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THE IMPACT OF CLIMATIC CHANGES ON THE FOOD ORIENTATION OF POLISSYA'S AGRICULTURAL ENTERPRISES

The article examines The impact of global climate changes on Ukraine's agriculture and the product orientation of agricultural enterprises in the Polissya area. The consequences of the absence of state's single policy of development of the agriculture, which would be oriented to achievements of the world economy, are shown.

Keywords: global climate changes, Ukraine's agricultural enterprises, product orientation.

Climate change is causing serious problems in the development of agriculture in the world. This is particularly true for countries in which the place and role of agriculture in the economy is crucial. Ukraine belongs to them.

A characteristic feature of the climate change in the last decade is warming, which manifests itself in increasing the mean annual air temperature at 2-3 ° C *. In addition to raising the average temperature on agriculture influenced by other factors - drought, floods, temperature, significantly reducing the volume of production of crops and livestock. In some developing countries, agriculture is suffering because of the increasing level of salinity of surface water and soil aquifer due to rising sea levels. Reduced rainfall may reduce the availability of water for irrigation and livestock production, especially in arid zones.

For the Ukrainian soil this is a very dangerous situation. The drought problem is their degradation may become signs of ecological disaster [1]. It is also a consequence of global warming on agriculture is to reduce the volume of agricultural production due to lower crop yields and livestock productivity. With the advancement of global warming trends the situation in the agricultural sector will only get worse. According to scientific forecasts, the increase in average temperature at 1-3 ° C in the near future will have the greatest impact on the production of crops.

Thus, analysis of the impact of climate change on product orientation of agricultural enterprises relevant today, especially in the region, where recently there was the greatest changes in the production structure of enterprises.

Climate change, its negative consequences and ways of adapting investigate many researchers such T. Adamenko, N. Kirnasovska, N. Stern, L. Bernstein, P. Borsch, R. Krist, U. Hare, F. Tornton, M. Herrero, A. Challinor, J. Hansen, J. Jarvis, J. Nelson, P. Tornton, E. Wolenberg, J. Campbal and other. But in the domestic economic science, this problem is not well understood. For this reason, we try to analyze the modern product orientation of agricultural enterprises Polissya area, its trends and the impact of global climate change on the state of the market.

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* Working Group III Report: Mitigation of Climate Change / IPCC Fourth Assessment Report. – Ch. 8 : <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-spm.pdf>;
<http://www.ipcc.ch/ipccreports/ar4-wg3.htm>.

Agriculture has a special meaning in the global economy. He is one of the major economic complexes that determine the conditions of the support of society. Its significance lies not only in providing human needs for food, but also a substantial impact on employment and the efficiency of the national production [2; 3; 4].

The product orientation (trade portfolio) agricultural enterprise is defined as a set of material goods for the production and sale of which the company has the possibility, within the existing organizational and economic, technological, market and environmental conditions. A feature of the agricultural product portfolio of the company is the formation of product offerings within the individual business units, determined taking into account sectoral differences in agricultural production. In practice, the product portfolio is influenced by the need to respect the objective of agricultural technologies of production that determines the presence in the portfolio headings of different levels of profitability which are not uniform in their commercial prospects in target markets [5].

The product orientation of the enterprises in Polissya area due to the characteristics of the climatic zone. Polissya's agriculture was formed within the Ukrainian Polessya, it covers 19% of the territory of the state. It consists of the northern part of Volyn, Rivne, Zhytomyr, Kyiv and Chernihiv regions and the relatively small territory of Lviv (Small Polissya) and Sumy. Specialization Polissya's agriculture complex define dairy, meat, and potatoes, specialisation. Additional importance of grain products, fruits and vegetables complexes hop production, poultry and sheep, which produces significant amounts of beet, commodity grain, poultry meat, eggs, vegetables, mutton and wool *.

The base for the development of agribusiness in Polissya always been diversified agricultural production. The structure of commercial agricultural production share is 65% of livestock and crop production - 35%. In the structure of sown areas dominated by cereal crops, a small part of the area falls on flax, land under potatoes and some forage crops.

The leading branch of the Volga AIC specialization is dairy cattle beef. Its development is due to the presence of natural meadows and pastures, forest grazing, large areas of perennial grasses. Cattle meat and greasy specialization - the second most important branch of animal husbandry. It is most common in areas of the development of agriculture and potato.

The livestock industry has always been the raw material for the development of powerful meat and dairy industries. The largest meat processing plants are located in Kiev, Lviv, Zhytomyr, Rivne, Lutsk and other cities. A large part of the milk is processed in the dairies in Kiev and Lviv. Work creameries and dairies factories Kovel (Volyn region) and Kozeltse (Chernihiv region.); Ovruch (Zhytomyr region), and Bakhmach (Chernihiv region.) - Plant for the production of canned milk (condensed milk and cocoa, condensed cream, milk powder, etc.).

* Key economic indicators of agricultural production in agricultural enterprises in 2010: stat. Bul. – K., 2011. – C. 239

Table 1 shows the product structure of agricultural production of Polissya in 1990

Table 1

Product structure of agricultural production of Polissya in 1990 *

(%)

Crop name	Product structure
Grains (excluding maize).....	20,2
Maize.....	0,8
Sunflower.....	0,0
Soybean.....	0,0
Rape.....	0,3
Sugar beet.....	6,0
Potatoes.....	12,6
Vegetables.....	6,8
Fruits.....	3,7
Meat cattle.....	17,2
Pork meat.....	7,4
Milk.....	22,3
Eggs.....	2,6

* «Agriculture Ukraine "in 2012: the collection of stat. - K.: State Statistics Committee of Ukraine, 2013. – C. 239–300.

The table shows that the largest portion in the total output of all agricultural enterprises Polissya area in 1990 engaged in the production of milk (22%), cereals and legumes, other than maize (20%), beef (over 17%). Thus, we can conclude that 40% of the total production is dairy and beef cattle, another 20% were grains (wheat, rye, barley). Note that in this table specifically allocated crops such as maize, sunflower, soybean, canola, as clearly as possible to trace the enormous difference in the production of these crops in the early independence of Ukraine and 20 years. At the same time there is no data for the production of flax: although he served in the 1990s, large areas, by 1995 they were reduced to a minimum figure.

In 1990, the proportion of maize, sunflower, soybean and rapeseed production structure of enterprises Polissya was a little more than 1%. Yet nearly 13% was for the production of potato, 7% - sugar beet, pork and vegetables. After analyzing the structure of a typical production of the agricultural enterprises in Polissya early 1990s, proceed to the analysis of changes that have occurred in 22 years (Table. 2).

Table 2

Product structure of agricultural production of Polissya in 2012*

(%)

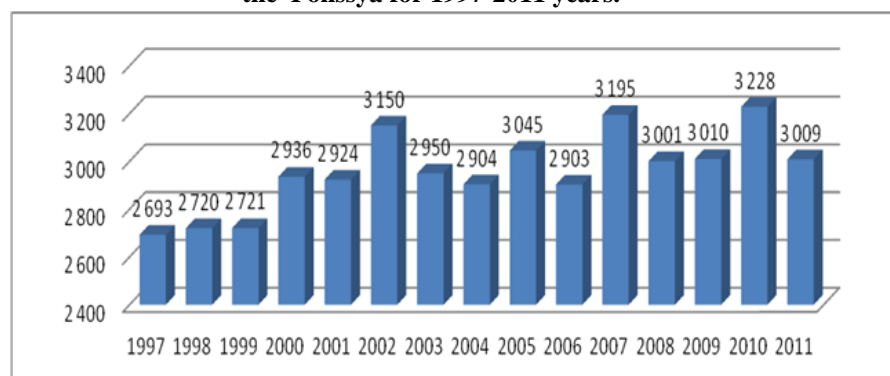
Crop name	Product structure
Grains (excluding maize).....	15,1
Maize.....	21,2
Sunflower.....	4,6
Soybean.....	3,8
Rape.....	3,0
Vegetables.....	12,4
Fruits.....	1,8
Meat cattle.....	2,7
Pork meat.....	3,4
Milk.....	10,4
Eggs.....	1,4

As can be seen from Table 2, as of 2012, the production structure of agricultural enterprises in Polissya area have been major changes compared to 1990, the share of cereals and legumes (excluding maize) in the production structure decreased by 5% - 20% in 1990 to 15% in 2012.; the proportion of milk - 2 times (from 20% to 10%), beef - nearly six times, while corn production increased to 21.2%, sunflower - nearly 5% and rapeseed - to more than 3%. Because of these changes in the orientation of agricultural grocery companies dairy cattle breeding with the development of grain into a grain with a significant share of maize. The main reasons for these changes lie in the rapid dominance of agricultural holdings, that in the pursuit of high profits concentrate its production in cultures with the greatest profitability. Using different kinds of adapted high-yielding seeds, modern technology of farming, they are motivated by such changes.

But, in our opinion, no matter how effective the work of formation, whatever the variety of seed is used, one of the main causes of changes in orientation of the product are the climatic conditions. Consider the phase of vegetation corn and the need for active solar temperatures necessary to achieve them: seedlings - 120 ° C, the first sheet - 180 ° C, the third sheet - 306 ° C, the fifth list - 378 ° C, the ejection of panicles - 1067 ° C, flowering - 1445 ° C, the milk-wax ripe - 2645 ° C, full ripeness - 2945 ° C [3]. Thus, for the full maturity of maize needed to culture "consumed" about 3,000 active temperatures, that is, the sum of all daily mean temperature should be above 5 ° C. As can be seen, in a western part of the forest-steppe zone of Polesie and calendar dates maize account for the period from 1 to 15 May, and the collection - the second decade of October. Let us analyze climate data in the area of Polissya, determine the amount of active temperatures during the period from May to October inclusive.

As the search for detailed data on the average daily air temperature of the zone in areas of Polesie period beginning 1990s proved a difficult task, it will focus on the period is not 22, and 15 years (1997-2012 gg.), Which, in our opinion, all -taksi enough for analysis. So, if we analyze the data on the average annual air temperature and precipitation in Polesye in the past 15 years, we can conclude that there is a clear trend towards change (Fig.).

The dynamics of the sum of active temperatures during the period from May to October in the Polissya for 1997-2011 years.



According to the climate of the Internet resource, in 1997, from early May to late October corn could "absorb" almost 2700 ° C active temperatures, which would be insufficient to reach full maturation, must also be taken into account and the amount of precipitation, which are in abundance in the Polissya thermophilic for drought-resistant crops.

Gradually, each year the amount of active temperatures changes only in the early 2000s, close to the correct figure. For example, in 2000 the amount of active temperatures for May

- October, reached the figure of 2936 ° C, almost as much as the need for maize - 2946 ° C, it is possible to assume that the corn "absorbed" enough temperature to full maturity the beginning of the cold year period. For we analyzed the figure of 12 years (since 2000), the sum of active temperatures during the growing season of maize was below the required only four times, and since 2007 does not fall below 3000 ° C.

The period of significant increase in the amount of active temperatures, which coincides with the period of rapid development of agricultural holdings in the territory of Ukraine as a whole and in Polissya particular, contributed to the fact that corn is gradually transformed into the main culture farms. Today there are companies that have a land bank of about 100 thousand hectares. The main focus of their number in Rivne, Zhytomyr and Chernihiv regions (Polissya area) and its main rotation, they have only two crops: corn and soybeans.

However, as scientists predict and confirm themselves as agricultural producers, it is just the beginning. Sown area under industrial crops will grow in a few years will significantly change the orientation of the agricultural product enterprises Polesie and Ukraine as a whole. The only deterrent sharp dominance of commercial crops in Polissya are private farms, whose share in total agricultural production is still significant.

Conclusions

Climate change is causing serious problems in the development of agriculture in the world. As for Ukraine, it is climate change will also bring a lot of problems. Changes in solar activity, combined with the dominance of large-scale agricultural holdings leads to rapid changes in the industrial structure of agricultural enterprises, and agriculture. Today we see the consequences of the lack of a unified state policy of agricultural development, which would be focused on the advanced world economies (USA, Canada, Europe), and consider the possibility of climate change.

Only a comprehensive and profound researching this problem, the Ukrainian agricultural enterprises can reduce the negative impact. Only the joint efforts of experts, governments, research centers, you can neutralize the problem.

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