

Mitybinių faktorių įtaka melžiamų karvių produkcijos didinimui, produkcijos kokybės gerinimui ir šavikainos pokyčiui

1. Keywords:

2. **Area:** Livestock farming

3. **Subarea:** Cow nutrition, extruded flaxseed cake, grass forage

4. **Theme:** Influence of nutritional factors on the increase of production of dairy cows, improvement of production quality and change of cost price

5. **Year:** 2020

6. **Summary:** In order to increase competitiveness and economic profitability of the modern Lithuanian dairy farm, as one of the most complex enterprises of agricultural production, it is encouraged to share knowledge that determines the increase of farm productivity and to use innovative farm technologies on the farm. PI LAAS implemented a project during which the cooperation between the farmer, the adviser and the scientist was expanded. During the project implementation, farmers were provided with knowledge and the latest information on scientific research in the fields of feed production, feeding, and environmental protection. The project covered the entire technological process from pasture fertilization to the use of omega-3 acid supplements for animal feed. Each farm must create a stable and balanced grass forage base for the animals, with the aim of providing a valuable ration for animals throughout the year: good grasslands grown on farmers' farms guarantee a sufficient supply of quality grass throughout the grazing period, and quality grass can produce valuable preserved forage for winter.

7. **More detailed version of the summary:** The project was implemented in 2 stages, trials were performed on 10 dairy farms located in different districts of Lithuania (Kėdainiai, Radviliškis, Šilutė, Šilalė, Skuodas, Plungė, Akmenė, Kelmė, Rokiškis and Utena). During the first stage, the grasslands were fertilized with NPK mineral fertilizers in April. The fertilizer amounts on different farms varied depending on soil richness, manure fertilization and grassland composition. Farmers started mowing the first grass, leaving a stubble about 5 cm high, and producing forage from it on 15 May, and finished it at the end of the month. During the trials, the productivity and nutritional value of the sward, vegetation renewal and botanical composition in the year of sward growth were assessed, as well as the dry matter content per ha, and the qualitative indicators of preserved forage (haylage) were investigated. The total crude protein content of the first grass was 15–20.7%. The highest protein content was found in the legume-grass sward, where forage legumes accounted for 40% and grasses – for 60%. The nutritional value of second-growth swards is lower, the protein content is 2.4–17.3%. The dry matter content of the first grass was 3036–5038 kg/ha. During the trials, both the grass and the haylage made from the first grass was analysed. It was of very different quality: ranging from 34.4 to 57.1 DM; protein percent – from 13.8 to 17.0 SM, energy (NEL) – from 4.9 to 6.3 MJ/kg DM. During the fertilization trial, not all farms managed to achieve a positive result, as meteorological conditions (drought) and the botanical sward composition had a great influence, therefore we recommend choosing a mixture of grasses with more components – in this way we will prolong the longevity and resilience of the sward – and using Lithuanian grass varieties in mixtures as they are adapted to our climate; in case of drought to fertilize at night and use complex fertilizers as they are better assimilated. Project stage 2 – the use of extruded flaxseed cake for feeding dairy cows. The aim of the trial was to investigate the influence of extruded flaxseed cake on cow health, milk yield, milk quality and economic indicators. Two analogous groups of cows were fed the same feed for 90 days. One group received an additional 1000 g per day of extruded flaxseed cake. Daily milk yield, fat, protein and lactose concentrations, as well as urea and somatic cell counts were observed during the study. The cows that received the extruded flaxseed were healthier, showed greater energy, had no digestive problems, their hides were shinier, and more milk was produced during the trial period.

8. **Effect:** Economical, Agro-environmental protection, Sustainable Farming, People's health

9. **Argumentation:** The use of extruded flaxseed cake gave cows a better appetite and an average increase in milk productivity of 6% and milk fat of 4.9% (average milk fat at the beginning of the trial was 3.85%, at the end it was 4.04%) improved health (based on the results of blood biochemical tests). The product cost to obtain 1 kg of milk (depending on the milk yield) is EUR 0.024-0.063. Recommend using the cake at high productivity

10. **Project description:** -

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12. URL: -

13. Images:

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14. YouTube: -

15. Documents: -