

Ruminal *in vitro* fermentation kinetics and chemical composition of Sorghum cv. Nutritop at different stage of regrowth

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The objective was to estimate the ruminal degradation kinetics and chemical composition of Sorghum cv. Nutritop at different stages of regrowth, as fed for background lambs. The experiment was conducted at the Uruguayan Secretariat of the Lana, Uruguay. The sorghum was obtained through grazing simulation of two-months age weaned lambs (Poll Dorset x Corriedale), submitted to a rotational grazing system. Plant samples were collected at 28, 56 and 84 days after establishment in three different paddocks. The plot was stocked with 1,646 kg animal ha⁻¹ (average 66 head ha⁻¹). The leaf mass offered was of 2,000 kg DM ha⁻¹, and the mean height of plant of 53cm. The cultivar used is characterized by its brown central nervure (bmr). The experimental plot received 100 kg ha of the formula 0-20-40 and 200 kg ha of urea. The soil analysis showed a 5.3 pH, 3.04% of organic C, 7.8µg of citric P per gram. The average daily gain (ADG) of animal was of 73 g⁻¹. The *in vitro* study was performed according to Theodorou et al. (1994) with modification (Mauricio et al., 1999). Rumen liquid was collected from two mature rams with a mean weight of 50 kg. Chemical composition of Sorghum was realized according to AOAC (1995). A completely randomized design with three replicates was used to test the three stages of regrowth (Proc GLM and Mixed, SAS, 2001). Data were adjusted to the France Model (France, 1993). Differences were declared by Tuckey test at 5%. There was no effect of treatment on DM digestibility (DMD) at 48 and 96 h, crude protein (DM%) or neutral detergent fiber (DM%). The DM content decreased (P<0.05) from 21 to 17% from 56 to 84 days of growth. The trend toward a reduction in DM of Sorghum with maturity can be justified by the lower water content typically present in forages at advanced stages of growth. The sorghum cv. Nutritop is capable to maintain its quality attributes when grazed by lambs at high stocking rates during three grazing cycles. Not changing the dry matter digestibility, content of protein and fiber.

Keywords: digestibility, gas production, grass, ovine.