Improving Milk Yield with *Canavalia brasiliensis*

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Abstract

When cattle has to rely on maize stover and weeds for feeding in the dry season as is often the case in Central America, the milk production drops significantly. To improve the nutrient offer the intercropping with forage legumes is seen as a viable option. Here, an on-station experiment in Colombia with both *Canavalia brasiliensis* and *Vigna unguiculata* as supplement is described in the following.

Three plots of maize, 1 ha each, were established in April 2008 in Santander de Quilichao, Cauca, for the treatments: 1) control (maize only), 2) maize - *Canavalia*, 3) maize - *Vigna*. The maize-legume plots were subdivided by three each. *Canavalia* was sown between the maize rows on 13 May, 27 May and 10 June, whereas *Vigna* seeding started on 19 May, followed on 2 June and 16 June, both at a seeding rate of 20 kg ha⁻¹. The grazing trial started at the end of August with three groups of 2 cows (Holstein × Zebu) each, having 153 days of lactation on average, in a 3 × 3 latin square design with 5 days of adaptation and 5 days of measurement per period. At the beginning of the trial *Canavalia* was 13 weeks old, whereas *Vigna* was 12 weeks old. Milk quantity and quality was measured and feed protein content analysed.

The maize had a crude protein content of around 4.4% in dry matter, *Canavalia* 16% and *Vigna* 14%. The fat corrected milk yield cows was significantly higher with *Vigna* (8.2 kg d⁻¹) and *Canavalia* (7.5 kg d⁻¹) supplement than with maize stover alone (6.1 kg d⁻¹). No significant difference was found in the milk fat (4.1–4.6%) nor in the other contents (7.7–8.3% non-fat solids, 16.7–18.5 mg dl⁻¹ milk urea nitrogen).

The inclusion of *Canavalia brasiliensis* in the grazing diet can increase the milk yield per cow by 1 kg d⁻¹ in the dry season compared to the offer of maize stover alone which is usually practised in Central America.

Keywords: *Canavalia brasiliensis*, Central America, maize stover, milk production, *Vigna unguiculata*

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