standards are described and then distribute it among municipal enterprises. The meaning behind this idea was that a person that wants to buy trees or plants received a guidebook where he can find how plants are supposed to look like; and how he can order correct shrubs. If he has already planted some shrubs, he will find information how he

can distinguish good from a bad one». – Stanislav Dontsov, Executive secretary of Ukraine Plants Industry Association

- Assistance in organizing trainings and upgrading qualification of gardeners. Such training seminars have been repeatedly attempted by both landscape designers and representatives of nurseries. According to experts, training seminars, conferences or other types of trainings that involved professionals from the Netherlands, and especially trips to share experiences, would greatly enrich the knowledge of Ukrainian specialists about the latest technologies for growing ornamental plants that they are already engaged in, so that it would allow them to expand their product range. There is a high demand on such training events among representatives of the Ukrainian business, and they are ready to invest in the development of their personnel.

«I am ready to pay a nursery for training of our gardeners. Modern experience of work with plants as well as special techniques for handling plants are very important to us. In our projects we use old and beautiful plants, crown of which is quite often formed in some way and there is a need to maintain the shape with the time. This is our responsibility before clients and nurseries». – Lyudmyla Beloded, representative of Beloded Landscaping company

- Organizing a campaign to popularize such profession like gardeners, which are catastrophically lacking at the market and one of the reasons for this situation is the unpopularity of this profession.

«There are not enough qualified gardeners because for a very long time there was no demand on such services like maintenance of gardens with ornamental plants. The profession of gardener was an unqualified, underpaid and primitive. There was no education for this profession, as a result beautiful plants that were maintained by unqualified gardener have lost their condition with the time. Quite often people would say that the plant itself was either of poor quality or was not adopted to our climate conditions instead of admitting their own lack of skills». – Lyudmyla Beloded, representative of Beloded Landscaping company

- Creation of open list of producers of all products, so that Ukrainian importers could have more information on finding new partners and import opportunities.

«It would be great if we could have an open list of producers of a particular product. Because now the communication with supplier is complicated. For example, say, there is our regular supplier in the

Netherlands. If we go to another supplier to buy, say, daisies. They ask contacts of our regular supplier in Holland, and the daisies are sold with the help of our regular supplier. The new supplier will not work with us directly. I understand that our regular supplier receives its bonuses. However, I want to work directly to get more favorable conditions to sell more in Ukraine». – **Alena Storchak, CEO of Ukraflora**

- Making it possible that Ukrainian companies could meet less well-known and promoted Dutch producers, from which they could buy cheaper but high-quality products.

Aiding in the selection of planting material, which would be suitable for growing in nurseries in Ukraine with regard to climate and level of moisture, etc. Assistance is also needed in due diligence of cultivating one or another type of products.

Annex

Events in Ukraine: Ornamental Plants

1. Art Green Fest (<http://kyivgreenfest.site/>).
2. Green cities of Ukraine 2018 Conference is the biggest annual conference devoted to the beautification and greening of urban areas in Ukraine organized by Ukraine Plants Industry Association and their partners (<https://greencities.org.ua/>). Organizers invite wide range of specialists: state officials responsible for city beautification, producers of ornamental plants, garden centers, urbanists, landscape designers, suppliers of related gardening products, public service companies to join this event! This conference is aimed at sharing knowledge and experience with guests, answering all the questions and expressing support to state officials, mayors and public service companies when choosing a strategy for beautification and greening of urban areas. Conference usually takes place every year in December. This year conference will take place on December 7, 2018.

3. Green Conference, International conference on ornamental plants (<https://www.facebook.com/pg/greenconferenceUA/about/>).

This conference is an annual place for meeting of company owners and experts in the field of ornamental plants. Here producers, garden centers, landscape designers can discuss all crucial issues in market development, develop cooperation and share their experience.

4. Bus tour across Ukrainian nurseries

This traditional tour across Ukrainian nurseries is usually held in summer and organized by Ukraine Plants Industry Association in cooperation with Landscape.ua. All people interested in the work of nurseries from both private and municipal organizations are welcome.

Information on the Tour-2018 can be found:

<https://www.facebook.com/events/350047068841531/>

Events in Ukraine: Floricultural and Ornamental Markets

1. Flower Expo Ukraine is Ukraine's leading and only exhibition for Flower Business, Horticulture, Nurseries, Landscape Design and Floristry (<https://www.flowerexpo-ukraine.com/en/>).
2. The festivals that become large-scale events within Ukraine and use the material (cut flowers) of local and imported production are constantly developing in Ukraine. This is a good opportunity for producers to present their products to florists and representatives of distributors. Among such festivals are:
 - Florist Festival "Love in Saint-Miklos" in Chynadiievo, Zakarpatska region (the link is only in Ukrainian <https://www.ufsukraine.com/kohannya-v-sent-miklosh-19>).
 - Drohobych Flower Fest (<http://drohobych-rada.gov.ua/anons-9-10-cherwnya-u-drogobychi-vidbudetsya-dobrochynnyj-festyval-kvitiv-drohobych-flower-fest/>).

The List of Key Companies in Each Sector

Cut flowers

Main importers mentioned by Ukrainian experts are:

- Ukraflora, Kyiv, Ukraine (<https://ukraflora.com.ua/>);
- Megaflora, Kyiv, Ukraine (<http://megaflora.com.ua/>);
- Exotic Flora, Kyiv, Ukraine;
- Luxflora (<http://luxflora.com.ua/>);
- Primaflora (<http://primaflora.com.ua/>);
- Holland To You (<https://htu.com.ua/>), makes deliveries to the northern region of Ukraine;
- Camellia (<https://camellia.ua/ua>).

In Ukraine only roses for cutting are grown on an industrial scale.

1. Among top producers of cut flowers market participants mentioned the following companies:
2. Ascania-Flora (<https://ascania-flora.ua/>) has the largest greenhouse complex for growing roses. It is in Kyivska region, has 23 hectares of greenhouses. Ascania-Flora specializes exclusively in growing roses.
3. Camellia (<https://camellia.ua/ua>). Company is in Kyivska region, has 7,5 hectares of greenhouses, where they grow roses for cutting. The company also grows seedlings of flowers, indoor flowers and tulips.
4. Fresia is the company is located in Dnipropetrovska region, has 4,7 hectares of greenhouses, where roses are grown. No official web site is available.
5. Tandem (<https://tandem.agrobiz.net/>). The company is located in Lvivska region, in Drohobych. Has 6 hectares of greenhouses, where roses are grown.
6. There are also smaller scale producers like:
7. Flora-Vest (<https://floravest.business-guide.com.ua/>). There are 2 hectares of greenhouses, where roses are grown.

8. TOV Fakt (https://youcontrol.com.ua/catalog/company_details/38284164/). The company is located in Berdychiv, Zhytomyrska region. There are 2 hectares of greenhouses, where they grow roses.
9. Gallery of Flowers Terika (<http://galleryflowers.com.ua/contacts>).
10. Specialized online store for selling bouquets and floristics workshop (<https://artishok.ua/>).

There is also a Ukrainian Florists Association (<https://www.ufsukraine.com/>).

Planting material

Almost all flower bulbs and seed are imported to Ukraine from the Netherlands. Situation with seedlings differ there increase volumes of seedlings cultivated from seed imported from the Netherlands.

Key importers of planting materials are:

- Ukraflora, Kyiv, Ukraine (<https://ukraflora.com.ua/>);
- Camellia (<https://camellia.ua/ua>);
- Exotic Flora, Kyiv, Ukraine;
- Agro-Market (<https://agro-market.net/>);
- Florium
(https://florium.ua/?gclid=EAlaIQobChMI_Zjsl4ii4AIVFeJ3Ch04qAMFEAAAYASAAEgIU8fD_BwE);
- Lili-Line (<https://lili-line.com.ua/catalog>);
- Interflora (<https://interflora.com.ua/>);
- Yaskrava (<https://yaskrava.com.ua/>);
- Dabpopil (no official site)

Seedlings of perennial plants are imported only by:

- Florium (https://florium.ua/?gclid=EAlaIQobChMI_ZjSl4ii4AIVFeJ3Ch04qAMFEAAAYASAAEglU8fD_BwE);
- Sotka (<http://www.bulbs.org.ua/>).

Ukrainian producers of seedlings:

- Camellia (<https://camellia.ua/ua>);
- Plantpol (<http://www.plantpol.com.ua>);
- Zelemin (Lviv, <http://zelemin.com.ua>);
- Gardi (<https://www.gardi.biz/greenhouse/garden-plants/>).

Two importers of planting materials took part in this study:

- Plantarium (wholesale supplier of planting materials, <https://plantarium.com.ua/>);
- Bonus (Importer of planting materials, <https://bonus-pe.business-guide.com.ua/>).

The biggest store for selling planting materials is a chain of stores Epicentr (<https://epicentrk.ua/>).

Potted plants

Key importers of potted plants:

- Ukraflora, Kyiv, Ukraine (<https://ukraflora.com.ua/>);
- Megaflora, Kyiv, Ukraine (<http://megaflora.com.ua/>);
- Camellia (<https://camellia.ua/ua>);
- Floremix (<http://floremix.business-guide.ua/>).

Key producers of potted plants in Ukraine are:

- Camellia (<https://camellia.ua/ua/catalog/cat/nashi-cvety/indoor>);
- The Dutch roses (Gardi) (<https://www.gardi.biz/greenhouse/>);
- Plantpol (<http://www.plantpol.com.ua>);

- Farm “Kvity Zakarpattia” (<https://pfister.com.ua/>).

Experts mentioned such importer as Plantpol (<http://www.plantpol.com.ua>).

Potted plants are mainly distributed via the following companies:

- The largest share of potted plants is sold in the chain of hardware stores Epicentr (<https://epicentrk.ua/>);
- A significant share potted plants is sold via online store Agro-Market (<https://agro-market.net/>).

The following supermarkets also have departments where potted plants are sold:

- Velyka Kyshenia (<http://kishenya.ua>);
- Auchan (<https://www.auchan.ua/ua>);
- Silpo (<https://silpo.ua/>);
- Kvitkova Poliana, chain of boutiques (<http://kvitkova-poliana.com.ua/contacts>).

Ornamental plants

Key Ukrainian nurseries mentioned by market players:

1. Agro-Flora (Kharkiv) (<http://agro-flora.com/>);
2. Biosfera-L (Kyiv) (<http://biosphere.com.ua/>);
3. Gardi (Kyiv) (<https://www.gardi.biz/>);
4. Dekoplant (Vinnytsia) (<http://www.dekoplant.com.ua/>);
5. Elit Flora (Lvivska region) (<http://www.elitflora.ua/uk/golovna/>);
6. Eva (Kyivska region) (<https://evasad.com/>);
7. Zelena Kraina (Kyivska region) (<https://zelenakraina.com.ua/>);
8. Zeleni Yanholy (Zakarpatska region) (<https://landshaft.info/ru/>);
9. Kvitkarochka (Kyivska region) (<http://www.kvitkarochka.com/>);
10. Kiparis (Kyivska and Odeska regions) (<http://gardenindustry.org/kiparis/>);
11. Klub Roslyn (Lvivska region) (<https://plants-club.ua/>);
12. Kornelis (Zhytomyrska region) (<http://www.kornelis.biz/>);
13. Mala Hollandiya (Zakarpatska region) (<http://www.malahollandiya.com.ua/>);
14. MegaPlant (Kyiv) (<http://megaplant.com.ua/>);

15. Natalis (Kyivska region) (<http://natalis.ua/>);
16. Osokor (Poltavska region) (<https://osokor.com.ua/>);
17. Pitomnik Ivashchenko (Kyivska region) (<http://pitomnik-ivashchenko.com.ua/>);
18. Sad Vashoi Mrii (Dnipropetrovska region) (<http://garden.dp.ua/>);
19. Solncecvet (Kyivska region) (<https://www.solncecvet.com.ua/>);
20. Florex (Kyiv) (<http://www.florex.ua/>);
21. Forest (Cherkaska region) (<http://www.pitomnik.ua/>).

The largest network of specialized garden centers is represented by Epicentr. According to the representative of this trading network, up to 40% of the total planting material of ornamental plants in Ukraine is sold through their network of hardware stores, almost every one of them has a garden center. According to other experts, up to 15% of ornamental plants is sold in Epicentr's trading network (<https://epicentrk.ua/>).

Product Range Analysis

Here is analysis of the range of products in each category: ornamental plants, planting material, cut flowers and potted plants, based on open source data (online shops which sell their products in retail and as wholesalers, online shops of producers, also official web sites of nurseries and garden centers).

The list of used sources:

Flora Praktik	http://www.florapraktik.com.ua/
prom.ua	prom.ua
Agro-Market	https://agro-market.net
Ascania-Flora	https://ascania-flora.ua/ru/
Veresen	http://veresenkiev.com.ua
Dolyna Kvitiv	www.dolinakvitiv.com
Epicentr	https://epicentrk.ua/
Interflora	https://interflora.com.ua/
Camellia	http://camellia.ua/
Lili-Line	http://www.lili-line.com.ua
Megaflora	www.megaflora.com.ua
Plantarium	https://plantarium.com.ua
Gallery of Flowers Terika	www.galleryflowers.com.ua
Ukraflora	https://ukraflora.com.ua/
Florium	https://florium.ua
Yaskrava	https://yaskrava.com.ua/
La Charme, delivery of flowers	LaCharme.com.ua

Nurseries and garden centers

Klub Roslyn, company	https://plants-club.ua/
Zelena Kraina, garden center	https://zelenakraina.com.ua/
Eva, nursery of ornamental plants	https://evasad.com/
Sad Vashoi Mrii	http://garden.dp.ua/
Solncecvet, nursery of perennial plants	http://www.solncecvet.com.ua/
Zeleni Yanholy, nursery	https://landshaft.info/uk/
Elit Flora, garden center	http://www.elitflora.ua/uk/golovna/
Agro-Flora, nursery	http://agro-flora.com/
Natalis, nursery	http://natalis.ua/
Kvitkarochka, nursery	http://www.kvitkarochka.com/
Biosfera-L, nursery	http://biosphere.com.ua/
Gardi, nursery	https://www.gardi.biz/
Dekoplant, nursery	http://www.dekoplant.com.ua
sad.ua, garden center	https://sad.ua/
Kornelis, nursery	http://www.kornelis.biz/
Mala Hollandiya, nursery	http://www.malahollandiya.com.ua/
Osokor, nursery	https://osokor.com.ua/
Florex, nursery	https://florex.ua/
Forest	http://www.pitomnik.ua/
Pitomnik Ivashchenko, nursery	http://pitomnik-ivashchenko.com.ua/
MegaPlant, nursery	http://megaplant.com.ua/

Cut flowers

Based on the analysis of products range from open sources, there was found 31 types of cut flowers, that are offered to a final consumer on Ukrainian market. The most numerous are roses, chrysanthemums, tulips, eustomas and gerberas. Other flowers have up to 10 varieties.

Plant	Number of varieties on the market
rose	119
chrysanthemum	33
tulip	24
eustoma	18
dianthus	15
gerbera	12
freesia	9
peony	8
alstroemeria	7

Each flower is represented by a number of varieties. The most varieties on the market have roses (119), followed by chrysanthemums (33 varieties). Such flowers like eustomas, tulips, peony, gerbera are not differentiated by varieties at all as in most cases there is no information in the description. For dianthus there were found 15 varieties, and peonies a bit less than 10 varieties.

Analysis of the assortment of roses based on the color showed that most varieties have pink roses (38), followed by red (22), white (13) and champagne (11). There is in total 17 different colors of roses.

Based on the stem length, the most common are roses that are 60 cm long (51 variety), followed by 50, 70 and 80 cm long roses (33-36 varieties) that are represented more or less equally. Next are roses with 90 and 40 cm long stem (24-30 varieties). Less frequently one can find 55, 65, 75 cm long roses. There are not so many rose varieties that can reach 1 m (4).

The assortment of Camellia and Ascania-Flora is possible to find in the open access.

Potted plants.

In the open sources we have found 156 types of potted plants. The most varieties have such indoor plants like ficus (around 49 varieties), dracaena (around 38), orchids (around 31, the most common is phalaenopsis), amaryllis (25), kalanchoe (19).

Plant	Number of varieties on the market
ficus	49
dracaena	38
orchid	31
amaryllis	25
kalanchoe	19
azalea	15
hyacinth	12
chrysanthemum	11
begonia	11
anthurium	13
sansevieria	12
dieffenbachia	12

Planting material

Based on materials from open sources we have analyzed the assortment of seeds, bulbs, root nodules and seedlings.

Ornamental plants

In total 230 types of flowers and ornamental plants, seeds of which can be bought on Ukrainian market, has been found in the open sources. Most varieties have aster, petunia, zinnia, marigolds, dianthus, tropaeolum, ipomoea, viola, dahlia, lathyrus odoratus and calendula.

Plant	Number of varieties on the market
aster	292
petunia	154
zinnia	106
marigolds	88
dianthus	82
tropaeolum	77
ipomoea	67
viola	61
dahlia	39
lathyrus odoratus	36
calendula	34

Aster is represented by 292 varieties, petunia – 154, zinnia – 106, marigolds – 88 and dianthus – 82.

It is worth mentioning that such number of varieties can be explained by the fact that customers prefer bouquets with flowers of different types. So, producers grow different varieties to create such compositions.

Flower bulbs

There are 99 types of bulb plants on Ukrainian market. The leaders in the number of varieties are dahlias, tulips, lilies, gladioluses, begonia, irises, hemerocallis, calla and cannas.

Plant	Number of varieties on the market
dahlia	602

tulip	504
lily	411
gladiolus	187
begonia	90
iris	90
hemerocallis	88
calla	85
canna	85
hyacinth	68
peony	58
narcissus	46

The most varieties have (in order of decreasing) dahlias (602 varieties), tulips (504 varieties), lilies (411 varieties), gladioluses (187 varieties), by a large margin followed by begonia, irises, hemerocallis, calla, cannas, hyacinth and peony.

Seedling of ornamental plants

In total in open sources there are 119 types of plants, seedlings of which could be found in Ukraine.

The most seedlings have such flowers like roses, irises, petunias, pelargonium, calibrachoa, gerberas, hemerocallis, verbena, chrysanthemum and fuchsia.

Plant	Number of varieties on the market
rose	72
iris	63
petunia	50
pelargonium	33
calibrachoa	26
gerbera	24
hemerocallis	21
verbena	20
chrysanthemum	20
fuchsia	16

There are 72 variety of rose seedlings, 63 irises but it is not possible to single out the most popular ones. There are 50 varieties of petunias, pelargoniums (33), calibrachoa (26).

Ornamental plants

There are over 400 types of plants in nurseries and garden centers (including trees, shrubs, annual and perennial flowers and plants). The most varieties have coniferous plants: junipers (1287 varieties), pine (1131 varieties), fir (795 varieties), arborvitae (675 varieties), less varieties have chamaecyparis (328) and abies (312). A large number of varieties have such flowering plants like roses (535 varieties), hortensia (320). Among broad-leaved trees the most varieties has maple (301), while among the shrubs the leader is filipendula (253).

Plant	Number of varieties on the market
junipers	1287
pine	1131
fir	795
arborvitae	675
rose	535
barberry	470
chamaecyparis	328
hortensia	320
abies	312
maple	301
filipendula	253