Nutrient intake and health status of grazing goats supplemented or not with heather


(1) SERIDA, Asturias, Spain; (2) CECAV-Dpto. Zootecnia, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal; (3) SALUVET, UCM, Madrid, Spain; (4) Instituto Ganadería de Montaña, CSIC, León, Spain.

Some bioactive plants such as tannin-containing heather can reduce parasitic infections by gastrointestinal nematodes, enhancing goat performance. Thus, goats could select to feed on heather despite its low nutritive value to maintain a better health status. The aim of this work was to evaluate the effects of heather supplementation on diet selection, nutrient intake, and gastrointestinal nematode infections in grazing goats. Four 0.5 ha-paddocks with *Agrostis capillaris*-dominated grasslands were established in western Asturias (northern Spain). Twelve Cashmere goats with their kids were allocated in each paddock from April to November. In two of the paddocks, goats were offered freshly cut heather (mostly *Calluna vulgaris*) every 3 days, whereas no heather was supplied in the other two. Diet selection (pasture-heather) and daily dry matter intake (DMI) of goats were estimated in two periods (June and October) using alkane markers. Samples of pasture and heather were analysed for crude protein (CP), neutral and acid detergent fibre (NDF, ADF) and acid detergent lignin (ADL), and their daily intakes calculated. Faecal samples were collected monthly for faecal nematode egg count (FEC). In June, mean heather percentage in the diet of supplemented goats was 21%. Total DMI per metabolic body weight was not affected by heather supplementation (mean 64 g DM kg BW\(^{-0.75}\) d\(^{-1}\) ), indicating a total replacement of pasture by heather. As a consequence, CP intake was lower while ADF and ADL intakes were higher \((P < 0.05)\) in supplemented than in pasture-fed goats. In October, heather percentage in the diet of supplemented goats was 35%, and total DMI was lower than in June in both supplemented and non-supplemented goats (31 and 27 g DM kg BW\(^{-0.75}\) d\(^{-1}\), respectively). Thus, goats again substituted pasture for heather to a large extent (68%). ADF and ADL intakes were higher \((P < 0.01)\) in supplemented goats, with no differences for CP intake, partly due to the lower CP contents in the autumn pasture. FEC increased less \((P < 0.05)\) across the grazing season in supplemented goats (46% reduction level in relation to non-supplemented goats). In spite of the nutritionally poorer intake, heather-supplemented goats showed more favourable BW changes. In conclusion, goats chose to feed on tannin-containing heather instead of grazing only on more nutritious pasture. Goats sacrificed nutrient intake in the interests of health, which ultimately improved their productive responses.