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Effects of different particle sizes and forage species combined forage pellet on goat palatability [1]

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Abstract

This study aims to understand the effects of factors such as particle size (diameter), raw material composition, and composition ratio on the palatability of forage pellets, providing a reference for the development of domestically produced pangola grass pellets. Two batches of goat palatability trials were conducted in the study, with each batch comparing four types of forage pellets. The trials involved four castrated male goats, each weighing approximately 30 kg, housed individually (four replicates). The palatability indicators compared were the number of bouts within the first 20 minutes after feeding and the cumulative dry matter intake at 1, 2, and 3 hours post-feeding. In Experiment I, a comparison of four types of forage pellets, including 6 mm and 8 mm pangola grass and oat hay, was conducted. The results showed significant differences among treatments; oat (temperate grass) had better palatability than pangola grass (tropical grass), and the smaller size of 6 mm pellets were more palatable than the 8 mm ones. In Experiment II, comparisons were made among four types of pellets: pure pangola grass, pangola grass/oat (4/1), pangola grass/alfalfa (9/1), and pangola grass/alfalfa (1/1). The results indicated that pure pangola grass pellets had significantly lower palatability indicators compared to the mixed pellets tested. The pangola grass/alfalfa (9/1) mixture had the best palatability, significantly better than both the pangola grass/oat (4/1) and pangola grass/alfalfa (1/1) mixtures. This suggests that the addition of alfalfa and oat can significantly improve the palatability of pangola grass pellets, and the enhancement effect of alfalfa does not increase with a higher addition rate, as a small amount of alfalfa significantly enhances the palatability of pangola grass.

Key words: Pelletized forage, Goat, Palatability.

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