

The results of the monitoring studies showed a significant positive effect on the reproductive function of cows feeding forage probiotic drug "Agrobiobac". It is established that in lactating cows after the process of normalization mucous membranes of the gastrointestinal tract (experience – 22 days after the beginning of any cultures of lactobacilli and bifid bacteria in the ration), there was a significant (7 fold) decrease in the manifestations of putlog of the gonads in comparison with the control (without probiotic). Experienced cows marked improvement of the morphogenesis status of the ovaries: 56 % of females by palpation (in vivo) the presence of yellow bodies cycle and ovulatory follicles (control – 34 %).

In the experience of feeding live probiotic cultures as part of a diet not only improved transit feed, which decreased to 17 % (in the control undigested feed residues in the manure was up to 36 %), but also gave additional bio – productive effect of optimizing the reproductive function of lactating cows.

Key words: cows, ovaries, follicular cysts, polycystic disease, probiotic cultures, *Lactobacillus acidophilus*, *Bifidobacterium bifidum*, normalization, the transit of food.

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EFFECTIVE MODERN METHODS OF STIMULATION FARROWING FOR SOWS

Розглянуті питання застосування біологічно активних препаратів Bioestrovet та Decomoton для синхронізації опоросів у свиноматок в умовах родинної ферми Gospodarstvo Rolne Kamil Gajda (Польща).

Встановлено, що застосування даних препаратів сприяє достовірному зменшенню тривалості родів, частоти виникнення синдрому MMA (мастит-метрит-агалактії) та зменшенню мертвонароджених поросят. Доведено, що методи стимуляції опоросів у свиноматок впливають на інтенсивність відновлення статевої циклічності після відлучення поросят.

Скорочення часу опоросу слід вважати одним із головних методів, які дозволяють зменшити втрати поросят.

Ключові слова: свині, стимуляція, синхронізація, опороси, відтворення, біологічно активні препарати, Bioestrovet, Decomoton.

Formulation of the problem. Natural farrowing for a sow must not last more than 6–7 hours and interval between birth of piglets – 30 minutes. Such flow of farrowing does not envisage intervention from a man. But any deviations from this norm can be adjusted by a personnel. The amount of still-born piglets diminishes thus the protracted process of birth of next piglets must be stimulated by introduction of hormonal preparations that influence on the smooth musculature of uterus [1, 2, 3, 4].

In the conditions of modern complexes one operator can easily serve from 200 to 300 pigs due to technology of growing of animals arrangement of farm, technological processes and synchronization of luing-ins. On the rhythm of conduct of the industrial pig breeding and forming of groups of sows for luing-ins duration of pregnancy for pigs, that lasts from 105 to 125 days, influences a considerable measure [5, 6].

Analysis of recent research and publications. On researches of scientists such luing-ins have a row of advantages such as a facilitation of care of new-born piglets, forming of identical on age technological groups of piglets on growing and fattening and sows in to the workshop of insemination. In turn it stipulated the increases of the use in practice of the industrial pig breeding of different methods of stimulation and synchronization of luing – ins.

Thus in obedience to researches, with the purpose of farrowing for sows and prophylaxis of syndrome of MMA (metritis-mastitis-agalaktia) application of preparations of group of prostaglandins F2a. As is generally known duration of pregnancy and luing-ins for pigs influences on the amount of stillborn piglets.

So, at the protracted luing-ins (more than 6 hours) probability of appearance of stillborn piglets increases, while at the use of different methods of stimulations diminishes on this basis the aim of this research is a study of efficiency of different methods of stimulation [7, 8, 9].

Material and methods. Researches were conducted on a domestic pig farm Gospodarstwo Rolne Kamil Gajda (Poland) on 30 sows of breed PIC.

Research result and discussion. Bioestrovvet is hormonal preparation that is used for induction of luing-ins for sows, functional violations in ovaries, disfunction of ovaries(quiet hunt, volation of periodicity of sexual cycle), diseases of uterus after luing-ins.

Decomoton it is preparation that belongs to the agonist of Oxytocinum of the prolonged action. The operating substance of Karbetocynum selective contacts with receptors of Oxytocinum in the smooth muscle of uterus, stimulates rhythmic reductions of uterus, increases frequency of existant fights and promotes tone of fallopian muscle [9, 10, 11].

For determination of efficiency of methods of stimulation on principle of analogues were formed 2 experimental and 1 control groups of animals for 10 sows in each. The chart of introduction of preparations is described in table 1.

Table 1 – Chart of stimulation of odyntagogue for sows

Group of animals	Amount of sows	Preparation, dose, introduction	Time of introduction
1 (experimenta)	10	Bioestrovvet, 2 ml, singly	After 24h to the supposed luing-ins
2 (experimenta)	10	Bioestrovvet, 2 ml, singly Decomoton, 2 ml, singly	After 24h to the supposed luing-ins in 24h after introduction of preparation Bioestrovvet
3 (control)	10	Preparations were not entered	Expectation beginning of natural luing-ins

For twenty-hours to the supposed luing-ins the tern of that was defined on the calendar of the expected luing-ins from the date of the last insemination, preparation Bioestrovvet, 2ml, was entered to the sows of the first experimental group, singly, behind the ear. Preparation Decomoton, 2ml, was entered also to the sows of the second experimental group, behind the ear for the facilitation of flow of luing-ins stimulated by prostaglandins. Not a single preparation was entered to the sows of the third control group, the so-called «natural» luing-ins.

Efficiency of methods of correction of luing – ins was estimated on duration of luing-ins, presence of stillborn piglets, origin of syndrome of MMA and intensities of renewal of sexual recurrence after a weaning. The stage of excitation of sexual cycle was determined by the method of reflex (through a hog-tester) in a flow of 10 days after the weaning of piglets. The weaning of piglets from sows was conducted on 30 day after luing-ins.

Lately in connection with passing of the pig breeding to industrial basis and arising up in this connection heavy adaptation of animals to the unusual terms of maintenance for sows the cases of pathological flow of period increased after luing-ins. Thus sows have a syndrome of MMA (mastitis-metritis-agalactia) one of the most frequent pathologies. This syndrome specialists also named a fever after luing-ins, by a galactopyra, toxemia, septicemia, agalactic syndrome. This illness is related to the luing-ins and accompanied for sows by the complex of signs with partial or complete completion.

The syndrome of MMA is observed both for adults and for young sows at the normal flow of luing-ins. A disease on the farms of pigs can appear suddenly and stagger a herd to 30–50 %, sometimes to 90 % of animals.

Economic losses from MMA mainly carry after death of new-born piglets, that arrives at 70–80 %, in bad cases to 100 %. In Europe for the prophylaxis of MMA sows in the last months of pregnancy apply intramuscular prostaglandins in a 12.5 mg [4, 5, 8, 9].

Influence of methods of stimulation on duration of luing-ins and frequency of origin of syndrome of MMA for sows is presented in table 2.

From data tables 2 are visible that application of methods of farrowing played in favor of reduction of duration of luing-ins in the first and second experimental groups. Thus, the least duration of luing-ins was observed in the second experimental groups(2h), and most in the control groups of animals (5h).

It is also necessary to pay attention to that application of preparations for farrowing for sows plays in favor of to reduction of syndrome of MMA. Thus, the least amount is observed in the second experimental group (10 %) and most in the third control group (40 %).

Table 2 – **Influence of methods of stimulation on duration of luing-ins and frequency of origin of syndrome of MMA of sows**

Group of animals	Amount of heads	Duration of luingins, hours	Amount of sows of patients of MMA, heads, (%)
1 (experimental)	10	3	2 (20%)
2 (experimental)	10	2	1 (10%)
3 (control)	10	5	4 (40%)

During luing-ins there can be reasons of high death rate of piglets different factors. But the most frequent reason of this illness is not physiologically the protacted luing-ins with all their negative consequences. Therefore reduction of time of luing-ins it is necessary to consider one of main methods that allow to decrease the losses of piglets. For this purpose use preparations operating on the parasympatic nervous system [9, 10, 11].

Amount of living and dead piglets also depended on the chart of stimulation. Results are represented in table 3.

Table 3 – **Amount of living and dead piglets**

Group of animals	Living piglets	Dead piglets	Common amount
1(experimental)	100	6	106
2(experimental)	130	4	134
3(control)	90	8	98

From data of table evidently, that the most of living piglets were in the second experimental group (130 sows), the least – in the third control group (90 sows). Also, the least amount of dead piglets is observed in the second experimental group of sows (4 heads) and greater in a control group (8 heads). Such data testify also that application of Bioestrovet preparation was less effective in the first experimental group of animals by comparsion to second one because the amount of dead piglets anymore in the first experimental group (6 sows).

Influence of farrowing on intency of renewal of sexual reccurence represented in table 4.

Table 4 – **Intensity of renewal of sexual cycle of sows**

Group of animals	Amount of heads	Day after weaning of piglets from a sow to appearance of the stage of excitation of sexual cycle
1 (experimental)	10	4
2 (experimental)	10	3
3 (control)	10	5

From data of table 4 evidently that quicker is a sexual reccurence restored for animals in the second experimental group (3 days), in first experimental (4 days), in a control group (5 day).

Conclusions. 1. Application of chart of farrowing preparations appeared most effective, because played in favour of reliable reduction of duration of luing-ins (2 hours in the second experimental group and 5 hours in a control group) and frequency of origin of syndrome of MMA (metritis-mastitis-agalactia) in the second experimental group (10 %) by comparsion to first experimental (20 %) and with the third control (40 %) groups.

2. Also application of this chart diminishes the amount of stillborn piglets in the second experimental group (4 sows) by comparison to a control group (8 sows).

3. Intensity of renewal of sexual reccurence for sows after weaning of piglets straight depends on this chart of farrowing – quicker is a sexual reccurence restored in the second experimental group (on 3 day), while in the first investigated group on 4 days and in control group on 5 days.

Development and estimation of effective methods of stimulation and synchronization of luing-ins for sows for further reduction of loss of new-born piglets on pig farm.

LIST OF LITERATURE

1. Bielanski A. Biotechnologia. Rozrodu zwierząt gospodarskich / A. Bielanski. – Krakow: Universita, 2003. – 455 s.
2. Blicharsky T. Nowoczesna i kompleksowa produkcja prosiąt / T. Blicharsky, K. Niemczuk. – Warszawa, 2013. – 48 s.
3. Горбунов В. Свины. Разведение. Содержание. Уход / В. Горбунов. – М.: Подворье, 2011. – 194 с.
4. Грабенко А.А. Синхронізація опоросів – основа ритмічної технології відтворення свиней та виробництва продукції / А.А. Грабенко, М.І. Харенко, О.М. Чекан // Ветеринарна медицина України. – 2012. – № 6. – С. 25–28
5. Мельник В.О. Синхронізація пологів свиноматок комплексом біологічно активних препаратів / О.В. Мельник, М.М. Поручник, А.О. Бондар / Інститут свинарства і АПВ НААА України. – Полтава, 2010. – 168 с.
6. Мельников И. Разведение и выращивание свиней / И. Мельников. – М.: Подворье, 2012. – 21 с.
7. Мытарев Н.И. Ветеринарно-биологические основы повышения воспроизводительной функции у свиней разных пород: автореф. на соискание уч. степени д-ра вет. наук (16.00.07) / Мытарев Николай Иванович; Ставроп. гос. аграр. ун-т. – Ставрополь, 2005. – 360 с.
8. Пейсак З. Болезни свиней / З. Пейсак. – Брест: Брестская типография, 2008. – 406 с.
9. Przala J. Endokrynologia rozrodu. Synteza wyników badan naukowych z zakresu biologii rozrodu zwierząt / J. Przala. – Olsztyn, 2001. – 120 s.
10. Рачков И.Г. Синхронизация опоросов с помощью гормональных препаратов / И.Г. Рачков, Л.В. Ворсина // Сб. науч. тр. Ставроп. НИИ животноводства и кормопроизводства. – Ставрополь, 2012. – Т. 1, № 5. – С. 93–99.
11. Шевченко Е.Г. Влияние различных способов стимуляции на продуктивные качества ремонтных свинок: автореф. на соискание уч. степени канд. с.-х. наук (06.02.10) / Шевченко Екатерина Геннадьевна; Моск. с.-х. акад. им. Тимирязева. – М., 2016. – 110 с.

REFERENCES

1. Bielanski A. Biotechnologia. Rozrodu zwierząt gospodarskich / A. Bielanski. – Krakow: Universita, 2003. – 455 s.
2. Blicharsky T. Nowoczesna i kompleksowa produkcja prosiąt / T. Blicharsky, K. Niemczuk. – Warszawa, 2013. – 48 s.
3. Горбунов В. Свины. Разведение. Содержание. Уход / В. Горбунов. – М.: Подворье, 2011. – 194 с.
4. Grabenko A.A. Synhronizacija oporosiv – osnova rytmichnoi' tehnologii' vidtvorennja svynej ta vyrobnyctva produkcii' / A.A. Grabenko, M.I. Harenko, O.M. Chekan // Veterynarna medycyna Ukrainy. – 2012. – № 6. – S. 25–28
5. Mel'nyk V.O. Synhronizacija pologiv svynomatok kompleksom biologichno aktyvnyh preparativ / O.V. Mel'nyk, M.M. Poruchnyk, A.O. Bondar / Instytut svynarstva i APV NAAA Ukrainy. – Poltava, 2010. – 168 s.
6. Mel'nikov I. Razvedenie i vyrashhivanie svinej / I. Mel'nikov. – M.: Podvor'e, 2012. – 21 s.
7. Mytarev N.I. Veterinarно-biologicheskie osnovy povysheniya vosproizvoditel'noj funkcii u svinej raznyh porod: avtoref. na soiskanie uch. stepeni d-ra vet. nauk (16.00.07) / Mytarev Nikolaj Ivanovich; Stavrop. gos. agrar. un-t. – Stavropol', 2005. – 360 s.
8. Pejsak Z. Bolezni svinej / Z. Pejsak. – Brest: Brestskaja tipografija, 2008. – 406 s.
9. Przala J. Endokrynologia rozrodu. Synteza wyników badan naukowych z zakresu biologii rozrodu zwierząt / J. Przala. – Olsztyn, 2001. – 120 s.
10. Rachkov I.G. Sinhronizacija oporosov s pomoshh'ju gormonal'nyh preparatov / I.G. Rachkov, L.V. Vorsina // Sb. nach. tr. Stavrop. NII zhivotnovodstva i kormoproizvodstva. – Stavropol', 2012. – Т. 1, № 5. – S. 93–99.
11. Shevchenko E.G. Vlijanie razlichnyh sposobov stimuljacji na produktivnye kachestva remontnyh svinok: avtoref. na soiskanie uch. stepeni kand. s.-h. nauk (06.02.10) / Shevchenko Ekaterina Gennad'evna; Mosk. s.-h. akad. im. Timirjazeva. – M., 2016. – 110 s.

Эффективные современные методы стимуляции опоросов у свиноматок

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Рассмотрены вопросы применения биологически активных препаратов Bioestrovet и Decomoton для синхронизации опоросов у свиноматок в условиях семейной фермы Gospodarstwo Rolne Kamil Gajda (Польша).

Установлено, что применение данных препаратов благоприятствует достоверному уменьшению длительности родов, частоты возникновения синдрома ММА (метрит-мастит-агалактия) и уменьшению мертворожденных поросят. Доказано, что методы стимуляции опоросов у свиноматок влияют на интенсивность восстановления половой цикличности после отъема поросят.

Сокращение времени опороса следует считать одним из главных методов, которые позволяют уменьшить потери поросят.

Ключевые слова: свиньи, стимуляция, синхронизация, опоросы, воспроизведение, биологически активные препараты, Bioestrovet, Decomoton.

Effective modern methods of stimulation farrowing for sows

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In the article the results of application of complex of bioactive preparations of Bioestrovet and Decomoton are considered for synchronization of farrowing for sows in the conditions of domestic pig farm Gospodarstwo Rolne Kamil Gajda (Poland).

The got effects showed that the use of this chart for an farrowing played in favour of to reliable reduction of duration of process of farrowing frequency of origin of syndrome of MMA (metritis-mastitis-agalaktia) and reduction of amount of still-born piglets. It is well-proven that the methods of stimulation of farrowing for sows influence on intensity of renewal of sexual recurrence after a separation piglets.

Reducing the time of farrowing be considered one of the main methods to reduce the loss of piglets.

Key words: pigs, stimulation, synchronization, farrowing, play, biologically active agents, Bioestrovet, Decomoton.

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