

(Rh) was calculated, based on number of parities, percentage of heifers, and heifers survival.


It was found that for the normal herd reproduction in the CJSC Agro-Soyuz it is necessary to have at least three calvings per cow ( $R_h = 1.2$ ). However, even the optimistic average indicator value for the herd ( $R_h = 1.7$ ) does not reflect the real situation, since, as a rule, the majority of high-yielding cows drop out of the herd during the first three lactations. In present study, the proportion of cows from the 1st to the 3rd completing lactation was about 89% ( $R_h = 0.8$ ).

Conclusions. Thus, to assess the herd state of reproduction, the three main considered parameters may be sufficient for herd decision making. We propose that additional factors could be considered for the overall reproduction efficiency and herd turnover calculations.

Key words: cows, heifers, survival, reproduction, estimated coefficient.

#### *How to Cite*

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## **CONTROL OF THE CONTENT OF LACTOBACTERIA IN FODDER PROBIOTIC ADDITIVES**

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*Бактерії роду *Lactobacillus* spp. є найбільш поширеними представниками нормофлори в складі різних пробіотичних полікомпонентних кормових добавок. Вони виконують в кишечнику тварин цілий ряд важливих функцій по виробленню травних ферментів, ряду незамінних амінокислот, вітамінів,*

*мікроелементів, антимікробних речовин, біостимуляторів, що сприяє кращому засвоєнню поживних речовин корму та підвищенню імунного статусу тварин.*

In the framework of the informational-educational program of the Agrarian Advisory Service of the Odessa Region “Effective Organic Cattle Breeding”, the experts analyzed feedback on the results of using probiotic feed additives for animals of different species in different livestock enterprises that turned out to be very contradictory and did not always meet the advertising sellers promises.

Therefore, the aim of our study was to develop an express installation testing of feed probiotic supplements, which included strains of different lactobacilli using the method of identification of bacteria of the genus *Lactobacillus* spp. using titration at 10-fold dilutions of the nutrient medium.

The laboratory test scheme involved testing and using a modified method (GOST 10444.11-89) for the quantitative interpretation of titration results at 10-fold dilutions of milk; preparation of the medium for the cultivation of samples - sterilized industrial cow milk (DSTU 2661: 2010), sterile tubes for the cultivation of samples and biothermostat (temperature + 37 ° C).

During the tests, five samples of probiotic feed additives of foreign and Ukrainian production were tested, where the composition of the strains of sour-milk bacteria was indicated: No. 1 - lyophilized (dried) bacteria with a concentration of  $\geq 4 \times 10^9$  CFC / g *L. acidophilus*, *L. bulgaricus*, *L. plantarum*, *L. lactis*, *L. cremoris*; No. 2 - lyophilized bacteria  $\geq 5 \times 10^{10}$  CFC / g *L. plantarum*, *L. lactis*, *L. cremoris*; No. 3 - lyophilized bacteria  $5 \times 10^{11}$  CFC / g *L. acidophilus*, *L. bulgaricus*, *L. plantarum*; No. 4 - non-lyophilized bacteria (suspension)  $\geq 10 \times 10^7$  CFC / g *L. acidophilus*, *L. plantarum*; No. 5 - non-lyophilized (suspension)  $\geq 1 \times 10^7$  CFC / g *L. acidophilus*.

As a result of viewing the test samples after 24 hours of cultivation, it was found that in three of the five samples the concentration of colony-forming cells of sour milk bacteria was significantly lower than what was stated by the manufacturers under the technical conditions of this probiotic product, namely: No. 1 -  $1 \times 10^2$  CFC / g; No. 3 -  $5 \times 10^3$  CFC / g; No. 4 -  $10 \times 10^5$  CFC / g. In sample No. 2, the growth of sour milk microflora was absent.

Only one sample No. 5 had an appropriate concentration of the claimed *L. acidophilus* strain -  $1 \times 10^9$  CFC / g, which confirmed the potential of this feed additive to the formation of a physiologically active population of the culture strain of mammalian normoflora in the small intestine and to increase the barrier and nutritional function of the mucous membranes. According to microbiological studies, the concentration of microorganisms in the normal micro biota of the small intestine of productive animals varies according to different sources from  $1 \times 10^5$  to  $1 \times 10^7$  CFU in 1 g of chime, therefore the prophylactic and therapeutic effect of probiotic additives can occur only if they have higher concentrations of lactobacilli.

Thus, preliminary tests using the express method for the content of lactobacillus strains in probiotic feed additives revealed inconsistency of the actual data with the declared technical specifications.

**Key words:** probiotic feed additives, sour milk bacteria, colony forming cells, *Lactobacillus spp.*, prevention.

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## ОЦІНКА НЕТРАДИЦІЙНОЇ КУЛЬТУРИ – ЕЙХОРНІЇ ЯК АЛЬТЕРНАТИВНОГО ПРОДУЦЕНТУ ЕКОЛОГІЧНИХ КОРМОВИХ РЕСУРСІВ ТВАРИННИЦТВА

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*Climate change in the more arid territory of southern Ukraine encourages feed production to look for alternative sources green mass for ruminant species of productive animals, so unconventional forage culture - eichornia is worth considering. Its uniqueness is that after performing the function of an active botanical biotransformer - reclamer of livestock farm runoff, the overgrowth of this plant can be used as a nutritious feed for many species of agricultural animals.*

Впровадження в Україні біотехнології вирощування та використання в тваринництві культури ейхорнії потребує постійного фітосанітарного контролю та детального вивчення біології цієї рослини. В 2017 році на базі фермерського господарства за спільною програмою Аграрної дорадчої служби Одеської