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Intake and digestibility of four forages by llamas and sheep

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There is still very little known on the capacity of llamas to ingest and digest forages. We measured these capacities on 4 forages in comparison with sheep.

Five to 6 male castrated llamas at the end of their growth period (78 kg live-weight), and 5 adult male castrated merinos (55 kg LW) were successively fed, *ad libitum*, during periods of 5–6 weeks, 4 forages of different qualities (table I). Supplementary minerals and vitamins were supplied to satisfy needs. The digestibility was measured by total collection of feces on the last 10 days of each period.

Sheep had to be discarded for insufficient intake during the 2 periods where straw and straw + urea were offered. Llama intake of lucerne hay and of NH_3-treated straw was respectively 30 % and 20 % lower than that of sheep. The digestibility of organic matter (dOM) and nitrogen of these 2 forages were similar for the 2 species. In llamas, intake and digestibility of straw increased (respectively 6.4 g DM/kg 0.75 and 3 points dOM) consecutively to urea supply, as commonly observed in other ruminants.

In conclusion, llamas seem to be less influenced in their food intake by forage quality than sheep, but have the same digestive capacity, at least when medium digestibility forages (≈ 60 %) are given. In contrast, they could digest poor forages more extensively, as suggested by the dMO (53 %) measured on wheat straw, which was much higher than the values commonly observed in sheep.

Table I. Characteristics of the 4 forages; dry matter (DM) intake ($9/kg^{0,75}$), and organic matter (OM) and nitrogen (N) digestibility (%).

	Lucerne hay		*NH_3-treated wheat straw*		*Wheat straw + 1.4 % urea*	*Wheat straw*
N content (% DM)	2.76		1.72		1.45	0.73
DM digestibility[1]	54.2		50.7		–	29.7
Species (*n*)	Llamas (6)	Sheep (5)	Llamas (6)	Sheep (5)	Llamas (5)	Llamas (5)
DM intake	58.9±4.1	83.4±6.2	49.2±4.5	62.0±2.8	41.9±2.8	36.5±1.9
OM digestibility	61.0±1.1	61.2±1.1	60.5±1.3	59.0±3.2	58.0±1.2	55.0±2.6
N digestibility	71.9±0.8	72.1	43.6	42.6	54.9	≈ 0

[1] Measured with fungi cellulase.