Naujausių simbiotikų įtaka pieninių galvijų sveikatingumui, produktyvumui, antibiotikų vartojimo mažinimui bei ūkio konkurencingumo didinimui

1. **Keywords:** health, Alternative to antibiotics, Feed intake, Symbiotics, Prebiotics, Probiotics

2. **Area:** Livestock farming

3. **Subarea:** A safe alternative for animal health and productivity (symbiotics).

4. **Theme:** Impact of newest symbiotics on dairy cattle health, performance, reduction of antibiotic use and improvement of farm competitiveness

5. **Year:** 2021

6. **Summary:** The intensive, extensive, and often unjustified use of antibiotics on farms leads to the development of more resistant pathogens and a reduction in the effect of the drugs, leading to recurrent diseases and higher doses of antibiotics. Research has shown that bacteria with antibiotic resistance genes are transmitted from animal to animal and from animal to man. The problem is significant as antibiotic resistance in micro-organisms is evolving faster than the invention or development of new antimicrobial drugs.

7. **More detailed version of the summary:** To reduce the use of antibiotics on farms, more advanced treatment and prevention measures are needed to reduce the number of diseases and, where treatment is needed, the use of antibiotics. One of the measures is to introduce biotechnology products – symbiotics – into livestock diets. These are a combination of biologically active organic substances – probiotics together with prebiotics – which have a positive effect on the digestive and immune systems and on all the micro-organisms in the gastrointestinal tract and are therefore of major importance for the health and productivity of cattle. Once in the gastrointestinal tract, they kill pathogenic micro-organisms, neutralise, and compensate for organ dysfunction, stimulate tissue regeneration and the immune system. Symbiotic preparations are developed from micro-organisms in the digestive tract of animals. They are organic products synthesising very important biologically active substances: vitamins, enzymes, antibiotics, and amino acids. Symbiotics have advantages compared to antibacterial chemical preparations: they are non-poisonous, do not cause side reactions or allergies, are an optimal start for young cattle, as they boost immunity, stimulate feed intake, support intestinal function and health, reduce the risk of acidosis, improve micronutrient uptake, and increase productivity. To ascertain the effectiveness of symbiotics on the health and productivity of dairy cows and calves and to evaluate the effectiveness of the technology, LAAS animal husbandry advisers and specialists conducted 8 demonstration trials on dairy farms in different districts of Plungė, Skuodas, Rokiškis, Utena, Šilutė, Šilalė, Kelmė and Šiauliai. From the dairy cows, 16 cows and 16 of their new-born calves were selected. The cows and calves were divided into 2 groups (control and experimental). The animals were housed and fed under identical conditions during the trial. The fresh dairy cows in the experimental group were given symbiotics with feed (for three months) and the calves were given symbiotics with milk (for two months). Nutritional analyses of the feed were carried out, blood biochemical, productivity and milk quality parameters were determined, and serum immunoglobulin levels were determined. Feed digestibility was assessed using manure-sieving. Tested 4 times: 14 days after calving, after 1 month, after 2 months and at the end of the trial. The trials confirmed the benefits of symbiotics. Conclusions and recommendations are attached.

8. **Effect:** Economical, Animal welfare, People’s health, Agro-environmental protection

9. **Argumentation:** The use of symbiotics resulted in an average increase in milk yield of 3.83% or 1.05 kg in dairy cows compared to the control group. Milk quality indicators improved: milk protein increased by 2.19% and somatic cell count decreased by more than 20%. Farmers have experienced fewer problems with cow insemination since the introduction of symbiotics. Symbiotics promoted calf growth, development, and disease resistance. Calf daily weight gain increased by an average of 4.2% in the experimental groups compared to the control groups.

10. **Project description:** Project title: Impact of newest symbiotics on dairy cattle health, performance, reduction of antibiotic use and improvement of farm competitiveness Source of project funding – RDP measure “Knowledge transfer and information activities” Field of measure action – Support for demonstration projects and information activities

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12. **URL:** http://www.agroakademija.lt/Straipsniai/StraipPerziura?StraipsnisID=13848&TemaID=2

13. **Images:**
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14. **YouTube:** -

15. **Documents:** Conclusions and recommendations.pdf