

Enhancing the Quality of Silage Bales Produced by a Commercial Scale Silage Producer in Northern province, Sri Lanka: A Step Toward Supporting Smallholder Dairy Farmers in the Northern Province Sri Lanka

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Abstract : Silage production is an essential aspect of dairy farming, used to provide high-quality feed to ruminants. However, dairy farmers in Northern Province Sri Lanka are facing multiple challenges that compromise the quality and quantity of silage produced. To tackle these challenges, promoting silage feeding has become an essential component of sustainable dairy farming practices. In this study, silage bale samples were collected from a newly started silage baling factory in Jaffna, Northern province and their quality was analysed at the Veterinary Research Institute laboratory in Kandy in March 2023. The results show the nutritional composition of three Napier grass cultivars: Super Napier, CO6, and Indian Red Napier (BH18). The main parameters analysed were dry matter, pH, lactic acid, soluble carbohydrate, ammonia nitrogen, ash, crude protein, NDF, and ADF. The results indicate that Super Napier and CO6 have higher crude protein content and lower ADF levels, making them suitable for producing high-quality silage. The pH levels of all three cultivars were safe, and the ammonia nitrogen levels were considered appropriate. However, laboratory results indicate that the quality of silage bales produced can be further enhanced. Dairy farmers should be encouraged to adopt these cultivars to achieve better yields as they are high in protein and are better suited to Northern Province's soil and climate. Therefore, it is vital to educate small-scale fodder producers, who supply the raw material to silage factories, on the best practices of cultivating these new cultivars. To improve silage bale production and quality in Northern Province Sri Lanka, we recommend increasing public awareness about silage feeding, providing education and training to dairy farmers and small-scale fodder producers on modern silage production techniques and improving the availability of raw materials for silage production. Additionally, Napier grass cultivars need to be promoted among dairy farmers for better production and quality of silage bales. Failing to improve the quality and quantity of silage bale production could not only lead to the decline of dairy farming in Northern Province Sri Lanka but also the negative impact on the economy

Keywords : silage bales, dairy farming, economic crisis, Sri Lanka

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