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«Sciences of Europe» -

Editorial office: Křižíkova 384/101 Karlín, 186 00 Praha

E-mail: [info@european-science.org](mailto:info@european-science.org)

Web: [www.european-science.org](http://www.european-science.org)

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## SLAUGHTER INDICATORS OF YOUNG PIGS WHEN FEEDING BVMD "ACTIVITIES" AND PREMIX "INTREMIX"

**Datsyuk I.**

*Candidate of Agricultural Sciences  
Vinnytsia National Agrarian University, Vinnytsia, Ukraine*

**Bondarenko V.**

*Candidate of Agricultural Sciences  
Vinnytsia National Agrarian University, Vinnytsia, Ukraine*

### ABSTRACT

The efficiency of production of pork and its quality depends to a large extent on the enrichment of diets with the necessary amount of nutrient and biologically active substances. The latter are introduced into the rations of pigs in premixes and other feed additives. Which fully provide pigs with energy, protein, amino acids, minerals, micro and macroelements and vitamins. As a result, it is a great health of animals, the maximum intensity of their growth, a quick economic effect and excellent taste properties of meat.

Studies have shown that enrichment of rations of young pigs by BWMD "Minactivitis" does not have a negative impact on the body and positively affects the slaughter indicators, the morphological composition of the carcass and the mass of the internal organs of animals.

With the use of premixes "Intermix" in feeding pigs, slaughter quality improved, a slaughter yield increased, the mass of the operator with a decrease in fatness in carcasses. The latter were more full of meat, with a larger area of muscle age.

Consequently, the quality of meat affects a lot of factors, among which the main is feeding. The balanced diet of young pigs gives the possibility of complete assimilation of nutrients of feed, body saturation with all the necessary vitamins, micro- and macroelements that affect the growth and development of young pigs, and improve their meat productivity.

**Keywords:** young pigs, protein-vitamin mineral supplements, premixes, feeding, slaughterpieces, morphological composition, spike thickness, internal organs.

**Topicality.** Currently, in Ukraine and abroad in order to increase the production of pork, various feed additives with a wide range of action that differ in origin, a set of biologically active components and production technology. Introducing them to animal rations contributes to ensuring maximum use of nutrients, positively affects their digestion and assimilation. And this leads to rational and economical use of feed, increasing animal productivity and improving product quality. Livestock breeding under these conditions becomes economically expedient.

In modern economic and economic conditions, the production of pork, especially in small farms and individual agriculture, is carried out using a limited amount of grain ingredients. Therefore, to provide animals indicated in the norms of power elements are quite difficult without the use of the grain mixing of the supplementary ingredients - usually protein-vitamin-mineral additives (BWMD) and premixes. In the development of their formulation, the actual presence of nutrition elements in the base diet is taken into account, and the shortage is introduced in the composition of BWMD or premix.

The peculiarity of creating new intermix premixes is currently that in developing the formulation takes into account the chemical composition of existing feeds in a particular region or economy, modern feeding rates with feed assessment in energy feed units (ECO), optimal maintenance conditions, as well as genotype of pigs [5].

The carbohydrate component is provided by grain of cereal crops, and protein - the introduction of peas,

soybeans, lines, etc. And the rest of the necessary biologically active substances is introduced by additives - premixes or BVMD.

When filling new premixes, it is envisaged to study the performance indicators and product quality. On this issue there are significant developments of scientists both in the recent past and modern publications.

**Analysis of recent research and publications.** Pigs - the second largest branch of livestock industry in Ukraine, and its products are now a third of gross meat production in the state and provides the population of many countries of the world with valuable food.

Therefore, a key role in growing pigs plays a rational and balanced feeding, which provides not only the proper assembly of rations and the creation of an effective feed base, but also the use of modern high-performance feeding systems. The study of aspects of feeding pigs makes it possible to significantly increase their productivity, in particular young animals for fattening, due to scientifically grounded balancing of diets by energy content and quantity of nutrients and biologically active substances [7].

The largest costs in the cultivation of animals go to feed. This is not only the expenses directly to the purchase of feed, but often unforeseen expenses associated with their production in their own capabilities, with the need for supplies to many components for the production of feed. Today, one of the main factors that restrains increases in the production of pork, there is insufficient amount of feed, low quality and constant deficit in protein rations [6].

Increase the production of livestock products, in particular pork, can be due to the use of animal feed additives of various nature, enriching the main diet [3].

Therefore, it is relevant to the improvement of existing and developing new biologically active feed additives and stimulants of metabolic processes in the body of animals. Using them in feeding, it is important to know not only the effect on performance, but also on the quality of the product obtained, metabolism, the state of the internal organs and tissues, which depends on normal growth and development of animals (reproduction) in the established feed conditions [3].

The exclusive relevance of the problem, its multifaceted, great scientific and production significance attracted the attention of many researchers. Significant contribution to the development of theory and practice of protein-vitamin and mineral additives in livestock breeding were made known scientists.

Numerous studies have established that successful pig breeding is impossible without rational use of feed, which is based on increasing the transformation of nutrients contained in them, in products of livestock production, including due to the organization of biologically full feeding.

An important role in this issue belongs to the concentrates and balancing additives, which allows to provide rations of animals with energy and a complex of nutrients, mineral and biologically active substances [9].

*The role of mixed fodders and premixes in feeding agricultural animals.* Among the factors contributing to improving the productivity of farm animals, a full-fledged feeding that can be arranged provided to provide in the diet of all power elements. The number and quality of products is closely linked to the level of production and preparation of feed for different species of animals.

The most important component in the cost of production of livestock products is known to be the cost of feed. And traditionally, in the calculation of feed mixtures for cattle, pigs and poultry for the optimization criterion, take a minimum cost of their components, without taking into account the losses caused by the discrepancy of nutritional rules of feeding. But in real production conditions, when the number of normalized components reaches more than 30, to carry out feeding according to scientific recommendations is often not possible due to a limited set of feeds with enterprises [1, 2]. Therefore, there is a question of finding and developing new approaches to the planning of feed mix.

Large reserves of increasing livestock production livestock are lifted in increasing the efficiency of feeding animals of feed, whose nutrients are preferably in an inaccessible form [4]. It is known that animals are born with a weakly developed enzyme digestive system. Yes, and adult animals are digested in a better case 60 - 70% of nutrient feeds, although their digestive glands produce a sufficient amount of pepsin, trypsin, cellulose, amylase, lipase and other enzymes.

The effectiveness of feed is determined by their species (juicy, concentrated, gross, etc.) and technological (scattered, granulated, briquetted, etc.) forms. An

important place for productive action occupy the concentrate, the level of transformation of which in its turn depends on the type of use in feeding animals (scattered without balancing additives or full mixed fodders) [3].

Combined feeds are homogeneous mixtures of purified and crushed to the corresponding sense of feed agents, compiled by scientifically grounded recipes and balanced by basic nutrients and by the complex bar. The higher the productivity of animals, the greater their need for such special accounts.

In livestock, as the main concentrated feeds use barley, oats, rye, non-food wheat and their processing products, but their potential for feeding animals with a single-chamber stomach is not fully used by the body. Basic grain-free crops - Oats and barley - differ in high content of fiber (9 - 12 and 4 - 7% respectively). If they are soaked, this figure will decrease to 4 - 4.5% in the ovis and up to 2.5 - 3.5% in barley. In this case, the digestibility of substances of mentioned feed though increases, but the problem is not fully solved. After all, rye with tissue content of grain is only 2.4 - 2.5% is not an expensive feed. Low nutrition of a series of grains is due to the fact that in them significant amounts are also available other nonrochemicals of polysaccharides, which include beta-glucan and pentosanes. They are contained in the cell walls of the endosperm of the grain and the grinds are not eliminated [9].

Specialcompasses have a structure specially designed for various age and business groups of animals (calves, dairy cows, fattening cattle). Their composition includes grain, gross feed, herbal and coniferous flour, fish and meat waste, products of processing industry, protein-vitamin-mineral additives, as well as premixes, and this is far from a complete list of components.

Fodder is released in the form of a powdery mix, a mold, granules, briquettes. The most comfortable form is granules - rounded, cylindrical, cubic sizes from 1 to 25 mm. They are well maintained by nutrients and vitamins, they do not disclose, are not refreshed, convenient for transportation and mechanized distribution [3].

The world's largest feed manufacturer is the United States (about a quarter of world production). More than half of this amount make up feed for poultry, almost a third - for meat and dairy livestock, 13% for pigs and 7% - for other species of animals. The share of feed in poultry farming is 50 - 60% of the cost of meat, and in pig breeding even more - 70 - 75%.

The more intensity of concentrates for high-performance animals, the greater the need for the use of premixes. To the structure of mixed fodder are added from 0.3 to 3%, and an average indicator - 1%. Based on it and knowing the volume of feed production, it is possible to calculate how much premixes are used - in monetary terms, they make up to 10% of the cost of feed.

The growth of demand for premixes is obviously due to the development of "culture of feeding" livestock and poultry. Cheap and less saturated feeds now can not do. Animal rations must be balanced by all nutritional components (as a whole for 70 - 80 indicators).

Vitamins and minerals that are part of their composition, contribute to the more complete assimilation of the feed and the disclosure of the genetic potential of the animal. With an effective and nutritious premix, you can use less mixed fodder: earlier 1 kg of the mass of the poultry farm was spent 2 kg of feed, and now most reduced their number to 1.7 - 1.8 kg. If you can choose all additives, including premixes, then the cost of meat will be reduced by 5%. But without them, the productivity of animals can decrease by 20% and even more [8].

Consequently, premixes are concentrating mixtures of biologically active substances of microbiological and chemical synthesis, which are used to increase the nutrition of mixed fodders and improving their biological action on the body of agricultural animals.

In the industrial manufacture of mixed fodder, the premix is already added at the stage of production. Technological studies have shown [5, 6] that direct introduction of vitamins and microelements into feed less effective than using them in the form of a pre-prepared mixture (premix), which is the most effective technological technique that provides normalization, dosage and uniform distribution of micro-detection. This is achieved by using a filler that has to keep biologically active substances on its surface, that is, to have a high adsorption capacity. Premixes can also be used as an additive to coarse and juicy feeds (sprinkle hay, hay, silage, beets, potatoes, etc.).

The production of premixes has been developing for more than twenty years. In our country there are hundreds of enterprises. Traditional feeds produced on feed factories do not provide the needs of animals and poultry in vitamin and mineral substances. The need for the introduction of feed products and a homogeneous distribution in it biologically active substances and led to the creation of preliminary mixtures. However, for many consumers, even the word "premix" remains unclear. The term "premix" consists of two Latin words - Prae ahead, pre-micseo mix. The following types are distinguished: premixes (concentration in mixed fodder to 0.5%), premixes (up to 5%), protein-vitamin and protein-mineral vitamin additives (from 5 to 30%) [6].

Premixes are classified and by other features, for example, in composition they are divided into amino acids, mineral, vitamin and complex; By appointment - on productive (they contain substances that improve the state of health and strengthen the immune system, they are used in the production of feed for healthy animals), therapeutic and prophylactic (to their composition includes vitamins for the prevention of various diseases), therapeutic (include means for the treatment of sick animals and poultry).

As a rule, the premixes includes the following components: - filler (product capable of maintaining and dissolved active substances). It can be oatmeal, grass flour, bran, meal, yeast, etc.;

- vitamins (increase the total animal tone, activate the activity of a number of physiological systems) - A, D, E, K, C, group B;

- mineral substances, macro- and microelements (serve as a structural material in the construction of a

skeleton, are involved in the synthesis of cells and tissues): calcium, magnesium, iron, phosphorus, copper, etc.;

- enzyme preparations (improve the assimilation of nutrients, actually increasing the effectiveness of the ration of animals);

- protosubtilin, amylosubtilin, etc.;

- feed antibiotics (used for the prevention of infectious diseases, growth stimulation);

- tetracycline, chrys, vitamycin, etc.;

- amino acids: lysine, methionine, cystine, cysteine, etc.;

- tranquilizers (eliminate nervous tension, feeling fear and anxiety in animals) phenazepam, resurp, etc.;

- auxiliary substances - antioxidants, preservatives, flavors.

The need to introduce premix products as an additional source bar at present in specialists there is no doubt [5]. This allows to provide balanced rations, to increase the digestibility of nutrients, contributes to the full assimilation of the body of an animal, which makes it possible to reduce feed costs per unit of output. Premixes have a positive effect on the reproduction process, prevent diseases associated with vitamins and trace elements. Due to the activation of enzyme, hormonal and immune systems there is an increase in productivity of livestock, increases the preservation of young animals, strengthens animal health.

The content bar in premixes is 20-30%, the remaining mass takes a filler capable of maintaining active substances (crushed grain and products of its processing, meal, meal, feed yeast, bran, grass flour, etc.). In Ukraine, Russia and some countries of Europe use wheat bran. In order to increase the adhesion, the reduction of static charge components and reducing the dust formation into the premix is introduced oils, sorbitol or glycerin.

Premixes are manufactured in specialized plants or on special lines of feed enterprises. As a rule, each type is intended for a certain species of animals, age and performance directivity (for example, there are premixes for a poultry that contribute to increased body or increase of mass). The mechanism of their action is due to the presence of substances required by domestic animals that they can not get naturally. All components are in optimal quantities and ratios. Premixes allow you to save the main feed - the animal consumes more nutrients and is faster. However, it should be warned that they are not an independent feed, but only by add to the diet. In case of improper use of premix, animals can be ill or even perished [6].

Despite the fact that recently the production of premixes develops rapidly, the livestock branch is in decline. Therefore, the market for their sales is based mainly on large livestock farms or private farming enterprises.

In modern conditions, the issue of economical use of feed, its normative costs in livestock production are particularly relevant. This dictates the need for the re-orientation of our farms and processing industrial enterprises for the production of high-quality energy forage products, in particular balanced feed.

Application of premixes in feeding pigs. Modern trends in the scientific substantiation of the prescription of vitamin - mineral premixes, the use of which increases the biological fullness of grain feeds of the diet and the effectiveness of their use in the cultivation of early excommunication piglets and to the next fattening for meat associated with the biological peculiarities of postnatal ontogenesis. After all, each period is characterized by its metabolism and the level of body weight, and from here and the need for elements of power. [3,7].

The need for premixes is especially important in modern livestock conditions, when in feeding animals, in particular pigs, moved to the grain type of feeding with a minimum set of ingredients. Preferably, grain barley, wheat and corn of various varieties and hybrids. Under such conditions, feeding it is impossible to provide animals with necessary nutrients and biologically active substances. The real conditions for the production of pork predetermine the improvement of the formulation of existing and developing new types of premixes, taking into account the genetic background of animals, an environmental aspect and a natural - climatic zone of pig breeding. Thus, for the conditions of the Vinnytsia region, which relates to the right-bank forest-steppe, grain rations of barley, wheat and corn can not be balanced by the content of lysine, methionine, tryptophan, copper, iodine, cobalt and many vitamins. Therefore, they need to be introduced into the rations in the form of premixes. When creating each new type of premixes, there is a need to test its effectiveness in feeding animals. And this is carried out by conducting scientific and economic experiments on a limited number of livestock. The same study of the effectiveness of new premixes intermix is relevant from the point of view of the expediency of their future destination in feeding pigs. [10].

One of the promising ways of balancing rations according to vitamins, trace elements and other active substances are the use of hogs of premixes - a mixture of said substances with fillers. The complex of biologically active substances is a real way to increase the fullness of feeding pigs and improving feed [13].

The study of recent years and practice of pig breeding shows that the greatest effect is obtained when biologically active substances are added in the mixed fodders and rations are comprehensive - in the form of special enrichment mixtures (premixes). Therefore, the use of experimental premixes with reduced norms of administration of vitamins and microelements for early excommunication piglets in the period 26-60 was not negative influence on their growth and development [8].

However, a double decrease in the administration of vitamins and trace elements into the composition of mixed fodders in the cultivation of piglets in the period from 61 to 106 days affects the decrease in the growth of body weight in animals. Such a decrease in growth was also noted in the second period of fattening. This indicates a greater need for growing and fattening young pigs in vitamins and microelements.

Data on the dynamics of body weight depending on the use of premixes with different vitamins and trace

elements are consistent with the results of studies on digestive substances and the use of nitrogen at the end of each age period.

The use of premixes in feeding of farm animals makes it possible to increase the production of livestock products by 25-30%, and feed consumption at the same time to reduce almost twice, indicating their high efficiency [9]. All this can be achieved, making premixes with a reasonable selection of raw materials. Particular attention during the production of premixes is drawn to conditions of storage, packaging, moisture. Under normal storage conditions, when humidity does not predict 10%, the biological activity of the components does not change within 6 months.

In recent years, the genetic potential of farm animals increased significantly, which in turn requires the use of high-quality varied feeds, balanced rations. This should be taken into account when developing premix formulations [14]. This is not a "Panacea" from all troubles in livestock. The expediency of their use must be agreed with the presence of high-quality protein feeds, structures of concentrated (barley, corn, wheat, peas, soy, marshes, bran, etc.) and high genetics of animals. Only under such conditions it is possible to ensure their effective use and expected result. Only in a professional and comprehensive approach to this case, the use of vitamin and mineral additives will allow you to get tangible results.

Premixes provide the maximum use of nutrients from the feed of the diet and fill the body of animals with important vital elements (vitamins, macro-, microelements, amino acids, etc.).

Inclusion of premixes with various forms of microelements salts on the same vitamin background to rations of fattening young pigs in general contributes to increasing the mass of the posterior trash and improve its morphological composition.

The raw material for the production of premixes is biologically active substances (vitamins, enzymes, amino acids, medicinal substances and salts of trace elements), dilutments, fillers, antiseptants and water absorber. Only dilutments and fillers (chalk, limestone, bran) and partly salts of trace elements are produced in Ukraine.

Summarizing the achievements of zootechnical science from animal feeding over the last decade, it can be argued [6] that the body of animals, especially highly productive, requires an optimal amount of mineral substances, vitamins, amino acids. And the use of biostimulators, antibiotics, hormonal preparations, enzymes and other biologically active substances enhances physiological processes in the body, improves metabolism, increases growth energy, payability and reduces its cost. They "disclose" potential physiological reserves and increase the resistance of the body of animals to the action of negative factors.

*Influence of amuse of premixes on metabolic processes in the body of pigs.* The use of improved trace element (iron, copper, zinc) and vitamins (A, D, are, B4, B2, B5) premix in two-component grain rations had a positive effect on the digestibility of nutrients and the assimilation of nitrogen, calcium and phosphorus feed [10].

Achievement of zootechnical science of animal feeding assessment of premixes of iron content and copper. In this case, to maintain good health of animals and obtaining high performance, it is necessary to adhere to the ratio of these trace elements [9].

The use of premixes with increased iron additives contributes to the accumulation of blood plasma, liver and pancreas of iron and zinc. And also increases the content of vitamin A and is in the blood and liver, vitamin B5 - in the liver.

Studies have shown that the use of microelements premix (iron, zinc, manganese, selenium) in the form of biocomponents positively affects the performance of young pigs - average daily increments increase by 12.6%, feed costs per 1 kg of growth are reduced by 10.9% [9].

In the manufacture of premixes, the correction of vitamin content is required [12]. Therefore, in the study of the introduction of vitamin is in the mixed fodder from 0 to 45 mg / kg the feed found that the need for this vitamin in piglets of all ages is uneven. The largest need for a grooming period. Adding vitamin is in this period in the amount of 15 mg / kg of feed contributes to the best growth of piglets and assimilating nutrients feed. The introduction of vitamin preparation is, during fattening, it was ineffective.

Modern economic and ecological conditions of pork production raise requirements for obtaining quality products for food. Therefore, when developing new premixes and other animal additives for animals, their composition is substantiated to influence the body of individual ingredients, growth and development of animals, as well as product quality. After all, the situation is often created when the desire to achieve the highest increments leads to a deterioration of the quality of pork. For the most part, it is a decrease in the hydration capacity of muscle tissue [14].

The increase in the content of manganese, as well as manganese and selenium in the premixes contributed to the receipt of pork with good indicators of the chemical composition of the average meat sample [11]. Thus, for increasing the content of manganese in the premix, the proportion of protein was higher than the control indicator, and fat is lower.

It should be noted that foreign scientists pay considerable attention to the study of the composition of pigs and their influence on performance and high-quality pork indicators. Yes, R.A. Bohlke and others [10, 14] studied the digestibility of calcium, phosphorus and amino acids in rations of conventional corn and corn grains of pigs on growing. J.A. Conde-aguilera and co-authors investigated the features of carcasses (body) of pigs weighing 10-25 kg, which feed rations with different protein ratios to energy. And scientists under the guidance of P.S. Revy, studied the influence of zinc additives of both organic and inorganic origin and other minerals on weaned pigs [12].

The foreign market offers a wide variety of premixes, vitamins, mineral supplements for feeding pigs [13], in particular aureomycin granular and Terramycin, Tekromixes, Champrix, Ecomectin, Tylan, andvo-mec.

Consequences of refusal of vitamins and premixes with trace elements and reducing the number of inorganic phosphoric additives on growth rates, body characteristics and muscle quality in pigs investigated in labor I. mavromichalis, j.d. Hancock, i.h. Kim and others. [14]. J. S. Park, J. D. Hancock, T. L. Gugle, C. L. Jones studied the effect of exclusion of vitamins and mineral premixes from pig rations on growth rates and animal carcasses at the final stage of cultivation [12].

Thus, the basis for improving existing and developing premix recipes is a continuous improvement and updating of data on the need for animals in separate power supply based on modern achievements in the field of feeding, physiology and biochemistry of animal nutrition. To factors that predetermine the need for animals in nutritious and biologically active substances include: selection for soundness, widespread cross-breeding, high productivity of animals, new methods of harvesting and processing of feed and their impact on the availability of nutrients, the interaction of nutrients, early excommunication of young animals, stress conditions, the level of subclinical diseases, antimetabolites, mold in feed.

Research and practice of integrated use of the Bar showed that the provision of animals by active substances should be reduced not to the minimum satisfaction of the physiological needs of the body, and to the optimal, in which the metabolism, performance, health, life and reproducing function of animals are maintained at a high level, which is maintained at a high level. It is relevant and especially necessary in the process of production of domestic competitive livestock products on the principles of a market economy. Achievement of this possible method of compulsory components: compliance with the requirements of the technological process of production of premix products; saturation of its raw material in the necessary volumes and assortment; Continuation of research on the development of new premix recipes taking into account the latest achievements on full feeding and economic activity; further study and maintenance of the need for feed products.

*Balancing feed additives in feeding pigs.* Balancing feed additives (BVD, BVMD, carbamide concentrate, etc.) are homogeneous mixtures of high-protein feeds (macuums, yeast, etc.) and micro-details (vitamins, mineral salts, antibiotics, etc.) used to prepare mixed fodders and assembling rations on the basis of grain farming and juicy feed.

Depending on the content in protein additives, biologically active substances and requirements in these substances of animals of various types, sexual and production group-vitamin and other additives are introduced into cereals in an amount from 5 to 25% by weight. Part of the grain when producing mixed fodders from can be replaced by herbal flour, flour, grain waste, bran. All components of mixed fodders, including BVD, must be thoroughly mixed to homogeneous mass.

Balancing feed additives are homogeneous mixtures crushed to the required thickness of high-protein feeds and micro-views. They are produced by scientifically sound recipes and are used to prepare mixed fod-

der based on grain. In its appointment, they can be protein, protein-vitamin (BVD) and protein-vitamin-mineral (BVMD) and are introduced into the main concentrate (grain-proof) mixture in an amount of from 5 to 25% by weight, depending on the need for a particular type of sexuality Age and production group of animals in nutrients and their content in basic feeds and additives. Feeding animals of balancing additives (BVD and BMVD) in its pure form are not allowed [9].

BVD is produced on state feed factories. In a number of industrial enterprises, the production of BVC from local raw materials produced in shops on drying of skim milk and other products may be organized.

To replenish the lack of protein in ruminants of ruminants prepare forage supplements with carbamide and ammonium salts. Carbamide concentrate is prohibited to use in pure form. The maximum introduction of it in a fodder mixture for ruminants should be within 10-12%, which corresponds to 1.7-2% of pure carbamide. Add it only in feed for cattle older than 6 months old and sheep older than 4 months of age. Mixed fodders containing carbamide concentrate are not recommended to feed patients with patients, high-yielding, dry and welcoming cows, as well as bigams and ram makers [10].

The mixed fodders containing carbamide are introduced into the diet gradually within 7-10 days, and in the first day 1/5 part of the total concentrates are built.

Currently, biologically active feed additive in "Marimix 37 + B" is currently being implemented - this is a well-balanced mixture of flour from shrimp, flour from squid, seaweed, wheat germs, probiotics based on bacteria of the genus of youillus and sea calcium. It positively affects metabolism; In sub-sows, appetite and milk formation improves, which allows you to save the resulting offspring [8].

*The biological value of the power elements included in BWMD.* Fodder industry - Lanka between nature and livestock breeding, which provides animals with full feeds. Fodder (combined feeds) are a mixture of crushed feed and additives, selected taking into account the scientifically substantiated animal needs of a certain type and age in nutrients to provide a complete power supply. When selecting ingredients for mixed fodders, take into account the conditions of the most effective use of nutrient animals of each type of introduced feed [11].

In the case of mixing various components, they mutually complement each other with separate elements of nutrition, and the optimal energy, protein, amino acids, mineral elements, vitamins to meet the physiological needs of the body are achieved.

For better use of feed components contained in plant feeds, add feed additives that improve the digestion and use of feed components. Some of these additives cause fears and doubts about their use for animals and possible consequences in relation to the quality of products. Therefore, the forage additives of a new generation are very important [7].

Provide high biological fullness of rations, and therefore increase the productivity of pigs, today can

only justify the approach to solving feeding issues. At the heart of such a system - pig feeds.

Incorrect technology and inferior feeding leads to an increase in the terms of growing pigs on meat, to the cost of feed per 1 kg of living mass growth and, as a result, to an increase in the cost of finished products.

Combined feed additives became the greatest propagation, which includes several biologically active substances. Thus, BMVD, in particular, mineral elements and vitamins that are part of their composition are involved in the processes of etching and synthesis of substances in the body of animals. They provide the necessary conditions for the normal functioning of enzymes and hormones, maintaining acid-alkaline equilibrium and osmotic pressure at the required level [12].

Additives are added to the main diet, followed by the purpose: Improvement or stabilization of the quality of fodder materials, feed mixes or methods of feeding animals; satisfaction of animal feeds, improvement of feed consumption as a result of influence on the gastrointestinal microflora or to digestion of feed; Introduction of feed components that allow you to achieve special feed goals or meet the needs of animals in feeds in a certain age period [4].

Protein-vitamin-mineral additives are a supplement to the diet that regulates the number and ratio of nutrients in it that provide high productivity of agricultural animals. They contribute to the stabilization of bacterial microflora in a digestive tract of pigs, depending on the type, age and physiological state of animals provide a high level of digestion and total metabolism in the body, as well as increase resistance to non-violating infectious factors [6].

But economic reasons forcing the manufacturers of pork to feed grain without premixes, BVMD, biologically active substances, although they show calculations, each agreed ton of feed compared with the same amount of grain, but consumed in a "clean" form, allows you to get an additional 80-90 kg of pork. [3].

Application in pig breeding of new types of feed additives requires the development of thorough knowledge on their impact on human homeostasis, productivity and environmental safety of products received from them. Lack of mineral substances in the body can be compensated at the expense of the corresponding additives.

Today there are many unresolved issues that allow you to seek optimal decisions on the effective use of feed components of feed when applying secure feed additives.

One of the main indicators of nutrition and fodder properties of any feed or feed additive is their productive action on the body of animals. The performance of pigs is expressed by the number and quality of products derived from animals at the appropriate time interval and is determined by 28 indicators, of which three falls on development, eight on reproductive capacity, three for fattening and fourteen to meat-meat quality [8].

Productive qualities of animals are conditioned by physiological and biochemical processes occurring in a living organism. Normal activity of all bodies and systems of animals is provided by relative stability of



physico-chemical characteristics of the internal environment of the organism.

From the correct organization and a biologically complete system of feeding young pigs, the level of production and quality of pork depends largely, for the smallest feed costs. The lack of basic nutrients in the diet of young pigs affects not only on the metabolism, but also on animal productivity. Particularly negatively affects the performance of pigs with the unbalance of diets for protein and amino acids [4].

Amino acids play a leading role in the metabolism, are regulators of the state of the body. On the other hand, they perform structural 26 functions. Except for ten indispensable amino acids, others can be synthesized in the body of pigs. Indifferent amino acids are valine, leucine, isoleucine, lysine, methionine, threonine, tryptophan and phenylalanine. It is the presence of essential amino acids determines the biological value of feed. The absence or lack of indispensable amino acids changes the nitrogen balance on a negative, leads to a delay in the growth and development of the body, to a decrease in body weight, metabolic disorders. If the diet will not be at least one indispensable amino acid in sufficient quantities, then the normal synthesis of the protein will be blocked, and acute insufficiency of essential amino acids can generally lead to the death of the body. An animal needs to use a certain amount of each of the 20 amino acids daily in order to ensure primarily synthesis of proteins of their body.

The values of amino acids are determined by their unique role in the construction and intermediate synthesis of the basic structural components of cells (proteins, nucleic acids, low molecular weight nitrogen and sulfur-containing compounds) and implementation through these components of most functions that provide interconnection of various systems with the external environment [10].

In rations of pigs, there are often no such indispensable amino acids such as lysine, methionine, cystine, tryptophan and threonine. Lysin is the most important amino acid that is not synthesized in the body of pigs. It is necessary to regulate the exchange of nitrogen, carbohydrates, synthesis of nucleotides, chromoproteins, the formation of melanin pigment, affects the formation of erythrocytes, activates the processes of recombination and disamination of other amino acids. The link of lysine with vitamin D is established and their mutual influence on mineral metabolism. The lysine is part of the meat proteins, and also affects the state of the nervous system, tissue potassium exchange, the formation of a skeleton, the synthesis of blood hemoglobin, formation and ratio of DNA and RNA in tissues.

The unbalanced rations of young pigs by lysine under reduced by 15-20% of the norms of digestible protein worsens the use of the body of nitrogen feed, reduces growth, feed payment, and also increases 3-4 weeks for fattening.

Methionine takes an active part in oxidation-reducing processes. It contains sulfur molecule and a labile methyl group, is a major donor of metallic groups for methylation reaction in the formation of creatine, ethanolamine, choline, niacin, adrenaline. Methionine

supports the work of the pancreas, promotes the formation and exchange of choline, vitamin B12, folic acid, along with which it improves the use of animal lipid animals. Methionine prevents oxidation of protein substances, fatty liver generation, participates in the disposal of fodder poisons, promotes the growth of protein tissue in the body of animals. The need for methionine by 40-53% can be provided with a loved one in cystine. The second sulfuric amino acid, the amount of which in the rations of pigs is normalized, there are cystine. The cystine is the most important structural element of proteins that are part of the resistance and protective tissues, it participates in the construction of spasmodic proteins, in the formation of glutathione and insulin. In the rations of cystins, partially replaced by methionine.

Threonine stimulates immunity, contributing to the production of antibodies, along with methionine participates in the exchange of fats and positively affects the work of the liver. Necessary threonine and for the synthesis of skeletal muscle proteins, collagen and elastin, glycerol, digestive enzymes that support the activity of the gastrointestinal tract, which is important for normal development of the organism.

Tryptophan participates in the processes of hemopoiesis. It is necessary for the synthesis of hemoglobin, is a precursor of nicotinic acid, affects the processes of fertilization and normal development of the fetus.

Throughout the period of development of pig breeding industry in feed rations for pigs almost always lacked a full protein, which significantly reduced the efficiency of feeding and animal productivity. Therefore, the balancing of feed rations according to a full protein in the organization of rational feeding of pigs is very important.

The problem of full protein power is one of the most important pigs. It is solved as an increase in protein production due to alternative feed, and by rational use of protein resources for feeding pigs. It is known that the biological value of the protein is determined by the degree of balancing its indispensable amino acids, and the level of assimilation of amino acids must meet the needs of animals for the minimum protein content in the diet. In this case, it is possible to use in feeding pigs cheaper feeds, including grains of cereal crops with low protein.

The optimal need for indispensable amino acids in pigs is implemented through the so-called "ideal proteins", in which the amount of indispensable and substituted amino acids in the diet is about 10%. It is also necessary to remember that the need for protein (amino acids) to maintain life is 50% and is more satisfied due to endogenous protein losses.

The main reason for the low productivity of farm animals today is a shortage of fodder protein, which averages 25-30%. Due to the lack of protein in the diet of feed costs for the production of livestock production unit increases by 1.4 times, the productivity of animals decreases.

Cereals, namely, wheat, barley and corn, are the main sources of energy used in feeding pigs. The pro-

tein and its components of amino acids are mainly provided due to vegetable ingredients, such as soybeans, rape, peas, sunflower, but they are also present in adverse animal processing products, in particular, in meat flour. Plant protein is a source, as a rule, unbalanced amino acids, although there are significant differences between the quality of these sources [9].

However, the rate of inclusion of sources of plant protein can also be limited by the presence of anti-virus factors such as phytic acid, enzyme inhibitors and other compounds that directly affect digestion or metabolism. Taking into account these problems, it is intensively searching for the source of protein, namely: by-products of animal origin, such as hemoglobin powder, dry blood, blood plasma, which are higher in protein content, and amino acids are more balanced than in plant proteins. Thus, these byproducts may include feed for pigs [2,3].

Pork blood (blood cells) has been successful in agriculture. Dry blood as a feed additive is not very widespread. It is characterized by high digestibility and supports immunity in animals. Dry pork blood is an ideal protein source in the production of feed for pigs and other animals. In addition, blood can be the basis of natural animal feed and a full-fledged additive to dry and canned feed.

Dry blood is a dark brown powder that is obtained by fractionation and spraying of dry blood. Dark brown color gives it a hemoglobin protein, which in the blood can reach 28-44%. From the blood obtained after slaughter pigs, removes the plasma, which contains 92% water and 2-9% of proteins. These proteins consist of 36% of globulins, which are extremely important, since they increase the resistance of animals to pathogens. Consequently, blood plasma is a highly concentrated and healthy source of pig proteins.

Under the influence of feeding of hemoglobin powder in animals, there is a tendency to increase the mass of the liver, heart and lungs, that is, organs that take the most active participation in the life of the young pigs. The use of this drug in a dose of 1% contributes to an increase in the slaughter yield by 2.1%, and with 2%, a slight accumulation of fat in carcasses is observed.

The content of protein in various meat varieties is from 14 to 24%. In addition to proteins, meat contains fats (improve the taste and affect calories), various macro- and trace elements (phosphorus, iron, potassium, sodium, zinc, copper, iodine), vitamins (B1, B2, B3, B6, B12, biotin, nicotinic acid), extractive substances (increase appetite, improve the digestion of food, from them to a certain extent depend on the taste and smell of meat).

Consequently, the organization of uninterrupted, diverse and biologically complete protein feeding is an important factor that provides high precision, viability and animal productivity [8].

The complex preparation "White-assets" in its composition contains a mixture of aluminosilicates, eucalyptus, calcium and fatty acids. This bio additive due to the layered structure and high viscosity of the active substance has the ability to cover the mucous membrane of the gastrointestinal tract of animals. As a result

of interaction with glycoproteins contained in mucus, resistance to irritation of the coating layer of the mucous membrane is intensified. The feed additive does not slow down the absorption of nutrients and does not change the physiological time of the passage of the content in the gastrointestinal tract. No less important in the rations of young pigs are fat. It is known that fat plays a significant role in livelihoods of pigs - is a source of energy, unsaturated fatty acids, is part of the external cover of animals [6].

However, the detailed feeding norms are not included in the diet of this essential power factor. It is especially desirable to control the level of fat in the rations of growing young in the transition from one physiological state and the type of feeding to another.

Fats, or lipids - are widespread in nature Organic substances, inalienable components of living cells and tissues. Lipids are the most advantageous reserve that, if necessary, released from spare fat tissue (fat depot) and is used as a source of energy. The high caloric content of fat allows the body to exist at the expense of fat depots in full hungry for several weeks [7].

In case of hydrolysis of fat, approximately 90% of fatty acids and 10% glycerol are formed. Unsaturated fatty acids are necessary to all animals. Lack of them in rations, especially linoleic fatty acid, causes a decrease in growth rate, deterioration of animal productivity causes skin disease and leads to other negative changes. In the body of animals, unsaturated fatty acids perform a double function: are part of the phospholipids of cell membranes and are substrates for the synthesis of a number of regulators - prostaglandins, prostacyclins, thromboxanes, Leocortins, etc. [7].

In feeding pigs, fatty acids, which serve as a source of energy and are structural elements of cells. Such fatty acids such as arachidon, linoleum and linolenov are indispensable and must be supplied with feed. Deficiency of fatty acids in the diet, in particular linoleum, causes the growth of pigs and metabolism disorders [3,7].

Fatty acids as part of blood are divided into saturated and unsaturated. The last values in animal feeds are classified for replacement and indispensable. According to AV Gutsola, Ya.I. Cyrilli and others No less important about biological action on the organism arachidonic acid. There are basic functions of the body, including and metabolism. The daily need of an organism in arachidic acid is 5 g, and it is impossible to satisfy it, since there is a small amount of animal fats. Therefore, great importance for qualitative estimation of fats provide the content of linoleic and linolenic acids in them, of which arachidon is formed in the body. The highest content of this acid is in pork fat.

In the process of studying many nutritional factors (protein, mineral, vitamin) and the definition of biologically active substances it was found that the need for pigs in many nutrients is conditioned by energy power, as one of the main factors of productive qualities of rations. The lack of energy in feed is a more likely cause of low productivity of animals than the lack of other components of the diet - vitamins, minerals, amino acids. In addition, from the total cost of feed more than

half accounts for the share of basic energy sources - carbohydrates and fat [3, 5].

Mineral elements that are part of BWMD are of great importance for the normal life of the organism. They are involved in building support tissues, maintain homeostasis, that is, the constancy of chemical composition and physical and chemical properties of the internal environment of the organism, activate biochemical reactions affect the enzymatic systems directly or indirectly related to the functions of the endocrine glands, activate the microflora of the gastrointestinal tract. [2, 7].

Mineral elements provide normal conditions for vitamins, enzymes, hormones, maintaining colloidal state of proteins, acid-alkaline equilibrium, osmotic pressure at the required level and protection of the functions of the body. They are divided into macro elements (calcium, phosphorus, potassium, sodium, chlorine, magnesium and sulfur) and trace elements (iron, copper, zinc, manganese, cobalt, molybdenum, iodine, fluorine, strontium, selenium, aluminum, silicon, etc.) [3, 6].

*Application of BMVD - in pig breeding.* BMVD for pigs contain amino acids, trace elements, mineral components and vitamins. Very useful for pigs, are part of BMVD vitamins:

- ascorbic acid, takes an active part in regeneration processes;
- Vitamin K, contributes to better blood roll;
- vitamin E, belongs to the most valuable antioxidants;
- B2 participates in the normalization of the function of the reproductive system, so sued for sows;
- D 3 helps to absorb calcium and strengthens the skeleton bones.
- Vitamin A increases immunity [3,7].

BMVD for piglets contain protein components of animal and vegetable origin, sources of minerals and vitamins, components on the milk basis. Mix them with feed, you can:

- significantly save on the acquisition of feed;
- improve meat taste;
- to minimize the emergence of diseases;
- improve metabolisms and digestive processes;
- to strengthen immunity;
- Quickly increase the growth of pigs [6].

In the diet of piglets, additives are included in a week after its appearance. They have a different composition and get them depending on the age of the animal, seasons and needs of the body in useful substances. Before applying bio additives simply mix with feed, which should consist of grain crops. Cereals are pre-recommended to be crushed [2].

The use of such dietary supplements for pigs becomes possible to achieve them from age, equal to a weekly period. The composition of additives and their dosage corresponds to the degree of the need for the body of the pig in useful substances.

Subject to the proper application, the positive result is already after the end of the weekly period, which manifests itself in:

- Improvement of digestive function;
- accelerated suction of useful substances.

Growing pigs on dietary supplements are simple enough, since such substances are exposed to light mixing with the diet and do not require special technology. The main thing is to adhere to the important conditions:

- feed must necessarily contain grain crops in the form of barley or wheat;

- The presence of a crusher helps to carefully grind grain products [1].

The determining factor is the possibility of independent addition and preparation of a mixture at home.

Adding BMVD in the diet of pigs is characterized by the following positive parties:

- feed saturates with vitamin, mineral and energy components;
- there is a fermentation of pigs in an accelerated mode that provokes high growth;
- immunity is strengthened;
- improving digestive processes and metabolism;
- excluded or reduced to a minimum of dangerous diseases;
- qualitative characteristics of meat improves;
- Emergency savings for purchase of feed [3].

The use of dietary supplements will become more effective in case of correct selection to the features of fattening. Allocate three types of fattening pigs:

- meat;
- bacon;
- Sala.

The difference in species is determined by the ratio of meat and fat layer in the finished carcass. Accordingly, there is a certain technology for feeding and the use of biological additives.

The meat type of fattening is based on a diet, rich protein components, with mandatory addition of salt and chalk, which is necessary in order to improve the mastering process of protein. In this case, the role of BMVD is to promote the better assimilation of protein substances. The protein composition contributes to the growth of the muscle mass.

With regard to bacon fattening, it is based on a concentrated feed, which adds various feed additives for pigs. It is important to use BMVD of animal origin.

If feeding pigs are carried out in order to obtain sebum mascara, then the composition of the BMVD must contain a large number of trace elements.

The use of dietary supplements in the ration of pigs is a fairly correct and beneficial solution. Thus, you can significantly accelerate and increase the production process. However, in order to avoid directly opposite result, it is important to adhere to existing recommendations and necessary dosages.

**The aim of the study.** Study of slaughter indicators of young pigs, for the feeding of BMVD "Minacivit" and premix "Intermix".

**Method of research.** According to the study of the premix "Intermix", the scientific and economic experiment was carried out on three analogues of young pigs of large white breed, with an initial live weight of 14.5 kg. In groups there were 12 heads of animals selected after weaning from sows in 45 daily ages.

After a 15-daily equalization period, in the rations of animals of the second group for the feeding phases of 20-35 kg was introduced premix Intermix PV in an

amount of 1.25 %. And for phases 35-65 kg and 65-110 kg - premix intermixes are 1 % to the mass of the feed.

The young pigs of the third group in the phase of feeding the main period of the experiment received premixes, respectively, Intermix PV-4 %, Intermix V-3 % and Intermix V-2.5 %.

Animals of the first (control) group In various phases of the main period of the experiment, mostly the rations consumed the premixes of the euomixes of the Fig firm "EuroroM modern feeding", designed in accordance with the requirements of each feeding phase.

In a comparative period, the young people were grown on the same diet enriched with premix intermixes of PV in an amount of 1.25 % specially designed for this age and weight group.

In accordance with the phases of feeding, animals weighed, accounting for consumed feeds. The maintenance of the group, in the machine mills for the cultivation of young pigs, equipped with napped water drains. Fedded pigs feed in dry form twice a day.

By research of BWMD. The studies conducted on two analogues of young pigs of a large white breed, 10 heads in each - control and experimental. Piglets were avared in 28-day age. This method involves selection of animals in the group taking into account their age, live weight, origin, breed and general condition. When staging in the experiment, the living mass of animals was the same: control -  $14.53 \pm 0.15$  kg, and experimental  $14.41 \pm 0.15$  kg and grown to live weight 100-110 kg.

The pigs of both experimental groups were in identical conditions of maintenance and feeding. Animals were held in groups in a typical pig breeder. During the research, concentrate type of feeding was used. Animals were grown on a diet of barley, wheat, maize and were fully equipped with energy and protein, as well as most other controlled power elements. Norms of feeding were determined taking into account age. Feed was two-time, access to water during the day was free. Weighing was carried out on a monthly dates. Daily accounting for consumed feeds. Care and feeding of experimental pigs took place in accordance with the pig farm.

The supplement for the experimental group includes: flour meat-bone, blood cells, sunflower meal, soybean meal, soybean meal, yeast feed, limestone, fatty acids, lysine, methionine, threonine, salt kitchen, polyfiormate, probiotic, carnitine , Lomix JV (SF).

The experiment consisted of equalizing and basic periods. Equal to whose duration was 15 days. During this period, the animals received balanced full-fledged

feed. During the basic period of the control group, a balanced diet received a balanced diet, and the animals of the experimental - in addition to the grain diet received a protein-vitamin mineral additive starter "Ministry" in an amount of 250 kg / tons. The duration of feeding supplements in such a quantity was 33 days. When reaching a live weight of 30 kg, an animal in addition to the main diet received a protein-vitamin mineral additive Grouer "Ministry" in an amount of 150 kg / tons. The duration of feeding the additive in such a quantity was 50 days. With 60 kg, the experimental group has already received a protein-vitamin mineral additive Finisher "Ministry" in the amount of 100 kg / t. The main period of the experiment lasted 145 days.

The biometric processing of digital material was carried out for M.O. Ploshinsky. In this case, such symbols are accepted: \*  $P < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

**Results of the research.** The use of hogs of hogs of premixes intermix has a positive impact on slaughterpieces, but results in both experimental groups compared to control, ambiguous (Table 1). Significantly better they were in the third group animals, which in the feeding phase from 65 to 110kg received in the domain intermixes of VS-3 and 2.5%. Under these conditions, in experimental animals, a pre-budget live weight increased by 16.52kg, or by 15.95% ( $P < 0.01$ ), a slaughter weight of 16,6kg, or by 19,65% ( $P < 0.01$ ).

It was quite significant to increase the mass of the carcass by 14,67kg, or by 21,16% ( $P < 0.01$ ). However, the pressure of the carcass increased by only 2.43%.

In accordance with an increase in living mass, animals of the third group were larger and the mass of subproducts, namely: head with ears - by 20%, feet - by 25%, skins and tail - by 14.2%, inner fat - by 22, 8%.

In animals of the second group, in the phase of feeding from 65-110kg, the prefix of Intermix VS-1% consumed, a probable increase compared with the control values, obtained only in three indicators, namely: a pregnant living mass (by 5.19 kg, or 5, or by 5, 0%), slaughter mass (by 2.48 kg, or by 2.9%) and a mass of head (by 0.52 kg, or by 10.2%). The weight of the legs and the skins are universally prevailing this indicator in the control group according to 8.78 and 4.78%. And the weight of the inner fat was even 1.76% smaller.

The summary is reduced to the comparative advantage over the slaughtered figures of the third group. It is the consumption of prefix intermix 3 and 2.5% provided a higher level of metabolic processes, which contributed to the strengthening of synthesis and delay plastic substances in the body of pigs, that is their growth.

Table 1

Slaughtered pigs, premix intermix M ± m, n = 3

Indicator	Groups		
	1 (control)	2	3
Predage live weight, kg	103,6±1,46	108,79±0,62*	120,12±2,41**
Slaughter mass, kg	84,76±0,99	87,24±0,56*	101,42±2,25**
Mass of carcass, kg	69,33±0,92	71,44±0,91	84,0±2,17**
Exit Carcass,%	67,5±2,43	65,66±0,52	69,93±1,4
Head with ears, kg	5,10±0,23	5,62±0,07*	6,12±0,19*
Legs, kg	1,48±0,77	1,61±0,08	1,85±0,09
Skin and tail, kg	7,11±0,46	7,45±0,44	8,12±0,19
Inner fat, kg	1,14±0,14	1,12±0,07	1,40±0,05

The absolute data of the masses of the interior organs of pigs indicate that the liver, spleen and stomach in experimental groups did not have probable changes in comparison with the control (Table 2). While other internal organs respectively reacted on the investigated feeding factor with an increase in mass. This refers to the weight of the heart, kidneys ( $p < 0.05$ ) and lungs ( $p < 0.01$ ).

Endocrine glands also increased its mass in animals of experimental groups, especially in the third group, where the weight of the thyroid gland prevailed by a control value of 16.84 %, adrenal glands - by 22.54 % and pancreas - by 25.58 %. Whereas in the second group, these indicators were significantly smaller - within 4.6-11.5 %.

The increase in the mass of the interior organs of pigs has a direct correlation with their live weight before the slaughter and may indicate the best development of tissues of these organs and increase functional activity in the growth process in the conditions created by the power supply.

The feeding of the investigated premixes affects the increase in the thickness of the hogs. The data of Table 4 indicate that the most beautiful spark was in the animals of the third group. Especially on the neck and back - according to 29.1 and 35.4 % ( $p < 0.05$ ). And on the rings and the flushing of the thickening of the spin was 16.6 and 18.6 % ( $P < 0.05$ ).

In animals of the second group, there is a tendency to increase the thickness of the spike in the range of 2.2-9.9 %. The finest spike was in animals of both experimental groups on the stomach. The average thickness of the subcutaneous spike in animals of the second group prevailed by 4.6 %, and the third - by 19.5 %.

Indicators of the thickness of the spin, as well as the masses of the inner fat (Table 3) of all three groups suggest that the premix intermixes of the SU, which consumed animals of a third group, causes the intensification of fat metabolism. And because in the absolute nature of living mass during the period of experiment, the content of adipose tissue in these animals is the largest.

The resulting slaughtered indicators were for such parameters of productivity: the average daily growth of animals of the second and third groups predominantly dominated by 37 and 141g, or 5.5 and 21.0 % ( $P < 0.01$ ), with its level 709 and 813 g per day.

The daily set of feed consisted of durable barley (44 %), wheat (38 %) and soybeans (18 %) and enriched with premix according to the experimental scheme. The general nutrition of the diet in all phases of feeding in energy feed units corresponded to norm. The diet was balanced by 30 indicators of power. In addition, in the premix of the animal, vitamins K3, B6, C, choline, niacin, pantothenic and folic acid were obtained. All this contradicted a relatively high animal growth.

Table 2

The mass of the internal organs of pigs, for the consumption of premixes  
M ± m, n = 3

Indicator	Groups		
	1 (control)	2	3
Liver, kg	1,82±0,057	1,96±0,062	2,08±0,123
Heart, kg	0,31±0,013	0,38±0,015*	0,40±0,036*
Lungs, kg.	0,41±0,021	0,59±0,026**	0,62±0,038**
Spleen, kg.	0,18±0,02	0,20±0,01	0,22±0,02
Kidneys, kg	0,32±0,014	0,33±0,013	0,37±0,010*
Stomach, kg	0,88±0,087	0,90±0,028	0,93±0,046
Pancreas, g	86±3,11	90±3,98	108±10,0
Adrenal glands, g	5,10±0,069	5,69±0,178*	6,25±0,26**
Thyroid gland, g	43,21±1,28	45,31±3,36	50,49±2,16*

Table 3

The thickness of the pigs of pigs cm, when feeding premixes  
M ± m, n = 3

Indicator	Groups		
	1 (control)	2	3
On the neck	2,27±0,15	2,33±0,21	2,93±0,11*
On the grass	2,71±0,09	2,83±0,2	3,16±0,12*
On the back	1,92±0,19	2,11±0,06	2,60±0,07*
On the icicles	1,77±0,09	1,86±0,02	2,10±0,09*
On the stomach	2,11±0,11	2,10±0,10	2,28±0,12
Mean	2,15±0,04	2,25±0,1	2,57±0,38

Enrichment of rations of young pigs BVMD "Minyactivit" does not have a negative impact on feed consumption and positively affects the slaughterpieces, the morphological composition of the carcass and the mass of the internal organs of animals.

The productive effect of feeding BVMD "Minyactivit" was manifested in increasing the average daily increments by 95 g, or by 15.68 %.

The positive effect of feeding the additive manifests itself on the intensity of the growth of pigs of the experimental group. This is evidenced by the indicators of live masses. Thus, in animals of the experimental group, the absolute increase increased by 13.55 kg compared to control.

To determine the meat performance of pigs, a control slaughter was conducted for which 3 heads were

taken from the control and experimental groups. The living mass of animals in the slaughter was in the control group 103.8 ± 1.18 kg and experimental - 119.4 ± 0.55 kg.

The slaughtered indicators of the pigs of the experimental group were better, indicating the efficiency of BVMD "Minyactivit" (Table 4). The slaughter mass of animals of the experimental group increased by 15.57 kg (p <0.001) compared to the control group. There is also a significant difference in the mass of the carcass of the experimental and control group. It was greater than 14.24 kg (p <0.001) in the experimental group. The results of the slaughter of the studied groups are given in Table 4.

Table 4

Slaughter performance of pigs, with the feeding of BWMD "Minyactivit"  
M ± m, n = 3

Indicator	Groups	
	controlling	experimental
Predage live weight, kg	103,8±1,18	119,4±0,55***
Slaughter mass, kg	81,43±1,75	97,00±1,84***
A slaughter yield,%	78,5±1,89	81,3±1,19
Mass of carcass, kg	65,53±1,58	79,77±1,56***
Exit Carcass,%	63,2±1,97	66,87±1,03
Mass of head, kg	4,77±0,18	5,2±0,26
Skin mass, kg	8,1±0,30	8,77±0,08
Foot weight, kg:		
front	0,82±0,07	0,84±0,05
hind	0,88±0,07	0,98±0,07
Inner fat	1,67±0,15	1,9±0,07

Comparing the output of carcasses of experimental pigs can be assumed that in the experimental group, this figure was 3.67 % larger compared to the control group.

According to the mass of by-products - heads, skin, feet, internal fat - a probable difference not marked, but still there is a tendency to increase them in the experimental group.

The nature of the investigated BWMD in the diet of pigs showed positive changes in the benefit of the experimental group and according to the indices of the internal organs of pigs (Table 5). In this case, a corresponding increase in the weight of the heart, lungs, spleen and pancreas, which may be associated with an increase in the intensity of the growth of animals of the experimental group, is obtained.

Table 5

Показники внутрішніх органів свиней, при згодовуванні БВМД  
M±m, n = 3

Indicator	Groups	
	controlling	experimental
Liver, kg	1,43±0,08	1,63±0,11
Heart, kg	0,320±0,02	0,385±0,09***
Lungs, kg.	0,495±0,01	0,533±0,01***
Kidneys, kg	0,308±0,01	0,320±0,02
Spleen, kg.	0,140±0,01	0,178±0,01***
Stomach, kg	0,780±0,05	0,783±0,09
Adrenal glands, kg.	3,84±0,34	4,65±0,23
Pancreas, g	67,07±6,30	76,73±4,02***
Thyroid gland, g	25,04±2,45	24,76±2,65
The thin intestine:		
Mass, kg	1,56±0,11	1,68±0,11
Length, M.	17,07±1,13	17,17±0,64
Thick bowels:		
Mass, kg	1,53±0,08	1,63±0,15
Length, M.	4,33±0,20	4,17±0,20

Measurements of the thickness of the subcutaneous spike in various anatomical parts of the masked pigs showed that the feeding of young pigs in the investigated feed factor - BWMD "Minactivitis" causes an

increase in the thickness of the spike on the neck ( $p < 0.05$ ), on the roll ( $p < 0.05$ ) and There is no probable effect on the change in the thickness of the spike on the ice and lumbar (Table 6).

Table 6.

The thickness of the subcutaneous spin of pigs, with the feeding of BWMD M ± m, n = 3

Indicator	Groups	
	controlling	experimental
Average spike thickness, mm	30±1,86	32,5±0,68
In t. on the neck	26,5±0,94	31±0,94*
On the grass	33,2±0,89	37,2±0,54*
On the icicles	31,7±1,08	34,7±0,89
On the lumbar	28,8±4,71	27,7±0,54

Consequently, in a comparative assessment of the value of slaughter indicators, the morphological composition of the mascara and the thickness of the spikes are dominated by animals that consumed by BWMD.

**Conclusions.** Feeding young pigs of premixes intermixes will affect the increase of slaughter indicators. Comparatively larger they were about the consumption of premix intermixes in 3 and 2.5 % - slaughter weight by 16,6 kg, or by 19.65%, mass of carcasses - by 14,67 kg, or by 21,16 %, the mass of offsets by 14, 2 - 25.0 %.

Premix Intermix VS - 1% in the diet of pigs causes an increase in the slaughter mass by 2.48 kg, or by 2.9 %, weight of carcasses by 2.2 kg, or 3.04 %, and does not have a probable effect on the change in the mass of the offal.

Investigated premixes of the intermixes in the ration are influenced by an increase in the mass of internal organs - liver, heart, lungs, kidneys, endocrine glands according to an increase in body weight.

The use in feeding young pigs of premixes intermixes will increase fat laying in carcass - the average thickness of the subcutaneous spike increases by 4.6-19.5 %, the weight of the inner fat - to 22.8 %. It is promising to study the digestibility of nutrients of the diet and nitrogen exchange when feeding intermix premixes.

Feeding young pigs by BWMD "Minactivit" contributes to an increase in the premature, slaughter mass and mass of carcasses.

BVMD in the diet of young pigs increases the mass of the heart, lungs, liver, pancreas and there is no probable influence on the change in the mass of other internal organs.

The effect of feeding BVMD is manifested in increasing the thickness of the spike on the neck and the entrance, without significant changes in this indicator on the ice and lumbar.

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Editorial office: Křižíkova 384/101 Karlín, 186 00 Praha

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