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BioR PREPARATION EFFECTS ON PRODUCTIVE INDEXES OF SUINA YOUTH

EFECTELE PREPARATULUI BioR ASUPRA INDICILOR PRODUCTIVI A TINERETULUI SUIN

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The problem of using biologicalliactive substancesin domestic animalfeedingis one of main problems of the world researchess. Our investigations studied the influence of BioR preparation on suina youth performances. BioR preparation is a biologically active one obtained using original tehnologies of oriented syhthesis, successive extraction, division and purification of bioactive priciples from cyanophit alga biomass Spirulina platensis. This preparation contains biologic active substances as aminoacids and oligopeptides, intermediary products of the glucide and lipid metabolisms, macro and microelements. The results of the investigations proved that the administration of BioR preparation had a positive influence on productive indices of suina namely: the body weight increased by 0.5-10.4%, daily body weight increased by 2.8-16.0%, but the specific consumption decreased by 18.3-23.0%.

Key words: BioR preparation, biologic active substance, suina youth, nutrition recipes.

Introduction

It is obvious the fact that the performance improvement of Suina leads to the diminution of production cost and one of the major factors that influence the productive performances is the acknowledgment and rational use of fodder. Lately the Suina growing branch intensely developed becoming one of the main branches of animal production both by delivered products' volumes and quantity of utilized combined fodders. At the moment the Suina alimentation is the best way to handle with the production costs and the obtained products' quality, and the application of sigure strategy of alimentation leads to expected changes of performances.

In order to obtain some performances in the capitalization increases of nutritive substances from combined fodders are utilized biologic active substances, that in general have no nutritive value but they contribute directly with their content itself, to the assurance and completion of animal needs with certain nutrients and their use permit mainly to improve the animal breeding performances in condition of economic efficiency.

BioR preparation is a biologic active substance obtained by original technologies of oriented synthesis, successive extraction, fractional distillation and purification of bioactive principles from cyanophit alga biomass Spirulina platernsis Geitl (V. Rudic, 2007). This preparation contains such biologic active substances as amino-acids and oligopeptides, intermediary products of glucide, lipid, metabolism, macro- and microelements (T. Grosu, V. Macari, V. Gudumac, V. Rudic, 1996). These characteristics of BioR preparation determined us to use it in the Suina youth alimentation and to determine what its productive effect is.

Materials and Methods

The investigations referring to the administration of BioR preparation of alga origin and its influence study on productive indexes of Suina youth submitted to fattening were made the clinic of the faculty of Veterinary Medicine of State Agrarian University of Moldova, aswell as at the Zoohygiene Department of the faculty of Veterinary Medicine.

As biologic material served the half-breed sucking pigs obtained from Large White and Landrace breeds crossbreeding. The trained sucking pigs under research have been selected according to the actual requirements (genotype, age, body weight) and kept in identical conditions according to hygenic-sanitary standards.

The investigations were made according to the scheme presented in table 1.

Table 1

Scheme of experience effectuation.

Lots	nr	Mass eight of an animal. kg	Way of preparation administration	Admini-stration regime	Preparation dose, ml/head	Ratio
Control variant	5	17.04	I/mus	2 doses	2 ml 0,9% Na Cl	Equili-brated
Experimental 1	5	16.44	I/mus	2 doses	2 ml 0,9% Na Cl	Equili-brated
Experimental 2	5	16.24	I/mus	2 doses	2 ml BioR	Nonequi-librated

As it can be observed from the scheme of investigations made, the alimentation of the pigs under the research was different according to the group, and that is the control variant group received equilibrated combined fodder in accordance with nutritive indexes, and the experimental groups received combined fodder where the nutritive indexes were not equilibrated according to the standards.

Nutrition recipes for trained lots under research are presented in table 2.

Table 2

The recipes of combined fodder given to animals during the investigation.

Specification	Lots (groups)		
	Control variant	Experimental -1	Experimental -2
Maize, %	40	45	45
Wheat, %	19	15	15
Barley, %	9	10	10
Oat, %	9	5	5
Wheat husk, %	5	15	15
Sun flower grist, %	15	10	10
Dicalciumphosphate, %	1.6	-	-
NaCl, %	0.4	-	-
Premix, %	1	-	-
Nutritive value of recipes			
U.N., kg	1.79	1.80	1.80
Metabolic energy, MJ	19.45	19.5	19.5
Crude protein, g	267.8	248.0	248.0
Digestible protein, g	218.4	194.7	194.7
Crude cellulose, g	80.9	101.3	101.3

The necessity of vitamins and microelements for the variant control group was assured by vitamin-mineral premix, while in the experimental groups 1 and 2 the premix mentioned above, wasn't administrated.

During the investigation there were studied the following indexes:

- the body weight of trained animal in the study;
- progress in weight;
- daily progress average;
- specific consumption per 1kg of weight progress;
- viability.

Results and Discussions

The use of BioR preparation for the little pigs liable to fattening had a favorable effect in their productivity indexes.

The results of these investigations were presented in table 3.

According to the presented data in table 3 it is noticed that at the experience the body weight comprised in the control variant group -55,7 Kg, in the experimental group 1 – 50,7 kg, and in the experimental group 2 – 56,0 kg, that is the experimental group nr.2 to which was administrated the BioR preparation has a

greater mass weight with 0,5 % than the control variant group and with 10,4 % greater than the experimental group nr.2 .

Table 3

The influence of BioR preparation administration on the productivity indexes of Suina youth.

indexes	Lots		
	Control variant	Experimental	
		1	2
Effective, head	5	5	5
Investigation duration, days	110	110	110
Initial mass weight of pigs, kg	17.04±0.04	16.44±0.04	16.24±0.02
Final mass weight of pigs, kg311,4	55.7±1.57	50.7±1.46	56.0±4.46
Daily progress average, g	351.4	311.4	361.4
Specific consumption per 1 kg progress, U.N.	4.9	5.2	4.0
% of maintenance	100	100	100

Daily progress average in the mentioned group comprised 351,4 g, 311,4 g and respectively 361,4 g.

Resulting from the presented data, the conclusion is that the daily progress average of mass weight was greater in the experimental group 2 (the daily progress average was greater with 2,8 % than at the control variant and with 16,0 % greater than the experimental group 1), it was administrated twice the BioR preparation to the animals in a dose of 2 ml/head with an interval of 1 month.

Besides this the specific consumption per 1 kg of progress on weight in the control variant lots and the experimental 1 and 2 lots (with 18,3 % in comparison with the variant control and with 23,0 % for the experimental lot 1). The viability of pigs in all the trained lots was the same and constituted 100%.

The results of our investigations demonstrated that in the control variant lot, that has received a balanced ratio according to all the nutritive indexes, and in the experimental lot II, that has received a deficient ratio, but to whom it was administrated the BioR preparation, the sanguine indexes were approximately the same, which means a positive influence of the preparation. In the experimental lot II, that received a deficient ratio and without the administration of BioR preparation, the sanguine indexes were diminished in a negative meaning in comparison with the mentioned lots above. From the table date it is observed an

increase of leucocytes in all the lots taken into study, fact that could be explained simultaneously with the animals' growth and the number of leucocytes in the blood, but if not taking into account this fact, the obtained indexes regarding the number of leucocytes in blood are valid between the acceptable limits for this species (I. Carpuli, 1986)

Table 4

Morphological structure of blood of the animals from the experimental lots

Specification	N	Sanguine indexes			
		Haemoglobin g/l	Erythrocytes 10^{12}/l	Leucocytes 10^{9}/l	Hematocrit values %
Sanguine indexes for investigations' debut	6	129.50±3.66	4.99±1.26	8.62±0.30	36.50±1.26
Control variant lot Drawing I Drawing I	5	126.00±2.65 127.68±3.14	5.18±0.07 6.60±0.06	8.38±0.26 16.78±1.21	37.00±1.36 42.50±0.75
Experimental lot I Drawing I Drawing I	5	117.60±2.65 112.56±2.05	5.06±0.03 5.88±0.26	8.91±0.30 17.56±1.13	36.00±1.87 37.80±0.86
Experimental lot II Drawing I Drawing I	5	119.28±3.14 124.32±3.14	5.16±0.03 6.54±0.15	8.01±0.11 16.10±0.11	38.40±1.03 42.00±0.89

Conclusions

1. The results of the investigations demonstrates that the tested BioR product in veterinary clinic conditions of 2 ml intramuscular to pigs didn't cause reverse reactions or any other problems for animals' health.
2. BioR preparation administration to Suina youth with deficit recipes in biologic active substances, has a positive influence on basic zootechnical indexes, that is the progress in weight of the animals in

experimental lot II, to whom it was twice administrated the BioR preparation in a dose of 2 ml/head with 1 month interval, it was with 2,8 % greater in comparison with the control variant lot and with 16% greater with the experimental lot I.

3. The experiment demonstrated that the specific consumption of fodders to 1 kg of progress was more favorable in the experimental lot II, and was lower with 3,2 % than the control variant lot and 5,0 % than the experimental lot I.
4. According to the obtained data it can be mentioned that BioR preparation administration has positively influenced not only on productive indexes of animals under the study but also on morphological structure of blood.
5. Generally speaking, weren't established any significant differences referring the performances of the experimental lot II in comparison with the control variant, as well as between the experimental lot II and experimental lot I (that got the same nutrition recipe but without the injection of BioR preparation), but the obtained performances make us to continue the process of investigation.

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