



Ministry of Agriculture, Nature and
Food Quality of the Netherlands

Quick scan Polish dairy sector

*Embassy of the Kingdom
of the Netherlands in
Warsaw*

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Contents

Status of the Polish dairy sector	3
Polish export of dairy products	3
Polish import of dairy products	5
Polish Consumption of Dairy Products	6
Structure of the Polish Dairy sector	7
Amount and size of the dairy farms	7
Dairy production	8
Dairy processing plants	9
Employment in processing	10
Production cost	10
Production cost of milk	10
Production Regions	10
Location of large-scale dairy farms in Poland	10
Companies in the Polish dairy Industry	11
List of Companies in the Polish Industry	11
Location of companies in the Polish Industry	14
Trends and Advantages Polish Dairy	14
References	15

Status of the Polish dairy sector

Production of dairy in Poland

Poland is the 5th largest milk producer in EU-28. Poland's dairy sector has undergone a drastic change since the transition period in the 1990's and Poland's accession to the EU in 2004. Milk production is one of main branches of Polish agricultural production. Increasing purchasing and processing of milk has resulted in a steady increase in the production of dairy products. At the same time there have been significant changes in the production structure. In the period until 2016, the production of yoghurts and milk drinks, cheese and cottage cheese as well as liquid milk and cream increased. The

the EU (8,3% of EU Production) concerning milk production. This is the 12th position in the world (1,7% of global milk production) (source: Ministry of Finance, European Commission, FAO 2017).

Polish export of dairy products

On the Polish dairy market, supply exceeds consumption; in recent years the self-sufficiency ratio, defined as the relationship of production to demand on the internal market, has been 120% and is therefore one of the EU-28 countries contributing to the EU dairy export. In the period until 2017 a systematic growth of trade turnover was recorded.

Table 1: Total milk production in the Netherlands and Poland

	Poland	The Netherlands
Total milk production	13,3 Million Metric ton or 12,9 Billion Liter (*2017)	14,5 Million Metric Ton or 14 Billion Liter (2016)

production of butter and milk powder fell during those years. The increasing production of products with an added value (cheese, yoghurt, soft drinks) is a positive phenomenon since it is a profitable use of resources as well as it facilitates the promotion on global markets. Progress in modernization is well illustrated by changes in the production structure, in which there has been an increase in the share of final consumer products (long ripening cheese, yoghurts, and milk drinks, processed cheese, etc.). As mentioned earlier, Poland holds the 5th position in



Table 2: Production of milk and milk products Poland (*1000 MT)

	2013	2014	2015	2016	2017 (forecast)	Increase 2016-2017
Milk Production	12710	12976	13108	13100	13300	3.5%
Milk Deliveries	9817	10515	10830	10830	11000	
Fluid milk	1594	1604	1646	1620	1600	
Cheese	735	717	756	770	780	
Butter	172	180	191	195	200	
Non-Fat Dry Milk	108	179	162	178	180	
Whole Dry Milk	46	57	46	43	43	

(Source: USDA 2016)

Table 3: Milk balance (in thousand tons)

Specification	2013	2014	2015	2016 ^{a)}	2017 ^{b)}
Total production	12 736	13 003	13 134	13 171	13 340
including cow milk	12 710	12 976	13 108	13 144	13 314
Import ^{c)}	1 454	1 709	1 587	1 705	1 700
Available in total	14 189	14 712	14 722	14 877	15 040
Export ^{c)}	3 409	3 968	3 984	3 918	3 980
For feed	544	594	566	515	515
For consumption	10 236	10 150	10 172	10 444	10 545
including self-supply	1 647	1 441	1 390	1 235	1 130
Total expenditure	14 189	14 712	14 722	14 877	15 040
Self-sufficiency^{d)} (%)	117.9	120.8	122.1	119.9	120.4

¹ Relative figures (indicators, percentages) in the entire report have been usually calculated based on absolute data expressed with the greater accuracy than provided in the publication. Due to rounding of the data, the sums of components in some cases may differ from provided values in total.

^{a)} IAFE-NRI estimate.

^{b)} IAFE-NRI forecast.

^{c)} Export and import volume has been calculated using the coefficients of dry weight content, in accordance with chapter V.

^{d)} Calculated as the production to internal consumption ratio (consumption plus consumption of feed).

Source: IAFE-NRI calculations based on the CSO and MF data.

In the first part of 2017 (from January to July) the export value of Polish dairy products increased in comparison to 2016. The export of cheese and curds increased by 26% and the export of ripened cheeses by 23%. In 2017 the total export grew by about 8% (source: Ministry of Finance, Institute of Agricultural and Food Economics). Export of butter from Poland amounted to 7577 tons and increased by 18%. The improvement in the trade results

indicates a high competitiveness of Polish dairy products on the international market, mainly on the EU market. Poland ranked fourth among EU countries in the export of whey powder with similar results as a year earlier with 13.490 tons and imported 14% less, amounting to 3454 tons. (Source: Grzegorz Skrzypkowski, Eurostat, COMEXT)

Table 4: Polish Export of Selected Dairy Products 2013-2016 (X1.000.000 Euro)

	2013		2014		2015		2016	
	World	INTRA-EU	World	INTRA-EU	World	INTRA-EU	World	INTRA-EU
0401 - Milk and cream, not concentrated nor containing added sugar or other sweetening matter	228	219	269	243	266	226	275	222
0402 - Milk and cream, concentrated or containing added sugar or other sweetening matter	262	174	438	151	281	121	190	89
0403 - Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and cream	119	113	132	122	112	107	102	97
0404 - Whey, whether or not concentrated or containing added sugar or other sweetening matter	203	110	194	99	172	75	149	77
0405 - Butter and other fats and oils derived from milk	122	108	122	109	121	113	130	116
0406 - Cheese and curd	689	460	663	462	597	460	621	490
TOTAL	1621	1183	1818	1187	1549	1102	1467	1092

(Source: Comtrade & Wageningen Economic Research)

Looking at the trade relationship between the Netherlands and Poland can be seen that in general the export from the Netherlands to Poland is larger. Processed products with a high value, such as cheese and butter are mainly exported. While the Netherlands imports products with lower added value, milk and whey, in large quantities from Poland.



Table 5: Dairy trade between the Netherlands and Poland in 2016

	Export NL to PL		Import PL to NL	
	Volume	Quantity	Volume	Quantity
0401 - Milk and cream, not concentrated nor containing added sugar or other sweetening matter	1186	1510	665	449
0402 - Milk and cream, concentrated or containing added sugar or other sweetening matter	5058	4109	18636	13163
0403 - Buttermilk, curdled milk and cream, yogurt, kefir and other fermented or acidified milk and cream.	52	46	1275	1070
0404 - Whey, whether or not concentrated or containing added sugar or other sweetening matter	3061	3159	16751	32235
0405 - Butter and other fats and oils derived from milk	20326	5444	11344	4649
0406 - Cheese and curd	38287	13996	11052	4788

(Sources: Comtrade & Wageningen Economic Research).

Volume: x € 1000

Quantity in Tonnes

Polish import of dairy products

According to statistics from May 2017 the import of butter to Poland was 1789 tons, which means an increase of 65% since 2016. Cheese imports decreased by 8%, which corresponds with a current import quantity of 12491 tons of cheese. With regards to skimmed milk powder, Poland exported 5005 tons, 7% more than in 2016, while imports were 4,624 tons, a decrease of 12%. A similar trend was recorded in the export/import balance of whole milk powder. Also, the value of Whole Milk Powder (WMP)

imports decreased, by 3%, to an amount of 1284 tons. Prior to EU accession the volume of imports was low; the largest increase in imports expressed in raw milk equivalent was observed in the period 2005-2011 (Source: Grzegorz Skrzypkowski, Eurostat - COMEXT).

Poland mainly imports dairy products from other EU countries, the import from third countries can be neglected. Important partners for the import of bulk are, net to Latvia, Poland's neighbors Lithuania, Czech Republic and Germany.

Table 6: Polish import of dairy products in 2016 (X1.000.000 Euro)

	World	INTRA-EUR
0401 - Milk and cream, not concentrated nor containing added sugar or other sweetening matter	125	125
0402 - Milk and cream, concentrated or containing added sugar or other sweetening matter	230	230
0403 - Buttermilk, curdled milk and cream, yogurt, kefir and other fermented or acidified milk and cream	722	722
0404 - Whey, whether or not concentrated or containing added sugar or other sweetening matter	298	298
0405 - Butter and other fats and oils derived from milk	602	601
0406 - Cheese and curd	276	275

(Source: Comtrade & Wageningen Economic Research)

Table 7: Import partners of Poland for bulk milk

IMPORT POLAND: Main 10 suppliers of Bulk milk in 2016 (Tons)								
Country	2011	2012	2013	2014	2015	2016	± % on 2015 *	± % on 2014 *
Lithuania	7.438	75.940	93.534	104.907	91.959	92.905	+1,03%	-11,44%
Czech Republic	19.662	20.127	24.316	28.382	31.456	31.652	+0,62%	+11,52%
Latvia	200	463	352	4.175	25.617	27.424	+7,05%	+557%
Germany	16.833	14.268	14.600	27.213	6.336	19.994	+216%	-26,53%
Slovakia	205	593	171	1.790	5.621	9.152	+62,82%	+411%
Belgium	-	116	-	-	-	7.217	-	-
Sweden	-	-	-	-	-	1.123	-	-
Hungary	-	73	71	2.174	6.752	1.078	-84,04%	-50,44%
Netherlands	145	258	802	1.924	2.428	378	-84,43%	-80,35%
Bulgaria	-	-	-	-	-	345	-	-

Source: Processed by CIaI based on GTIS data
 * Change from the same period of previous year.

Polish Consumption of Dairy Products

Changes in demand factors such as aging society and increased personal income contributes to changing consumption patterns of dairy products. Given the importance of the dairy sector in Poland and milk's essential role in the Polish diet is the milk consumption among Polish citizens high. According to the Central Statistical office (GUS) was the average consumption in 2016, 222 liters of milk (including milk for processed products, without milk converted to butter) per person. This is an increase of 9, 17 and 49 liters since 2015, 2014 and 2005 respectively. Also, the consumption of butter is increasing, the average consumption of butter increased till 4,7 kg per capita in 2016, an increase in consumption of approximately 200-300 gram.

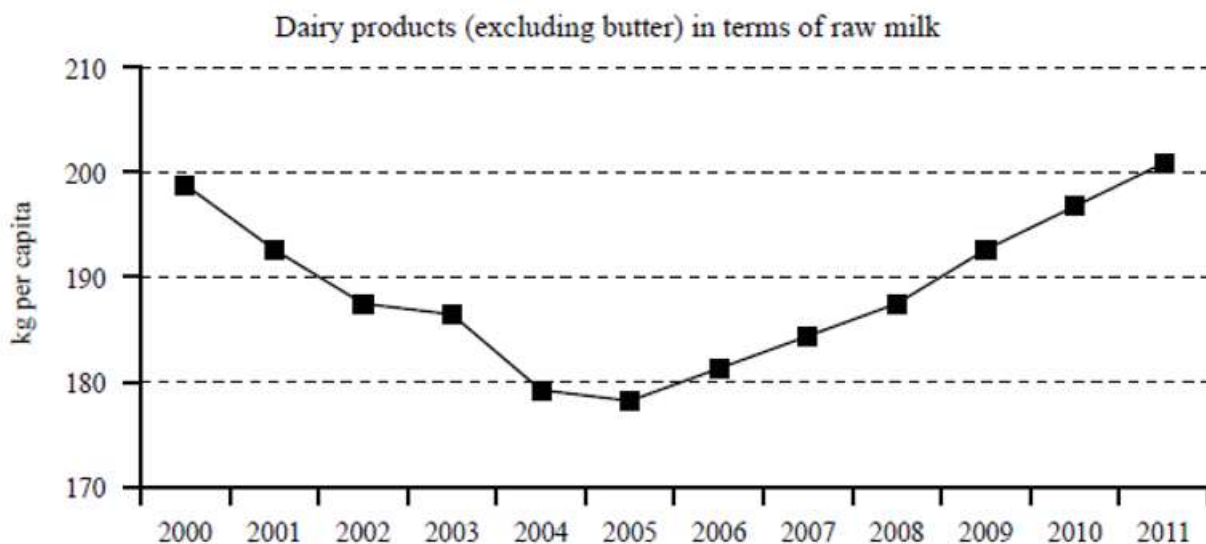


Figure 1: Per capita consumption of dairy products in Poland (Source: Potori, 2014).

The Central Statistical Office argues that the consumption of dairy products is highly correlated with the market price. The end of the milk crisis led to an increased consumption and record prices for butter. In 2017 the consumption the dairy consumption increases with 1% since 2016 (preliminary conclusion). However, there is a shift from milk consumption to the consumption of cheese and desserts containing dairy and yoghurt. Concerning yoghurt, the price increased by 5,9% since 2016 (Source: PIM) (Fu, 2016).

Structure of the Polish Dairy sector

Amount and size of the dairy farms

In 2013 had Poland around 150.000 farms (from a total of 335.000) with a size of more than 10 ha. Additionally, approximately 82% were owned by farms with a size over 10 ha (table 8 & 9). According to the former Minister of Agriculture - Marek Sawicki - had Poland 132,500 commercial dairy farms in 2015, with the expectation that this number would

not decrease till 2020 (DairyGlobal, 2015). According to a presentation from the Polish ministry of agriculture in Brussels during quota years in 2013 was Poland only on the 6th place regarding the national quota (while being a large producer) within EU27 following Germany, France, Great Britain, the Netherlands, Italy. The explanation for this rank was that a relatively small percentage of Polish milk was marketed during the reference period compared to the total milk production. This is due to on-farm use of milk for feeding and human consumption at small farms. Currently the number of small farms is Poland is still very high and this phenomenon is still the case in Polish dairy production, therefore only a minority of all dairy farms are commercial farms. (Source: Polish Ministry of Agriculture, EU conference December 2013)

Table 8: Number of dairy farms.

Size (ha)	Number of dairy farms					Poland
	Italy	Germany	France	Ireland	The Netherlands	
Year	2013	2013	2013	2013	2013	2013
0	70	110	570	0	20	280
< 2	820	70	470	10	90	17.890
2 - 4,9	4.600	270	1.700	20	200	73.370
5 - 9,9	8.260	2.860	1.730	70	350	91.180
10 - 19,9	8.900	12.320	2.930	780	1.340	91.160
20 - 29,9	5.210	9.030	4.690	2.040	2.720	31.790
30 - 49,9	5.380	17.660	11.660	6.160	7.050	19.810
50 - 99,9	4.220	23.050	35.600	7.450	5.950	7.140
> 100	2.140	13.450	33.190	1.610	950	1.900
Total	39.600	78.820	92.540	18.140	18.670	334.520

(Source: [Gla](#) based on [gtis](#) data)

Table 9: Number of cows by farm size.

Size (ha)	Number of cows (heads)					Poland
	Italy	Germany	France	Ireland	The Netherlands	
Year	2013	2013	2013	2013	2013	2013
0	3.010	5.450	45.310	0	730	2.930
< 2	3.320	1.780	1.240	440	240	22.560
2 - 4,9	43.570	3.700	5.280	830	1.990	120.520
5 - 9,9	119.650	21.690	8.130	1.830	4.380	275.560
10 - 19,9	249.580	181.860	17.050	18.520	41.190	646.240
20 - 29,9	254.500	200.190	51.500	66.540	134.850	441.500
30 - 49,9	371.950	598.010	285.970	295.220	520.760	412.980
50 - 99,9	391.690	1.363.650	1.347.900	562.790	662.940	222.290
> 100	325.200	1.875.100	1.974.800	217.050	185.830	198.940
Total	1.762.470	4.251.430	3.737.180	1.163.220	1.552.910	2.343.520

(Source: [Gla](#) based on [gtis](#) data)

In Figure 2 is the structure presented which is in table 8 and 9 clearly visualized. By far the largest number of dairy farms have an area between 2 and 20 ha. However, farms under 10 hectares possess only a small fraction of the total number of cows in Poland.

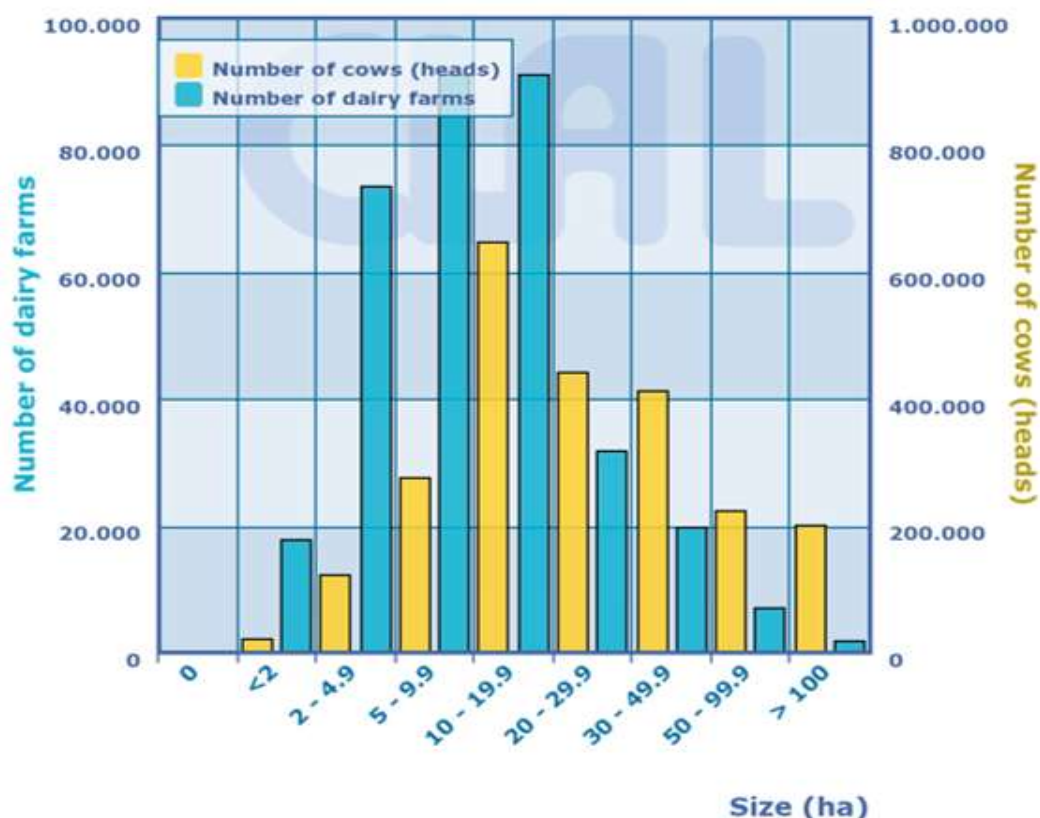


Figure 2: Dairy farms and cows in relation to the farm size in Poland (2013).

Dairy production

As shown in the previous paragraph is the milk production in Poland very fragments and does a large percentage never enter the market. This while the total production is on a very similar scale as the Netherlands. However, this level of production is in the Netherlands achieved with a fraction of the number of Polish farmers. This on farms with on average a three times larger herd size with better yield.



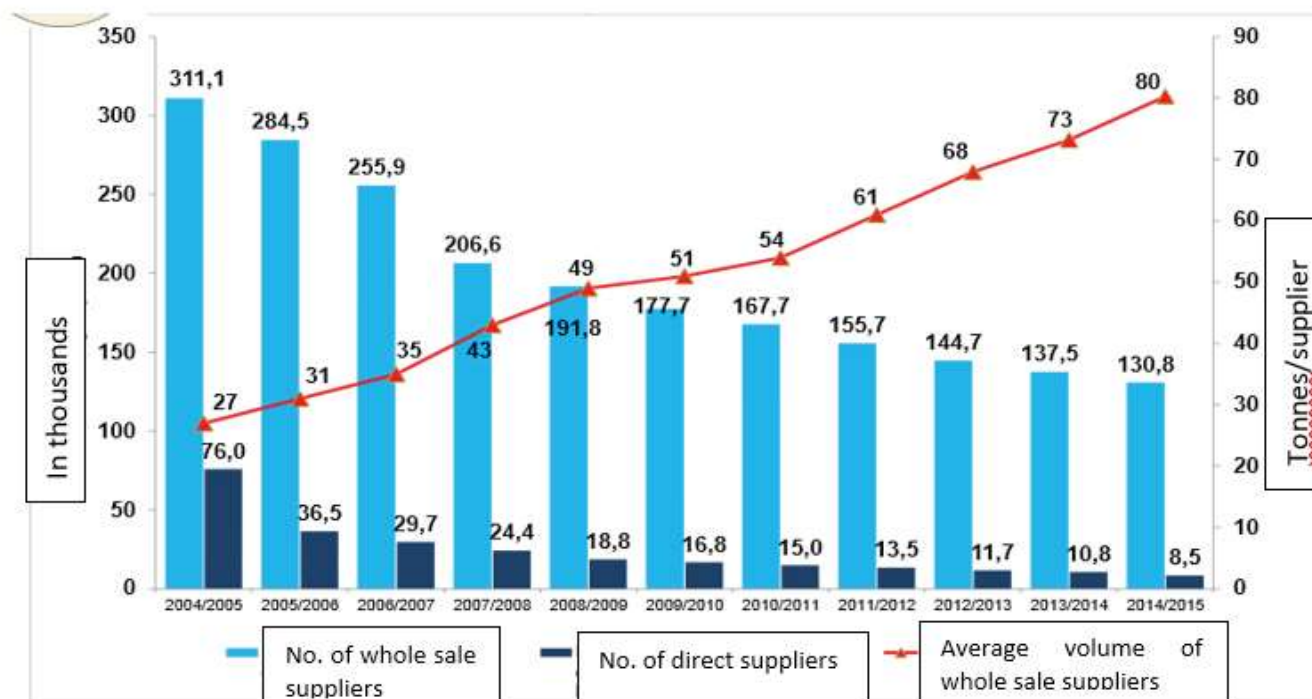
Table 10: Comparison milk production the Netherlands and Poland.

	Poland	The Netherlands
National dairy herd/no. of cows	Approx. 2,130,000 (*2017)	1.8 Million (2016)
Dairy farmers (x1000)	*large percentage non-commercial, see table 8 & 9	17,5 (2016)
Average herd size approx.	36 (2015)	105 (2016)
Yield per cow (in 2kg)	6300 (*2017)	8706 (2017)

Note: Poland has large geographical differences

*forecast/expected

In figure 3 is the relation shown between the increasing amount of milk delivered to processors by a decreasing number of suppliers. Approximately 140.000 whole sale and direct suppliers are shown for 2014/2015. Looking back at the previous chapter (and table 8 & 9) is the number of farms bigger than 10 ha approximately 148.000, this explains why only 140.000 suppliers are shown. The other +/- 180.000 small farms never supply their milk to the processing industry and are not commercially active.



*Dla roku kwotowego 2014/2015 dane wstępne. **Liczba dostawców wg stanu na koniec danego roku kwotowego.
Źródło: dane ARR.

Figure 3: Number of milk suppliers in Poland during quota years '04/'05 – '14'15

Dairy processing plants

The Netherlands has currently 53 processing plants of which 21 belong to FrieslandCampina. In Poland the situation is very different and currently 165 dairy processing plants exist of which many as an independent company or small cooperative.

Table 11: Dairy processing plant in Poland and the Netherlands

	Poland	The Netherlands
Number of dairy processing plants	165 (2017)	53 (2016)

Table 12: Dairy processing plants and total turnover in Poland

Specification	2014	2015	2016	I half 2016	I half 2017	I half 2017/ I half 2016 (%)
Number of dairies	181	177	175	175	165	-5,7%
Turnover (million PLN)	30023	26915	27637	12950	16232	25,3%

(Source: USDA 2016)

The total number of dairy processing plants is decreasing in a slow rate, while the turnover has been increasing rapidly from 2016 to 2017. This indicates a very slow concentration of the processing sector.

Employment in processing

Poland currently has 165 dairy processing plants that employ more than 32.000 people. Since the amount of dairy processing plants is stable is the number of employees per plant growing slowly.

Table 13: Employment in Dairy Processing

Specification	2014	2015	2016	I half 2016	I half 2017	I half 2017/ I half 2016 (%)
Employment (x1000)	32,5	32,2	32,4	32,0	32,7	2,0%
Employment per one dairy	179	182	185	183	198	8,2%
Value of sales per one employee (x1000 PLN)	925	835	854	404	497	22,9%

(Source: USDA 2016)

Production cost

Production cost of milk

Wielkopolska and Podlaskie represent two voivodships suitable for dairy production, well developed processing capacity and located close to major cities and therefore consumers. The number of very efficient farms is limited in each region, but is in the Podlaskie region relatively higher compared to the most efficient farms in Wielkopolskie. There are relatively more farms that show very low-cost efficiency in Wielkopolskie. A risk exists, from an economical point of view, that such farms stop producing milk in the coming years or will be absorbed by larger farms. Dairy farms utilize more labor than farms with crop production and the continuing development of that the dairy sector could offer job opportunities. Enlargement of herds eventually will require hired labor. Already, between 2009 and 2010, the employment in agriculture increased by about 2,400 jobs (GUS, 2011), however this data did not indicate which percentage of these jobs were created in the dairy sector (Sobczyński, 2015).

Production Regions

Location of large-scale dairy farms in Poland

Podlaskie, in the north-east of Poland, is by far the largest voivodship by number of dairy cows in. Podlaskie is followed by Wielkopolskie, with approximately 35% less dairy cows. In table 14 are the number of dairy cows per voivodship mentioned.

Table 14: Number of dairy cows by voivodship in 2016

Province	Number of dairy cows
Total in Poland	2366923
<u>Dolnośląskie</u>	42345
<u>Kujawsko-pomorskie</u>	155934
<u>Lubelskie</u>	140936
<u>Lubuskie</u>	30631
<u>Łódzkie</u>	184231
<u>Małopolskie</u>	88849
<u>Mazowieckie</u>	491918
<u>Opolskie</u>	43511
<u>Podkarpackie</u>	51733
<u>Podlaskie</u>	433129
<u>Pomorskie</u>	71127
<u>Śląskie</u>	46159
<u>Świętokrzyskie</u>	57766
<u>Warmińsko-mazurskie</u>	203326
<u>Wielkopolskie</u>	284039
<u>Zachodniopomorskie</u>	41288

(Source: Central Statistical Office of Poland)

Both regions (Wielkopolskie and Podlaskie) gained importance following the market-driven transition in 1989 and accession to the EU in 2004. The elimination of the dairy quota system in the EU in 2015 offered new expansion opportunities. The analysis of trends in cow numbers, milk production, and yield per cow shows different patterns of expansion of the dairy sector in the 2 regions. In a comparison study of Sobczyński et al. (2015) was concluded that Wielkopolskie and Podlaskie dairy farms are able to compete with farms from the 4 largest milk-producing countries in the EU. Although both regions can improve yields per cow, especially Podlaskie. Both regions took advantage of the expansion opportunities offered by the 2015 termination of the milk quota system (Sobczyński, 2015).

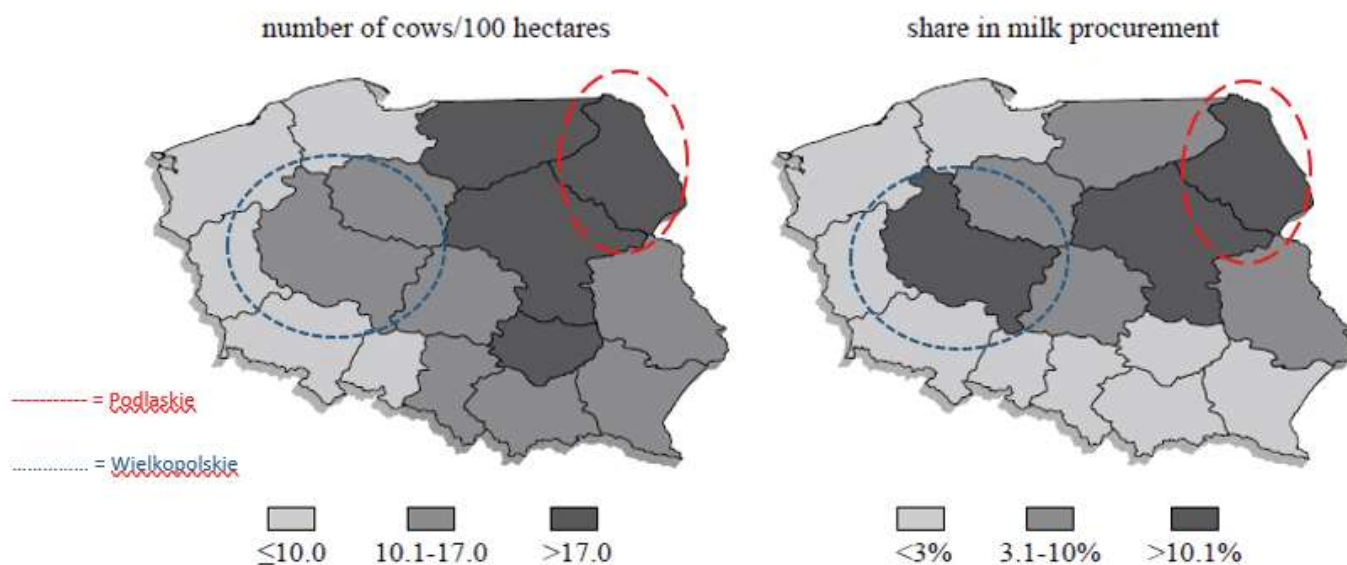


Figure 4: Dairy cow herd and share in milk procurement by regions in Poland, 2010 (Potori, 2014)

Companies in the Polish dairy Industry

List of Companies in the Polish Industry

Compared to the Netherlands has Poland a large amount of small cooperative and non-cooperative dairy companies. The biggest 20 companies in Poland have a larger turnover than approximately 25 mln. Euro. The turnover and relative ranking of smaller companies has not been identified.



	Dairy company	Website	Turnover (mln EUR.)	
1	Mlekovita Group	http://www.mlekovita.com.pl/pl/	910.55 (*2014) > 945 (*2017)	
2	Mlekpól SM	http://www.mlekpól.com.pl/	849.38 (*2014)	
3	Polmlek Group	http://www.polmlek.com/	574,79 (*2014)	
4	District Dairy Cooperative in Lowicz (OSM LOWICZ)	http://mleczarnia.lowicz.pl/en	398.84 (*2014)	
5	District Dairy Cooperative in Piatnica (OSM Piatnica)	http://piatnica.com.pl/	208.80 (*2014)	
6	Sierpc OSM	http://osm-sierpc.pl/en/home-page/	95.75(*2014)	
7	Danone Sp. z o.o.	https://www.danone.pl/		
8	Zott Polska Sp. z o.o.	https://www.zott-dairy.com/pl/		
9	Lacpol PHZ SM Sp. z o.o. / ZPM Mlecz Sp. z o.o.	http://www.lacpol.com.pl/	375.38(*2014)	
10	Polindus	http://www.polindus.com.pl/		

11	Lactalis Polska Sp. z o.o.	http://lactalis.pl/		
12	Spomlek SM	http://www.spomlek.pl/	151.26(*2014)	
13	Hochland Polska Sp. z o.o.	https://hochland.pl/#		
14	Koło OSM	http://www.osmkolo.pl/	109.15(*2014)	
15	Gostyni SM	http://smgostyn.pl/en/	90.58(*2014)	
16	Radomsko OSM (Not verified)	http://osmradosko.pl/		
17	Ryki SM (Not verified)	http://www.smryki.pl/en/home/		
18	Czarnków OSM (Not verified)	http://www.osmczarnkow.pl/		
19	Skierniewice OSM (Not verified)	http://www.osmskierniewice.pl/		
20	Wieluń SDM (Not verified)	http://www.sdmwiel.home.pl/		

(Poster Forum Mleczarskie 2016 & personal communication Jakub Wszeborowski, Polish Chamber of Milk)



Location of companies in the Polish Industry

Since the development of the dairy sector during communist control are the Polish dairy companies widely spread and many dairy processing plants exist. There is a large spatial differentiation of milk market development in Poland (Source: Borawski, 2016).

Trends and Advantages Polish Dairy

Poland's accession to the EU has had a positive impact on the development of its dairy sector. It provided access to a large market of consumers with a high purchasing power, which boosted the development of the Polish sector. Farms and dairy processors underwent a process of major restructuring. However, the economic structure is still very fragmented in comparison to the EU-15 Member States. Investments has enabled the required veterinary

standards and quality to be achieved and production to be adapted to changing demands. However, the efficient utilization of its potential is limited by the large number of small farms producing milk for their own use and direct sale.

The development of the Polish dairy sector is supported by a good situation on the global market. According to OECD and FAO (2011) the dairy market will be one of the fastest developing food markets in the period of 2011-2020. In the domestic market there are still opportunities to increase the consumption, which is still lower than in EU-15 Member States. Poland has good agro-climatic conditions for milk production and has price-cost competitive advantages. These conditions as well as the quota system in 2014/2015 create good opportunities for the domestic dairy industry. Continued concentration and modernization which will result in improved management efficiency is the prerequisite for a building sustainable competitive advantages on the international market.

SWOT analysis Dairy sector Poland

Strengths	Weaknesses
<ul style="list-style-type: none">• Low rural labor cost• Low feed cost• Increasing yield per cow• Geographical spread of production• Investment• Sufficient capacity of the processing sector	<ul style="list-style-type: none">• Small average herd size, many middle-sized and small farms• Competition for land in central and north-east Poland, leading to high prices• Many processing facilities, approximately 3 times more than NL for a similar amount of milk• Investments limited for small and middle-sized farms
Opportunities	Threats
<ul style="list-style-type: none">• Domestic market expected to grow, current dairy consumption below EU average• Rise in production• Potential for increase in farm size and efficiency• Further cow's productivity improvement	<ul style="list-style-type: none">• Limited cooperation and consolidation of processing industry• Large overproduction in EU-28 and large competition from NZ and USA on global market

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