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News & Comments

Tropical lactating dairy cow diets include fermented rubber seed kernels with yeast

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Tropical roughage frequently has low protein and high fibre content, which reduces the efficiency of dairy production. On-farm diet mixing and the addition of concentrate with high amounts of protein and calories may be beneficial. Rubber seed kernels (RSKs), a by-product of the rubber tree in north-eastern Thailand, could provide as an alternative dietary protein source. The application of yeast fermented RSKs in dairy cows hasn't yet been studied, though. To determine how adding yeast-fermented rubber seed kernel meal (YERSEK) to concentrate affects feed intake, haematological, microbial protein synthesis, milk yield, and milk composition in tropical nursing dairy cows, that was the purpose of this study.

The Raja Mangala University of Technology Isan's Animals Ethical Committee gave its approval to the animal care. Fresh rubber seeds were gathered from orchards in Sakon Nakhon, Thailand. The complete seeds were kept indoors after being hand-gathered from the ground. The Dairy Farming Promotion Organization (DPO) in Thailand's northeast oversaw and administered this study, which was carried out at the Kornwadee dairy farm. During the last week of the collection period, samples of faeces and feed were collected from each cow.

The poorer palatability of supplementary fat to ruminants has repeatedly been mentioned as a potential factor in the detrimental effect of fat on consumption. The present study's dairy cows' feed and fibre intake were unaffected by the addition of YERSEK to concentrate, which may indicate that these levels are acceptable for rumen microbial activity and nutrient intake. The BUN concentration is frequently used to track metabolic problems associated with health and sickness as well as protein status. Most of the amino acids needed for animal activity and growth are provided by microbial CP, which is significant for ruminant protein supply.

Milk output was unaffected, although dairy cows fed YERSEK in concentrate had lower milk fat and total solid contents. In contrast, scientists claimed that adding boiling rubber seed kernels to goat concentrate at a rate of 10–30% had no impact on milk yield or milk composition. Through lowering the expression of lipogenic enzymes in the mammary gland, trans-fatty acids, notably trans-10, and cis-12 conjugated linoleic acid, impede the de novo synthesis of fatty acids in milk.

Milk production, feed utilization, haematological parameters, or microbial protein synthesis were unaffected by the addition of YERSEK at 10–20% in concentrate, however milk fat and total solids reduced in tropical lactating dairy cows.

Source: Veterinary Sciences

KEYWORDS

Rubber seed kernel, yeast-fermented product, microbial protein synthesis, milk quality, dairy cows