**Polythene bag silos for ensiling guinea grass for small-scale livestock farmers in Sri Lanka**

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Conservation methods of herbage materials have become an essential part in ruminant production as it ensures the year-round supply of feeds necessary for efficient livestock production. Among these methods Ensiling is a recommended method for conservation of forage material.

This experiment was conducted to investigate the ensiling characteristics of Guinea-A (*Panicum maximum*, echo type A) with different wilting times; 20, 40 and 60 minutes and different chopping sizes; 25, 38 and 63 mm with two high density polythene bag silos of 15 kg and 20 kg capacities. Other aspects of this research was to introduce mechanical devises for chopping and evaluate different means of pressing forages in silage making; mechanical pressing, manual pressing and vacuuming and the analysis of the cost of production of silage under different techniques.

All treatment combinations ensiled satisfactorily in 6 weeks time. Smell, Colour, pH value and lactic acid content were used as quality parameters. According to results, a wilting time of 60 minutes, a chop size of 25 mm (1") and 20 kg bag size were found to be the best combination for silage making. When compared the 3 types of compression, mechanically pressed silage using a bridge press was the best. However, the quality of silage made by vacuuming and manual compression was also in acceptable quality for animal feed. According to a feeding trial conducted with nine sheep, it was found that they consumed more than 10% of their body weight daily, indicating that all three types were acceptable for animal feeding. Cost of production of a 20 kg silage bag was about Rs 26 when grass is chopped by a mechanical chopper and Rs 40 with manual chopping of grass.

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