Analytical overview of dairy industry in the Poltava region, Ukraine

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SUMMARY

The author presents essential characteristics of the state and place of Poltava region in it. The study aims at identification and description of latest trends in Ukraine's and Poltava's dairy industry. The author stresses an important place of the dairy industry in the agriculture of Ukraine, and particularly in the Poltava region. This article also presents the information of main indicators of dairy industry in Ukraine in the comparison with other countries of the World. It describe sources of forming the main agricultural products and directions of their use for the calendar year, data on per capita consumption of main dairy products in Ukraine and the Poltava Region and per capita average daily consumption of basic micro- and macro elements in foods. The study contains basic indicators which characterize the social and economic state of agriculture in Ukraine and its regions for 1990–2012. There are also the data of gross production and main kinds of dairy products per capita and as well as some indicators of livestock's productivity and so on.

The goal of the article is to describe the complex evaluation of the achieved level of milk production, consumption of milk and dairy products in Ukraine and the Poltava Region, to show the specifics of the national dairy cattle breeding, identifying the main challenges in it.

Keywords: Poltava region, dairy industry, number of cattle, dairy cattle farming, dairy products, milk

INTRODUCTION

Poltava Region is one of the leading and well-developed from the 25 Ukrainian regions, which is situated at the left bank of Dnepr in its middle flow and occupies the territory of 28.8 thousand square km (5% of Ukraine territory). The region extent from north to south is 213.5 km and from east to west – 245 km. Poltava Region borders on Chernihiv, Sumy, Kharkiv, Dnipropetrovsk, Kirovograd, Cherkassy and Kyiv regions. The region has advantageous geographical position, plane relief, temperate continental climate, considerable reserves of mineral resources.

Situated in Dnepr middle flow, modern Poltava Region (in economic structure) is the industrially-agricultural region famous for the output of iron-ore, gas and oil, producer of freight cars, railway cars, diamond instrument and other products of car building, with powerful agriculturally-industrial complex, advanced light, food and processing industries. In the gross production of industry and agriculture the share of industry is almost 60%. Infrastructure of region is characterised by the developed net of railways and motorways. There is an airport which is intended for the reception and maintenance of passenger and transport airplanes. The industry of Poltava Region is presented by more than 350 of big enterprises. The leading fields are fuel industry, ferrous metallurgy, car building, light and food industries, which provide more than 80% of industrial products manufacturing.

Plain relief, fertile black earth, favourable climate create necessary prerequisites for the development of the agriculture. Earth resources of region compose 2.8 mln hectares among which 1.62 mln are the agricultural areas. The leading fields of food industry are: dairy and meat, sugar, baking, confectionery, fruit and vegetable, food-canning, spirit and alcoholic beverage, brewing, oil-mill, production of non-alcoholic drinks.

As for the dairy industry, it takes an important place in the agriculture of Ukraine, as well as the Poltava Region, as it provides the population of vital food products, many of which are strategic in the export potential. According to United Nations Food and Agriculture Organization (FAO), global dairy market has one of the most upward growth potential the total food market. The key growth drivers are demands from Asian countries, Russia, Ukraine and Belarus. Ukraine belongs to the TOP 20 global producers of milk. According to results 2011, 11.1 mln tons of milk were produced in the country. The dairy industry of Ukraine totals over 450 enterprises, but recently only about 250 dairy plants/enterprises really process
large volumes of milk (over 6 mln tons). Moreover
Ukraine is a netexporter of dairy products, supplying
annually 1 million tons thereof in terms of milk. Naturally,
Ukrainian dairy producers are looking at world prices in
order to stay competitive on the global market.

As for Poltava Region in 2012 it ranks the second
one in milk production (6.2%) and in 2013 – the first
one. Poltava has one of the largest breeding bases in
Ukraine (42 companies engaged in dairy and meat
cattle and 3). The biggest number of cattle is concentrated
in Gadyachsky, Globynsky, Khorolsky, Shyshatskyi
counties of the Poltava Region. The dynamics of milk
production is characterised with positively increasing
during last five years that means positive developments
in this area. That’s why the Poltava region could be
competitive at the Ukrainian dairy market, as well as at
the European and World markets.

MATERIAL AND METHODS

The investigations on the effective development of
milk production, dairy industry in general and existing
organizational and economic relations were made by
many Ukrainian and foreign scientists and economists,
including: Andriychuk (2002), Butko (2010), Kobets
(2007), Malik (2002), M. Ryzhova (2008), Sabluk
However, according to the last years’ features and trends
in the dairy industry, some approaches proposed by these
authors require the deepening and adaptation to the
modern realities in the specific context of the improving
competitiveness in the domestic and the foreign dairy
markets.

Information database for compilation of food resources’
balances is data derived from state statistical observations
on activity of enterprises and organizations in the field
of agriculture, processing industry, trade as well as data
of sample surveys on households’ living conditions and
their agricultural activity, information of customs
statistics and other official sources which characterize
the forming of food resources and their usage. For our
research we tried to use the latest official statistic data
from State Statistic Service of Ukraine and Department
of Agricultural Statistics and Environment in the Poltava
Region for more up-to-date comparison with the World
and European databases. But in some cases the last
statistics that we could use due our research purposes is
two or three years old, because of the regional difference.

Consumption of dairy products in kilograms for a
year is calculated as the consumption fund of respective
products per capita for average annual population of
the Poltava Region. Consumption fund includes quantity
of products used on private consumption in any kinds
and consists from products of report year’s production,
imported, previous years’ production in the form of
stocks consumed.

This article contains information about the number of
cows, indicators of their productivity, animal production,
fodder expenditures and grouping of agricultural
enterprises by main indicators, which characterize
development of animal production. Livestock number
is calculated on the basis of annual enumeration as of
January 1. It includes respective livestock species of
all sex-age groups.

Milk production is the actual quantity of milk yield
from cows, sheep and goats irrespective of whether it
was sold or partly used for domestic needs for sucking
either by calves or by piglets. Milk sucked by calves
during the growing up period is not included in the
milk production.

Average annual milk yield per cow is based on the
number of cows at the beginning of the year, regardless
of the fact whether a cow gave milk during a reference
year. In agricultural enterprises milk yield per cow is
based on the total number of cows, excluding cows
kept for feeding, cows of meat herd as well as cows
used for sucking purpose and for feeding the group of
calves if these cows were not milked.

Milk production per capita is estimated by dividing
the production volume by the average annual number of
present population. Present population number in
Kyiv Region includes population in Kyiv, and present
population number in Autonomous Republic of Crimea
includes present population in Sevastopol city.

RESULTS

Ukraine belongs to the TOP 20 global producers of
milk (Table 1). Despite its position, the Ukrainian dairy
industry is suffering from a permanent deficit of raw
milk supplied for processing. In average, in 2007–2011
over half of the produced raw milk did not reach the
processors. One of the reasons behind this lasting trend is
that the structure of initial production of raw milk is
dominated by households (having a share of 80%).

It was important to make the comparison of milk
production in Ukraine with world’s top 10 countries-
milk producers and with some closest neighbor countries
from the Commonwealth of Independent States (CIS)
simultaneously (Table 1) due to similar climate and
environmental conditions, technological level of dairy
production and common dairy markets.

Ukrainian dairy export isn’t diversified enough. Most
dairy products get to near-abroad, especially to Russia.
Having some priorities our neighbor sometimes sets
limitations or blocks imports of Ukrainian dairy products.
Such steps influence negatively both dairy processors
and producers. As a result, there is a need to look for
new markets, where Ukrainian operators could distribute
their products.

Forecasts of Food and Agriculture Organization
(FAO) and some other analytical organizations affirms
that in 2015–2020 world milk production will raise to
65 million tones. India will provide half of this growth,
China – about 20%, milk production will rise up to 8
million tons in the USA and to 7 million tones in EU. Even
such ‘low’ growth troubles producers and processors in
Europe, while debates over coming changes on dairy
market continue.

Milk production in Ukraine is expected to grow
moderately in 2013 and 2014. The overall increase will be
close to one percent. The number of cows will continue to
decline while per cow yield will be growing in both
household sector and industrial farms. Efficiency increase
is especially evident among industrial enterprises, which
decreased the cow inventory by 1.3%, but managed to
increase total raw milk yield by 1.6%.
Cheese remains Ukraine’s major exportable dairy sector commodity with over 87 percent of all exports going to Russian Federation. Dependence of the cheese trade from trade regime in Russia is very significant. During 2012–2013 there were multiple trade disruptions for Ukrainian cheese producers as Russian controlling authorities stopped exports. The biggest problem appeared in February of 2012 when Rospotrebnadzor banned imports from six major Ukrainian producers: Pyriatynsky Cheese plant, Ahtyrka Cheese Plant, Dubnomoloko, Prometei, gadiachsyr and Lozovsky Daory Plant. The allegations were disconfirmed in April with limited cheese supplies renewed in May. Full scale exports continued to be restrained till August of 2012 with additional control imposed till April of 2013. According to Russian authorities additional 1.260 samples were taken during 2012 and early 2013.

The list of approved facilities was changing rapidly throughout last year. In August 2013 Rosselkhoznadzor discovered antibiotics in cheese produced by two Ukrainian plants: Prometey and Mensky Syr. This triggered additional import controls of each cheese batch produced at these two plants. In October 2013, Molis Company returned to the list of approved suppliers. Currently the list includes 17 Ukrainian producers approved for export to Russia and changes are possible at any moment.

As for Poltava Region, this year it received a first place in the country in milk production (Figure 1). In 2012 in the livestock industry of the Poltava Region only milk production was profitable (the profitability was 28.7%).

![Figure 1: Number of cattle (thousands of heads) and milk yields (thousands of tons) by regions of Ukraine (2012)](image)

Source: State Statistic Service of Ukraine

### Table 1.

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<td>24.5</td>
<td>17.3</td>
<td>12.7</td>
<td>13.7</td>
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<td>11.2</td>
<td>11.1</td>
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<td>539.1</td>
<td>579.1</td>
<td>629.1</td>
<td>702.2</td>
<td>720.9</td>
<td>727.1</td>
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<td>8.8</td>
<td>10.1</td>
<td>9.9</td>
<td>10.4</td>
<td>10.5</td>
<td>10.5</td>
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<td>...</td>
<td>5.1</td>
<td>4.5</td>
<td>5.7</td>
<td>6.6</td>
<td>6.6</td>
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<td>17.1</td>
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<td>25.5</td>
<td>30.2</td>
<td>31.8</td>
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<tr>
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<td>15.3</td>
<td>14.8</td>
<td>14.5</td>
<td>14.6</td>
<td>13.2</td>
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<td>14.2</td>
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<td>12.0</td>
<td>12.3</td>
<td>13.3</td>
<td>11.6</td>
<td>11.3</td>
<td>11.3</td>
<td>11.1</td>
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<tr>
<td>Kazakhstan</td>
<td>...</td>
<td>4.6</td>
<td>3.7</td>
<td>4.7</td>
<td>5.3</td>
<td>5.4</td>
<td>5.2</td>
</tr>
<tr>
<td>China</td>
<td>7.0</td>
<td>9.5</td>
<td>12.4</td>
<td>28.7</td>
<td>40.4</td>
<td>41.2</td>
<td>41.8</td>
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<td>Netherlands</td>
<td>11.2</td>
<td>11.3</td>
<td>11.2</td>
<td>10.5</td>
<td>11.5</td>
<td>11.6</td>
<td>11.8</td>
</tr>
<tr>
<td>Germany</td>
<td>31.3</td>
<td>28.6</td>
<td>28.4</td>
<td>27.6</td>
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<td>12.5</td>
<td>12.3</td>
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<td>39.3</td>
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<td>30.9</td>
<td>32.6</td>
<td>32.1</td>
<td>31.6</td>
</tr>
<tr>
<td>USA</td>
<td>67.0</td>
<td>70.4</td>
<td>76.0</td>
<td>80.3</td>
<td>85.9</td>
<td>87.5</td>
<td>89.0</td>
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<tr>
<td>France</td>
<td>26.8</td>
<td>26.1</td>
<td>25.7</td>
<td>26.1</td>
<td>23.5</td>
<td>24.2</td>
<td>25.3</td>
</tr>
<tr>
<td>Share of Ukraine in World total (%)</td>
<td>4.5</td>
<td>3.2</td>
<td>2.2</td>
<td>2.2</td>
<td>1.7</td>
<td>1.6</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Note: ... – data is absent, Source: State Statistic Service of Ukraine
In 2011, the output of livestock products compared to 2010 increased by 3.8%, including agricultural enterprises – 3.5% of households – 4.0%. In 2011, farms of all categories produced 725.4 thousand tons (3.4% more) of milk that shows us the increased milk production by 4.1%. Households in 2011 produced 56.6 % (56.9 %) of total milk (Figure 2).

Figure 2: Milk Production by regions in 2012

In 2011, the consumption of milk and dairy products in the Poltava Region was 329.8 thousand tons (100.5%). The statistics shows that this consumption on average per person was higher than the average for Ukraine – 17.6 kg (8.6%).

Regarding the performance of livestock in 2011 compared with 2010 agricultural enterprises increased the average annual milk yield per cow by 3.3% (was 4787 kg).

Compared to January 1, 2011 farms increased cattle population by 3.3%. Following the grouping farms by the number of livestock as at 1 January 2012 37.5% of enterprises had 299 head of cattle, 15.5% – from 300 to 499 heads, 20.2% – from 500 to 999 heads 17.4% – from 1000 to 1999 heads, 9.4% – more than 1999 goals, including a herd of cows to 199 the number of heads held 45.8% of the enterprises from 200 to 399 heads – 24.1%, from 400 to 999 heads – 23.2%, more than 999 heads – only 6.9% of enterprises.

Poltava Region has one of the largest breeding bases in Ukraine. 42 companies engaged in dairy cattle breeding in the region. Number of cattle in all categories of the most concentrated in Gadyachsky, Hlobynsky, Khorolsky Shishatskiy counties of the Poltava region. But now the number of livestock in the Poltava region drastically reduced (Table 2). Thus, the number of cattle in all categories decreased during 1980–2012 in more than five times.

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of cattle (thousands of heads)</th>
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<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>1980</td>
<td>25367.6</td>
</tr>
<tr>
<td>1985</td>
<td>26038.0</td>
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<tr>
<td>1990</td>
<td>24623.4</td>
</tr>
<tr>
<td>1995</td>
<td>17557.3</td>
</tr>
<tr>
<td>2000</td>
<td>9423.7</td>
</tr>
<tr>
<td>2005</td>
<td>6514.1</td>
</tr>
<tr>
<td>2006</td>
<td>6175.4</td>
</tr>
<tr>
<td>2007</td>
<td>5490.9</td>
</tr>
<tr>
<td>2008</td>
<td>5079.0</td>
</tr>
<tr>
<td>2009</td>
<td>4826.7</td>
</tr>
<tr>
<td>2010</td>
<td>4494.4</td>
</tr>
<tr>
<td>2011</td>
<td>4425.8</td>
</tr>
<tr>
<td>2012</td>
<td>4645.9</td>
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</tbody>
</table>

Source: Department of Agricultural Statistics and Environment in the Poltava Region

Despite the constant reproach to the quality of raw milk produced in households the state urgently needs to reform the dairy industry – for such long time small farms are a major producer of milk in Ukraine. In 2012 more than 80% of the milk was produced by this category. However, there are some differences within Ukraine.
Thus, in the central and northeastern regions such as Poltava, Cherkasy, Kyiv, Chernihiv, Sumy, and some Eastern regions, their share is below the average for Ukraine – not more than 70% in the structure of milk production. While the Western and South-Western regions are characterized by a significant proportion of households and sometimes it reaches 98%. Thanks households for at least the last 15 years regions were satisfied domestic demand of milk and dairy products.

Part of the increase in animal number in the households can be attributed to state support programs initiated in 2012 that targeted households. The program covers registered young bovine animals (registration sometimes is not the case in the households) that were born in households and not slaughtered. For 3–5 month old it is UAH 250 ($31.25) per head, for 6–8 months old cattle, UAH 500 ($62.50) were allocated, and for 9–11 month olds, the amount is UAH 750 ($93.75). In the future the state budget support program will be targeting longevity of young animals. The sum would be equal to UAH 250 ($31.25) per head every three months until the animal reaches 11 months of age. Although the support sum is relatively small, money distribution is often delayed and access to it is not straightforward the program may have had a limited impact.

Insignificant industrial milk production in the Poltava Region leaves dairy processors no choice but to procure milk from households. Many processors enter into cooperation agreements with individual suppliers or with village communities in an attempt to increase production of milk by rural households. Thanks to UAH 250 ($31.25) the state support program will be targeting longevity of young animals. The sum would be equal to UAH 250 ($31.25) per head every three months until the animal reaches 11 months of age. Although the support sum is relatively small, money distribution is often delayed and access to it is not straightforward the program may have had a limited impact.

Insignificant industrial milk production in the Poltava Region leaves dairy processors no choice but to procure milk from households. Many processors enter into cooperation agreements with individual suppliers or with village communities in an attempt to increase quality and decrease seasonality. Processors often offer milk tanks. Many run educational programs on sanitary members of cooperatives who receive animals undertake to give them to the next family.

This milk allows for production of high-margin whole dairy products and cheese.

For example cooperative “Molochnyk-Sushky” in the Kozelschhyny County, that delivers 500 kg of milk daily, gradually increasing the productivity of milk collection to 2 tons per day. Milk is supplied to Kremenchuk dairy plant, which after the integration of Danone and Unimilk became part of the merged Danone-Unimilk company. At present, eight families, the owners of private farms, have already become the members of the cooperative. Total investment in the ASK “Molochnyk-Sushky” is UAH 170000. The program of the establishment of the establishment of dairy cooperatives, funded by Danone Ecosystem Fund, was launched in Ukraine in February 2010 and is supported by the International Charitable Foundation “Community Wellbeing”. New equipment was installed in all cooperatives; particularly this is large-size cooling baths for milk and analyzers, allowing to provide the necessary temperature and hygienic conditions of milk storage. The main objective of the project is to improve the quality and increase the production of milk by rural population.

The project will develop multi-functional agricultural service cooperatives and in such a way provide the means and opportunities to improve the quality of lives of at least 20 rural communities in Kherson, Zaporizhzhia, Kirovograd, Dnipropetrovsk, Poltava regions and AR of Crimea. One of the main benefits of membership in the cooperative is the members’ ability to receive pedigree dairy cows (heifers) for free, and also new ways of selling products at prices favourable for the villagers. Those members of cooperatives who receive animals undertake to adhere to the principle of Gift Giving: raise heifers and give them to the next family.

REFERENCES
