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ORIGINAL ARTICLE

Organizational and technical aspects of introduction of innovations of organic agriculture and rational land use of the agrarian enterprises

L.O. Boginska[1], A.V. Tolbatov[1], O.B. Viunenko[1], S.V. Tolbatov[2], V.A. Tolbatov[3], A.O. Butenko[1*], G.A. Davydenko[1], L.V. Kriuchko[1]

[1]Sumy National Agrarian University, H. Kondratiev Str., 160, Sumy, Ukraine.
[2]Netcrackertechnology, Kingsway Str., 3777, Burnaby, Canada.
[3]Sumy State University, Rymskogo-Korsakova Str., 2, Sumy, Ukraine.
E-mail: andb201727@ukr.net
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The paper has discovered the factors affecting the innovative development of the agro-industry. It has also investigated the demand for new agro-industrial facilities with introduction of advanced technologies. The successful organization of the production process requires enough resources, which means that enterprise resource potential must respond to the needs of innovative production. The production results directly depend on the advanced production facilities (real estate items of the agro-industy), the technical and organizational characteristics of the manufacturing process and workflow, and industrial management. It has been also established that a prerequisite for economic success of enterprises is the development of innovation strategy, based on product innovative nature, more efficient production process, achievement of economic benefit and social results.

Hence, it should be noted that soil fertility of the agricultural land is an important object of state protection. The biggest natural wealth of Ukraine is black soil (chernozemic soil). It occupies almost 50% of the world's black soil reserves. Plowed land in Ukraine makes up about 85% of the area of steppes (campo ucn.) and forest-steppes. The cultivated area occupies 33.5 million ha. 60% of black soil has already been damaged, 100 thousand hectares of fertile soils are lost every year. There fore, preserving our national wealth - land resources, is possible only through introducing organic farming and rational land use, taking into account its capabilities.

In the conditions of the agricultural company CJSC "Nadiya" of Lebedinsky district of the Sumy region, the proposed investment project aimed at conducting measures to improve soil fertility and the introduction of organic farming is implemented.

The end result is an ideal model of the production process focused on achieving the main goal of the enterprise. In terms of the enterprise innovation activity, the strategy and aspects for its development are determined, considering changing market conditions, the ways of investing are justified that reduces business risks of production.

Keywords: Agro-industrial sector; innovative activity; building of of agro-industrial facilities; humus; organic fertilizers; soil fertility

Introduction

The innovative nature of production should be supported by attracting a healthy level of investment. Agro-industrial sector is one of the leading sectors in the economy of Ukraine in terms of capital investments. On the one hand, relative stagnation, stability of the domestic economy, on the other, pent-up demand for investments in the tough time in 2014-2015. These factors influenced a dynamic improvement in attracting investment in the sector in recent years.

For example, according to the Office for National Statistics, the amount of capital investments in agriculture increased by almost 28% - 634 billion UAH in 2017, compared to 2016.

Positive trend continued in the previous year. According to official statistics, in the period from January to June 2018, agro-industry acquired 264 billion UAH that is 9% more than in the same period of the previous year. Only the innovative development of the agricultural sector can influence further investment flows to Ukraine (Official site of the State Statistics Service of Ukraine, 2018.

Such Ukrainian economists as Borisoglebsky L.N., Vinichenko I.I., Geyts V.M., Gerasimenko Y.V., Grischenko O.Y., Datsyi A.I., Emelyanov S., Zubarev A.S., Zubets M.V., Kozlovsky S.V., Mazur A.G., Matrosova V.A., Mesel-Veselyak V.Y., Prisyazhnyuk M.V.,

Sabluk P.T., Fedorov M.M., Shumsky A.V. and others have already reviewed the problems of increasing the efficiency of innovative development of the village and production in agricultural enterprises during strategic and tactical uncertainty.
In addition, the development of organic farming, the process of reviving the fertility of agricultural lands, may solve many problems associated with the renewal of the Ukrainian village.
We have studied the foreign experience regarding the influence of various organic fertilizers (general organic fertilizer, refined organic fertilizer) on the soil organic matter by considering experiments, which were reflected in the works of Dean X. Y., Yuan Y., Liang L. Li, H. Khan (Dean, 2014) - (the effect of long-term use of manure, crop residues and mineral fertilizers on organic carbon and crop yields ..); Hassink J., Whitmore A.P. and Kubat J. (Hassink, 1997) - (... the physical ability of soils to protect organic matter).
Researchers such as Miyazawa M., Takahashi T., Sato T., Kanno H. and Nanze M. (Miyazawa, 2013) while studying soil fertility have identified the factors controlling the accumulation and decomposition of organic carbon in the humus andisols.
We could not but mention the works of Tripolskaya L., Romanovskaya D., Razukas A. and Sidlauskas G. (Tripolskaya, 2014), where the authors investigate the influence of chemical composition of green manure crops on the formation of humus in sod-podzolic soils.
The works of foreign scientists Hafez A. R., (Hafez, 1974), Gong W. (Gong, 2009) should be also mentioned, as they compared changes in the physical properties of the soil, caused by addition of manure from various domestic animals, and determined the long-term effect of manure on the soil when applying seeding system wheat - corn. The results showed that organic fertilizers can significantly increase the organic content of the soil and improve its quality (Srednicka-Tober, 2016).
The works of domestic and foreign scientists show a great interest in this subject and are the basis for further investigation.
Using Agrovit-Kor fertilizer that we offer for Ukrainian soilsis the latest development which aims to increase the soil fertility and introduce science-based farming. There is no data found about using complex organic fertilizer (COF) in the fields of Eurasia, however, it is obvious that this issue is under investigated and requires additional studies and further research.
The purpose of the article is to investigate the implementation of innovations, scientific and technological development progress in the agro-industrial sector of Ukraine, considering the international practices.

Material and methods of research

The analysis of the most substantial projects related to building of agro-industrial facilities shows that a large amount of investment is still being directed into areas that are more actively developing: port infrastructure, grain storage facilities, oilseed processing, poultry farming, seed production, etc. The interest of investors in building grain elevators and developing port infrastructure is, surely, connected with the development of production and export of agricultural crops. While remaining a leading player in the world market of sunflower oil, Ukraine continues to create and develop the facilities for processing oilseeds (Butenko, 2019; Prysiazhniuk, 2011).
Construction of enterprises for growing and processing poultry is aligned with an increased demand for chicken in both domestic and foreign markets. Due to lower cost, compared to other types of meat, the share of poultry in the structure of meat consumption in Ukraine is gradually growing and today is 49%, while the share of pork is 40% and beef - 11%. In addition, domestic companies continue to increase exports of poultry meat. In particular, in January-September 2018, Ukraine shipped 215 thousand tons of poultry meat abroad, which is 11.9% more than in the same period of the previous year.
Thus, although there are still risks connected with the lack of land market and changes in the legislative system, one can speak of a steadily growing interest of foreign companies in investing in agricultural enterprises (Ponisio, 2014; Vinichenko, 2012).
Considering the fact that the Saudi investment fund SALIC has recentlypurchased the agricultural holding Mriya and the President of Ukraine stated that our country is ready to create all the necessary conditions to attract investors, experts and market participants still believe that these events will not be a crucial drive or a strong positive signal for attracting investment in domestic agricultural sector.
Although, the sector still requires funds. In particular, according to FAO and EBRD, Ukraine needs 4.2–5.2 billion dollars for building modern high-tech granaries (Datsij, 2004).
The priority areas of innovative development of agricultural enterprises are:
- technological reorganization;
- introducing energy and resource-saving production technologies, the newest processes of storage and processing of agricultural products;
- increasing soil fertility, prevention of all forms of its degradation, using modern technologies of agroecosystems and agrolandscapes;
- producing more organic agricultural products. The northeastern part of the Left-Bank Ukraine, where Sumy region is located, has a unique opportunity to concentrate the production of environmentally friendly products, develop organic farming technologies;
- creation of advanced information and infrastructure systems to support innovation in the agro-cultural sector;
- implementating state innovation policy and, accordingly, at the state and regional levels, the strategy aimed at developing progressive techno-economic paradigm;
- forming innovation-based organizational-economic mechanism for agro-industrial complex;
- raising responsibility of state authority in enhancing the innovation activities of enterprises;
- creating regional programs for innovative development of agro-industrial complex;

- promoting scientifically-based system of personnel training in the field of innovation, which will ensure the burst of innovation activity of enterprises and commercial realization of research results.

Results and discussion

It should be noted that the unpredictability and uniqueness of agricultural production create the high risk of innovative processes in the agricultural sector. The risk of financing research and production development, the risk of difference between costs and results, the uncertainty of demand for innovative products lead to caution of private investors when investing their capital in the development of agriculture. Analyzing the introduction of investments in the innovative agriculture facilities, it should be pointed out that, conditions for expanded reproduction of enterprises processing agricultural products are provided in order to activate innovative processes (Honcharenko, 2016).

The companies from the Sumy Region were selected based on published data of financial organizations, government and companies themselves. All they should have already implemented projects, funded and launched in 2015-2018 (Table 1).

Table 1. Completed investment projects for agriculture facilities of Ukraine for 2015-2018.

Object name	Production specialization	Location	Starting year	Investments
1. Mironivsky Hliboproduct (MHP)	The second line of production of Vinnytsia Poultry Farm. By the time the second line was launched, production at the Vinnytsia Poultry Farm was about 280 thousand tons of chicken per year. By 2020 the company plans to increase production to 560 thousand tons.	Vinnytsia	July 2018	$300 million
2. Allseeds, Oil Extraction Plant	The construction of the new oilseed extraction plant "Allseeds Black Sea" of Allseeds Group continued for 18 months. The production facility occupies 28 hectares. Its capacity allows processing 2,4 thousand tons of sunflower seeds or 1,8 thousand tons of oil seed rape or 1,5 thousand tons of soybeans per day.	Odessa Region	July 2015	$200 million
3. Bayer, Seed Plant	The plant has become the largest enterprise of such a type in Ukraine and one of the largest in Europe. The capacity of the plant is about 750 thousand units of corn seed annually. It covers about 30% of all corn crops in the country. The Bayer plant was built with an ability to expand plant capacity in the future. First of all, the plant will cover the needs of the domestic market, and in the future it will export seeds to Western Europe.	Zhytomyr Region	September 2018	$200 million
4. Nibulon Transshipping terminals for grains and oilseeds: branch Khortytsia (Zaporizhzhya Region); branch Hola Prystan (Kher-son Region)	Both transshipment terminals have the same technical characteristics: the volume of one-time storage of agricultural products is 77 thousand tons, the daily capacity of dryers is 4 thousand tons, the daily capacity for shipping to water transport is 12 thousand tons, the total capacity of the complex for shipping is 300 thousand tons annually. Agricultural products to these enterprises are delivered mainly by farmers in the Kherson, Dnipropetrovsk, Zaporizhia, Kharkiv, Kirovograd, Donetsk regions. New terminals have reduced product delivery by 3-4 times.	Zaporizhzhya Region Kherson Region	June 2017	$200 million
5. Bunge Oil-processing plant in Nikolaev port	The oil-processing plant can process 790 thousand tons of oil seeds (2,4 thousand tons of sunflower seeds and 1,7 thousand tons of soybeans per day) annually. The transfer capacities of the enterprise increased by 1 million tons of grain, ground oil-cake and oil annually.	Nikolaev	June 2016	$180 million
6. MV Cargo, grain terminal	In 2018, a terminal with a capacity of 5 million tons of grain per year received the first cars with grain. The total storage capacity is 290 thousand tons.	Port of Yuzhny	Autumn 2018	$150 million

7. COFCO Agri Ukraine, grain terminal	The new terminal has become one of the largest Chinese investments in the development of Ukrainian logistics potential. It is equipped with two granaries, consisting of 16 silos, which can store 120 thousand tons, and 4 silos with a capacity of one-time storage of more than 1.5 thousand tons of grain, respectively. Complex has an auto and railway lines that allow accepting up to 10 thousand tons of products per day. Roads and platforms for transport in the port were build taking into account the needs of the new complex.	Port of Mykolaiv	April 2016	$75 million
8. Risoil S.A., grain terminal	The first stage of the grain terminal Risoil S.A has a 30 thousand tons one-time storage capacity. The complex has transport galleries, silo-type tanks, engineering and transport infrastructure, a station for loading out vehicles and a cross functional warehouse No. 2 for floor cargo storage. The capacity of the enterprise is 700 thousand tons of grain per year. The silo building consists of 13 silos with a total capacity of 85 thousand tons of one-time grain storage.	Port of Chornomorsk	March 2016	$70 million
9. Astarta-Kiev, Three grain hoppers	3 grain hoppers: Yareskovsky (100 thousand tons of one-time storage), Lutovinovsky (100 thousand tons) and Skorokhodovsky (30 thousand tons). The enterprises capacities allow meeting the needs of both agricultural holding companies and local partners. Lutovinovskaya and Yareskovsky grain hoppers have 2 lines of grain acceptance, each with a capacity of 150 tons/hour. All enterprises are equipped with an automated control system and have the infrastructure for shipping grain to the rail and road transport.	Poltava Region	July 2018	$36 million
10. Agro-fusion, the 3rd plant of tomato Eastern processing company "East"	The plant capacity is 4 thousand tons of fresh tomatoes per day. The project was credited by the EBRD and the EIB. The company is supplied with equipment from Italy, Germany, USA and produces tomato paste CB, HB, WB. Energy-saving technologies are used to produce concentrated tomato products.	Snihurivka, Mykolaiv Region	August 2018	$35,4 million
11. Kernel, a plant for producing complex organic fertilizer (COF) - two lines*	It has been experimentally established that the fertilizer effect of Agrovit-Kor exceeds organic fertilizers in 20-100 times and mineral fertilizers in 3-5 times. In other words, using 5-10 kg of Agrovit-Kor corresponds to 1-1.5 tons of manure depending on the type of soil	Sumy Region	2019	$260,000

*innovative development of the agroindustrial enterprise in Sumy Region in 2019.

There are the following options to provide innovation activities:

1) innovation processes are concentrated within one enterprise - all stages of the innovation lifecycle, from development to liquidation or sale, are carried out in one enterprise or within a closely connected group of enterprises (Tolbatov, 2018);

2) creation of an innovative product is performed by a certain organization (research institute) or a company, which afterwards sells the product or rights to use it;

3) innovative product is promoted by venture or engineering companies in small innovative business (Vinichenko, 2012).

Options 2 and 3 are relevant for innovation activity of Kernel company: Kernel agricultural enterprise cultivate land in the Sumy Region - in Nedryhailivskyi, Romenskyi, Burynskyi, Trostianetskyi, Velyka Pysarivka, Krasnopilskyi, Bilopilskyi, Lypova Dolyna, Sums'kyi, Lebedynsky districts. Therefore, the production and use of innovative fertilizer is the latest development, which aims to increase soil fertility and maintain science-based farming.

Kernel is the world's leading and the largest in Ukraine producer and exporter of sunflower, a key supplier of agricultural products to world markets from the Sumy region, and is part of the Druzhba Nova cluster. Kernel company exports its

products to more than 60 countries around the world. It also aims to double export volumes in the financial year 2016 - 2020 through balanced development of agricultural production with low cost due to investments in technology.

The increase in the production of sunflower in Ukraine is stimulated by the owners of processing enterprises who are trying to load their plants as much as possible. By the way, the export of oil and fat products in the structure of the agricultural production is 28%.

The problem today is not that sunflower occupies 20–25% of the cultivated area, but ignoring the necessary measures to balance its impact on the soil and other crops. And if balance of nutrients and moisture is not taken into account, then even limitations of 7-8 years on re-seeding will not change the situation.

In modern conditions, the soil is considered to be a source and means of obtaining maximum profit. The owners do not emphasize the fact that lack of care for protection and reproduction of soil fertility will require enormous resources to achieve the initial level of fertility in the future (Didur, 2019).

One of the reasons for worsening soil fertility is ignoring crop rotation and applying organic fertilizers. This is especially true for sunflower. Increase of the crop rotation and instant cultivation of certain crops without change cause soil exhaustionwhich influences the decrease in crop yields and, often, worses product quality. One ton of sunflower production takes 57 kg nitrogen, 29 kg phosphorus, 114 kg potassium from the soil. This, in turn, increases the soil nutrient deficiency and the negative balance of humus (Kolisnyk, 2019).

New fertilizer allows not to change the soil in greenhouses up to five years. A distinctive feature of COF from other types of fertilizers is a high concentration of nutrients (nitrogen, phosphorus, potassium, organic matter), environmental safety (no heavy metals, pesticides), low amounts (biohumus - from 3.0 to 10 tons per hectare, super-fertilizer - from 0.5 to 2.0 tons per hectare for cereals and up to 3.0 tons per hectare - for potatoes). Comparison of these and other qualities of super-fertilizer with traditional types of organic fertilizers are presented in Table 2.

Table 2. Comparative analysis of organic fertilizers.

Index	**Manure**	**Poultry litter**	**Compost**	**Biohumus**	**Super fertilizer**
1. Organic matter,%.	18-20	40-45	18-25	20-30	50-60
2. Water,%	70-80	50-55	60-70	40-75	25-35
3. Weed seeds, thsd./kg.	1-7	0,1-1	present	may be present	absent
4. Fertilizing effect in c.u.	1	3-4	1-1,5	8-12	100
5. Aftereffect, years	3-4	2-3	3-4	3-4	10-15

Correlation analysis of the impact on the crop yield increase of integrated organic fertilizers and constructed dependence equations has been performed:

- for grains: Y1 = -6,054+8,478 x - 1,327 x2
- for vegetables: Y2 = -173,727+270,209 x - 47,363 x2

where: x - dose of super fertilizer "Agrovit Kor", t/ha

Y1, Y2 - increase in yields (c / ha), respectively, in cereals and vegetables.

Low amount of COF is explained by high concentration of nutrients. It is necessary to use 40 tons per hectare of decomposed dung and 3,3-5 tons per hectare of bio humus and only 0,4 tons per hectare of super fertilizer. Such a difference in amounts can significantly reduce cost of shipping and application, dramatically increase the fertilized areas. According to developers of super fertilizer, 1 ton of Agrovit-Kor fertilizer is equal to 100 tons of decomposed manure. Various specialists suggest that depending on the amount of Agrovit-Kor, cropping capacity will grow in such a manner: winter wheat - by 19-26%; barley - by 14-54%; corn for seeds- by 23-43%; for silage - by 24-40%; potatoes - by 30-37%; tomatoes - by 30-60%; carrots -by 14-39%. There are such interrelations between the amount of super-fertilizer Agrovit Kor and crop yields (Table 3).

Table 3. Influence of different amount of super fertilizer Agrovit-Kor on some crop yields.

Crop	**Increase in yield depending on different amount of fertilizer applied, hundreds of kilograms per hectare**			
	1 tons per hectare per	**1.5 tons per hectare per**	**2 tons per hectare per**	**3 tons per hectare per**
Grain (winter wheat)	1.2	3.4	5.8	7.4
Vegetable (tomatos)	54	112	187	209

Unlike the biohumus production technology, which needs building concrete areas, the technological process of producing super fertilizer requires special buildings, where equipment is installed. For this reason, there is a need to increase investment in production of this type of concentrated organic fertilizer (COF). Although COF has indisputable advantages, it is not widely used in the fields of agricultural enterprises. Some of the top reasons are large capital expenses required to organize the production, the insufficient technology approbation and the unavailability of technical means for fertilizing soil. Compared to traditional organic, COF has a dusty structure, low density (0.5-0.7 t/m^3 at a humidity of 40%) and is applied to the soil in relatively small doses. These factors make it difficult to implement the already automated technologies and

technical means. (Vinichenko, 2012; Honcharenko, 2016). For intrafarm usage of concentrated organic fertilizers, which should be carried out simultaneously with the row-crop planting, a machine based on the seed drill SUPH-8 was developed. It allows to apply concentrated organic fertilizers in amount from 0.4 to 3.6 t/ha. The developed power-driven process showed positive results during production inspection and testing at the machine-tractor station. These results allowed to start the serial production of necessary devices. So, the innovative nature of COF – super fertilizer Agrovit-Kor is supported by positive aspects in ecology, economics, and the efficiency of agricultural production. The capacity of COF production line may differ. Preliminary calculations have shown that of all possible alternatives, an average agricultural enterprise will be satisfied with a line with a capacity of up to 3 tons per day. But theoretically, the volume of COF production can be 100 tons per year (Table 4). It is planned to engage ZAT Nadiya, a private company (Sumy Region, Lebedyn, 30 Lenina Street), which deals with raising beef cattle, to the production of manure. In accordance with the established composition of COF components (Table 4), we determined the required number of components, taking into account the farm demand for the 10th crop rotation, the farm field size - 1257 hectares and the rate of fertilizer usage for one field of crop rotation - 0.75 tons/ha.

The farm has the necessary amount of the most significant component in the structure - decomposed manure. The soil, which is a part of the fertilizer, is taken from any field. It does not have to be chernozem (black-earth soil), but not the clay. The rest of the components the farm must purchase.

Table 4. Components of COF - super fertilizer Agrovit-Kor.

Component	Unit weight, %	Required amount, tons per year
Decomposed manure	70	70
Turf	10	10
Lignin	10	10
Soil (surface)	5	5
Alpha addition	5	5
Overall COF production	100	100

Table 5 does not include all the crops that are cultivated in this climate zone. However, these crops are expected to obtain the results, namely increased crop yields and product quality. Quality that is manifested in an increased amount of gluten, should be evaluated based on winter and spring wheat. It can increase the sale price of grain.

Table 5. Influence of COF on crop yield.

Crop	Average crop yield, hundred kilograms per hectare	Crop yield during COF project, hundred kilograms per hectare
Winter wheat	25	32.4
Winter barley	18	23
Spring wheat	15	19.5
Spring barley	12	15.5
Corn for grain	35	45
Pea	20	26
Green corn	200	240

The issue of preserving the soil fertility under agrarian production in modern conditions of management remains relevant (Figure 2, block 2). Thus, in the Sumy region, the annual loss of humus in agricultural land is very high - more than 1.1 tons per hectare. Soil fertility is a variable quality of land, which is determined by the content of humus. As a result of the continuous exploitation of arable land, a large amount of nutrients and humus is produced by the harvest, but these stocks are not replenished entirely because of the very limited amount of fertilizers, in particular organic ones. Reduced humus content in the soil is accompanied by a decrease in crop production, a decrease or lack of profits of agrarian enterprises.

For the quantitative assessment of soil fertility, indicators used in the correlation with the crop are used (Harchenko, 2003; Zubariev, 2010).).

According to the method Kharchenko O.V. the maximum point of soil protection in the Sumy region can be 80, which corresponds to the content of 5.2% of humus in the soil. With such indicators, the potential (maximum possible) grain yield in the region will reach 86.4 centners per hectare (Harchenko, 2003).

We have made a correlation analysis of the dependence of the grain yield level on the content of humus soils. On 01.01.2015. The average content of humus in the region is 3.55%, including the maximum - 4.60% (Belopil district) and the minimum - 1.6% (Yampil district) (Figure 1).

Correlation series: a decrease in the content of humus by 0.1% leads to a loss of grain crops - 3 c / ha (data applied 2010-2015).

The test results of fertilizers Agrovit-Korin the geographic network, which prove the high efficiency of its use, are confirmed by

research institutions of the Russian Academy of Agricultural Sciences of the Russian Federation, as well as research institutions of Ukraineand several other institutions (Tsyhanskyi, 2019).

In accordance with the decision of problems of increasing soil fertility, it was found that using 0.75 tons/ha of COF is equivalent to 20 t/ha of traditional cow manure.

The competing product is a decomposed manure, a traditional organic fertilizer used in agriculture. However, the proposed COF outcompetes this type of fertilizer for many indicators (Shumskyi, 2012; Mazur, 2008).

Under market conditions, a business plan is an effective management tool, the initial stage of the entire planned and executive activity of an enterprise; it is a document that should determine the time-optimal and less risky directions for a production innovation project. In order to determine the economic efficiency of introducing COF in agriculture and building the break-even point of production, a business plan was developed. It can be represented by the following algorithm:

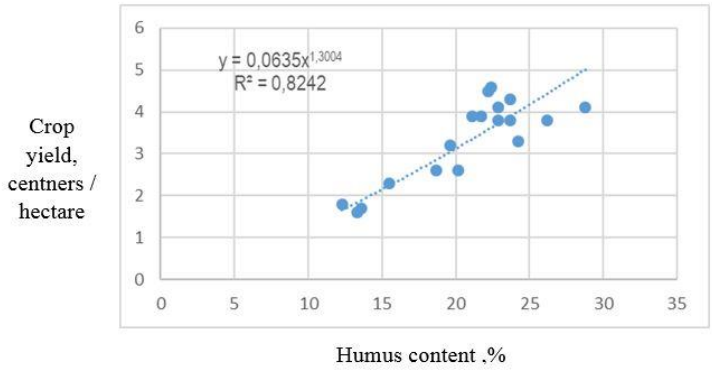

Figure 1. The dependence of the grain yield level on the content of humus soils.

1. Definition of the objective of COF innovative project.
2. Calculation of COF quantity to improve soil fertility.
3. Deciding to replace mineral and organic fertilizers with new and modern ones (COF).
4. Finding the resources, necessary to implement construction of the line to produce COF.
5. Formation of the supply matrix for COF components taking into account the capabilities and needs of a particular farm.
6. Optimizing the resource flows.
7. Selection of quantitative and qualitative COF composition for organic farming.
8. Analyzing possible options to sale COF.
9. Possible foreign economic operations focused on selling COF are considered.
10. Calculating the target function value and evaluating the best possible composition of COF.
11. Objective is achieved.
12. Obtaining expected results from COF implementation.

The proposed model will create a sustainable base for the development of an agricultural enterprise of the "science-development-introduction-competitiveness-profit" type.

A prerequisite for the successful model in production is the project for implementation of 5 million UAH of investment costs. According to financial plan, they will be invested in construction and installation works, necessary equipment for installation of production line and operating costs during design and construction of the object with COF production line. In modern economic conditions, the focus moves from solving problems of economic planning (economic prospects and demographic projections) to analyzing the effective usage of resources, available in agriculture, problems of existing agrarian situation and finding ways to eliminate them (Matrosova, 2013).

Discussion

When choosing the area to build an enterprise for production of complex organic fertilizer (COF) - two lines it is necessary to prevent the environment pollution, erosion processes, pollution of soil and water resources. A construction plant with a radioecological passport should have enough size for long term facilities, a streamlined system of water supply, sewage, electricity supply and transport services.

In order to ensure the success of COF production by ZAT Nadiya in Sumy Region it is necessary to: effectively use all available resources of the farm; increase staff productivity; optimize production processes, reduce the cost of working time; minimize risks; enter the domestic market with innovative products COF and forecast export operations.

In addition, it should be noted that any activity of an enterprise must be carried out in accordance with the current legislation, namely: the Law of Ukraine "About Innovation Activity", which defines the legal, economic and organizational basis of state regulation of innovation activity in Ukraine.

Conclusion

An innovative policy of an enterprise, in particular, an agricultural enterprise, is a process of searching and a set of measures, including implementation of an innovative strategy and providing the consumer with innovative products that can ensure the manufacturer's competitiveness for a long period.

Investment projects of the agro-industrial sector of Ukraine allowed to analyze the problems of regional forecasting of agricultural areas, which remain unresolved. The introduction of new business systems requires new approaches to the solution to organize construction of the Ukrainian village.

In current unstable economic conditions, when a significant part of agricultural enterprises are in default, the state by means of indirect promotion methods and support should help increase innovation activity, learn scientific and technological achievements, update the material and technical base of the industry to increase the efficiency of agricultural production, raise the competitiveness of domestic agricultural production in the world market. Innovation projects are mainly funded from their own sources, for this reason, the innovative activity of the enterprise directly depends on the availability of financial flows. The leaders of the agricultural enterprise should pay great attention to direct cooperation and information exchange between academic institutions and related agricultural enterprises of the region (Heiets, 2015).

Thus, innovation activity in the agro-industrial sector requires participation of government as an objectively valuable coordinator and controller of innovation processes.

Hence, it should be noted that soil fertility of the agricultural land is an important object of state protection. The biggest natural wealth of Ukraine is black soil (chernozemic soil). It occupies almost 50% of the world's black soil reserves. Plowed land in Ukraine makes up about 85% of the area of steppes (campo ucn.) and forest-steppes. The cultivated area occupies 33,5 million ha. 60% of black soil has already been damaged, 100 thousand hectares of fertile soils are lost every year. Therefore, preserving our national wealth - land resources, is possible only through introducing organic farming and rational land use, taking into account its capabilities.

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