

## Feeding behaviour and pasture utilization by goats in the southern Italy

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Grazing of goats, was studied with emphasis laid on grazing behaviour, feed supplementation and pasture utilization in intensive grazing systems. A synthesis of the main results is given here.

Feeding value and botanical composition of the diet of local and Maltese goats were determined on pasture using oesophagus fistulated animals. Goat diets were sampled at various seasons and plant vegetation stages. Generally the feeding behaviour of local and Maltese goats was similar in all grazing seasons. Goat diets always showed higher values crude protein (local goats : 14.57 in spring ; 12.99 in summer ; 19.57 in fall ; Maltese goats : 14.87 in spring ; 12.96 in summer ; 18.96 in fall), of than that of the pasture (9.38 in spring ; 6.44 in summer ; 11.36 in fall). In contrast, fibre (local goats : 30.48 in spring ; 30.21 in summer ; 26.61 in fall ; Maltese goats : 32.08 in spring ; 30.40 in summer ; 27.55 in fall) and ash content (local goats : 6.6 in spring ; 6.5 in summer ; 6.7 in fall ; Maltese goats : 6.7 in spring ; 6.3 in summer ; 6.5 in fall) of goat diets were lower than that of the clipped forage (fiber : 33.87 in spring ; 35.25 in summer ; 30.34 in fall ; ash : 6.9 in spring ; 7.2 in summer ; 8.2 in fall). O.M. digestibility of goat diets showed higher values (local goats : 60.52 in spring ; 53.24 in summer ; 62.07 in fall ; Maltese goats : 59.78 in spring ; 57.47 in summer ; 60.57 in fall) than that of pasture (57.6 in spring ; 50.0 in summer and 55.36 in fall). Generally goats preferred grasses in spring and fall and other species in summer. Few legumes were consumed by goats.

The pasture utilization levels were also studied from estimates of the herbage mass (using cages) at the beginning and at the end of the grazing period. A herd of 80 local goats was allowed to graze a pasture, of nearly 6 ha, subdivided into 3 plots. In order to facilitate the maximum herbage consumption, goats were given no dietary supply and were kept in plots as long as they seemed to like existing herbage.

The efficiency of pasture utilization was moderate and was characterized by very low levels in the initial grazing stage.

Observation of the curve showed three different stages in the grazing period : a first one (March) during which the refusal rate was high (around 78 %) ; a second one (April and May) during which it was intermediate (53 %) and third (June and July), during which the lowest refusal rate was observed (42 %).

Another trial was carried out in order to check the opportunity of supplying concentrate to goats fed on pasture as well as to determine criteria according to which concentrate should be fed. A group of thirty Maltese goats, two months after kidding, was subdivided into three homogenous groups with regard to productive potential. During all the grazing period a first group (A) did not receive any supplementation, a second one (B) received 0.500 kg daily of concentrate, a third one (C) received a supplementation according to the milk production and the available herbage. The pasture was divided into three 1.5 ha paddocks which were rotationally grazed by groups. Four goats, fitted with a bag for total collection of faeces, was used to evaluate total dietary intake.

A higher milk yield was observed in goats of group C (129 kg) as compared to animals of groups B (111 kg) and A (109 kg) ; however differences were not significant. The average F.U. daily intake were respectively 1.03, 1.03 and 0.60 per head.

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