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Stimulation of growth of suckling piglets with biologically active drugs

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It was found that feeding sows with drug "Hlyutam 1M" and together with the drug "Akvahelat Germany" intensifies the growth of live weight of piglets in suckling period. Moreover, the feeding of one hlyutamu 1M has a greater stimulating effect for the growth intensity than the complex of products. Thus, feeding of sows with drug "Hlyutam 1M" in a dose of 20 ml during three days after farrowing probably increase live weight in 15.4%, and together with aquahelat Germany in dose 8.37 mg / kg during 13 -15 days - 9 7% on the 11th day of period compared with the control. The intensity of the growth of live weight of suckling piglets which were fed with the drug "Hlyutam 1M" was higher in 5,2% ($p \leq 0,05$) than by using it in combination with akvahelat Germany.

Sow, live weight, suckling ptglets, hlyutam 1 M, Germanium, suckling period, growth.

Regardless of the addopted technology of pig production ,the system of growing piglets is one of the most important technological processes, the final zootechnical and economic performance of the entire industry depend on the outcome of it [5]. Effective maintenance pig production is largely caused by manning of breeding herd with quality replacement gilts , however,recent years, the system lost a role of a sow - as the main means of production [3].

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The main criterion for the growth and development of piglets is their live weight. It is believed that they grow and develop well if newborn piglets have a live weight of 1.2 - 1.5 kg .in the 30-day age - 7.5 - 9.0, and 60-day - 17.0 - 20.0 kg or more. The growth of live weight of young animals depends primarily on the sows' lactating level, operator's skills of schooling piglets eating feed and provide normal maintenance [5]. Therefore, the development of biotechnological methods of stimulation growth of suckling piglets ,is actual , because it has a great practical and fundamental value .

The target of the work was to develop biotechnological method of stimulation of suckling piglets' growth through the use of not hormonal biologically active medications with metabolically-neurotropic action.

The experiment was conducted on sows in first farrowing . Two experimental and control groups had 6 sows live weight of 180 - 200 kg. Groups were formed from sows analogues, breed and live weight, with local sows (Large White Landrace breeds and breeding Danish DanBred) which were inseminated with Duroc boars .

During the experiment sows were kept in individual pens. In farrowing seable gilts were transferred for 5 - 10 days before farrowing.

Experimental animals of I group were fed with drug "Hlyutam 1M"in a dose of 20 ml during three days after farrowing. In the second experimental group females ftom 3 to 5 days before farrowing and 10 days after were fed with aquahelat Germany in a water solution at a dose of 8.37 mg / kg. In addition, they got hlyutam 1M in a dose of 20 ml during 3 days after farrowing . In the control group of animals between 3 to 5 days before farrowing and 10 days after it a physiological solution was given in feed in a volume of 20 ml. "Akvahelat Germany» was given to experimental sows in the morning and "Hlyutam 1M" - at lunch each day individually, adding them to the dry food SC - 16 according to the scheme presented in Table 1. Each sow before farrowing was fed with 1.5 kg of dry feed , and after farrowing feed amount was increased to 3 kg.

1. Scheme of experimental drugs feeding sows

group	amount of sows	amount of feeding days		Drug and dose
		before farrowing	after farrowing	
The control	6	3–5	10	Saline - 20 ml
experimental I	6	-	3	Hlyutam 1M - 20 ml
experimental II	6	3–5	10 +3	Akvahelat Germany - 8.37 mg / kg + Hlyutam 1M - 20 ml

Piglets were weighed on electronic scales on birthday and on the 11th of day suckling period. Number of piglets in the litter after farrowin did equal to 13-14 animals, by taking them from the sow that had 15 or more babies.

Analysis of the data showed that feeding with akvahelat Germany before farrowing did not affect the growth of the embryo as the live weight of newborn piglets in the first and second experimental groups was higher in only 5.9% and 6.8%, comparing with the control.

Putting piglets to the litters of sows in experimental almost did not change the average weight of newborn piglets. While, after eleven days of suckling period live weight of suckling piglets in I and II experimental groups was significantly greater at 15, 4% and 9.7%, comparing with the control.It should be noted that the live weight of piglets in the I experimental group was higher by 5.2% than in the second experimental group (Table. 2).

2. The live weight of suckling piglets, kg.

Live weight	group					
	control		experimental I		experimental II	
	n	M±m	n	M±m	n	M±m
Newborns	80	1,18±0,027	78	1,25±0,035	81	1,26±0,039
adopted newborn piglets	3	1,28±0,095	3	1,2±0,151	3	1,5±0,097
Total	83	1,18±0,026	81	1,25±0,034	84	1,27±0,038
Piglets on 11 day suckling period	82	2,99±0,074	78	3,45±0,086**	84	3,28±0,08*

of them, own	80	2,99±0,075	75	3,46±0,089***	81	3,25±0,079*
addopted	2	2,54	3	3,08±0,157	3	4,22±0,421

Note: compared with the control; *p≤ 0,05 ; **p≤ 0,01; *** p≤ 0,001.

In experimental pigs live weight growth rate was higher than in controls. Thus, in the experimental group I pigs absolute increase in live weight all and her piglets was significantly higher at 22.2% and 41.4% compared with the control. In the second experimental group absolute growth of piglets was higher in 11,7% (p≤0,05), than in controls, but significantly lower at 9.5% compared to the experimental group I (Table. 3).

3. Absolute growth of piglets for11 days of suckling period, kg

The growth of piglets	group					
	control		experimental I		experimental II	
	n	M±m	n	M±m	n	M±m
All	82	1,81±0,064	81	2,20±0,062*	84	2,01±0,057*[1]
own	80	1,80±0,064	78	2,20±0,064**	81	1,99±0,057*[1]
addopted	2	1,33	3	1,88±0,089	3	2,68±0,334

Note: *p≤0,05 ; **p≤0,01– compared to control; [1]p≤0,05 – compared to the experimental I.

Conclusions

1. Feeding sows during three days after farrowing with drug "Hlyutam 1M" in a dose of 20 ml significantly increased in 15.4% live weight, and together with akvahelat germanium at a dose of 8.37 mg / kg for 13 -15 days - 9 7% on the 11th day of suckling period compared with the control.

2. The rate of growth of live weight of suckling piglets which were fed with the drug "Hlyutam 1M" was higher by 9,5% (p≤0,05) than by using it in combination with akvahelat Germany.

In further testings it is nesessary to establish the dose of akvahelat Germany for co-feeding it with the drug "Hlyutam 1M" to sows with the purpose of even more intense stimulation of growth of live weight of suckling piglets.

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