

**ANIMAL PRODUCTION IN ARACHIS PINTOI-BASED PASTURES
 AT CARIMAGUA**

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BACKGROUND

Between 1976 and 1978 accessions of several species of *Arachis* were introduced in Carimagua. Among the accessions introduced, *Arachis pintoi* (CIAT 17434) exhibited tolerance to heavy grazing and good compatibility with aggressive grasses of the genus *Brachiaria* (Grof, 1985). Subsequent studies showed that *A. pintoi* is a high quality legume (13-22% CP and 60-67% IVDMD), that it is well consumed by previously adjusted animals and that it contributes significantly to the quality of the companion grass (Lascano and Thomas, 1988; Carulla et al., 1991).

Given the excellent performance of *A. pintoi* under grazing, two experiments were set-up in Carimagua to measure animal production under contrasting management. We report results of 5-6 years of grazing in pastures of *Brachiaria humidicola* and *B. dictyoneura* with and without *A. pintoi*.

GRAZING EXPERIMENTS
EFFECT OF STOCKING RATE ON LIVEWEIGHT GAIN OF STEERS GRAZING PASTURES OF *B. HUMIDICOLA* WITH AND WITHOUT *A. PINTOI*
Protocol

In May 1987 an existing stand (12 ha) of *B. humidicola*, a poor quality grass, was mowed and plowed and divided in 1 ha paddocks, which in turn were divided in 0.5 ha plots for alternate grazing. *Arachis pintoi* was introduced in strips 1 m apart, using inoculated vegetative material and the grass recovered from the initial stand. At the time of planting 20 P, 100 Ca, 10 K, 11 Mg and 22 S (kg/ha) were applied. Maintenance fertilization has been applied every two year, with half the rate used for establishment. Grazing was initiated in May 1988 with the following replicated treatments: (1) grass alone with 2, 3 and 4 hd/ha and (2) grass + legume with 2,3 and 4 hd/ha.

Results

After 6 years of grazing:

1. Legume content in the forage on offer has increased over time, in all stocking rate treatments, being higher in the low and middle stocking rates (Figure 1).
2. Liveweight gains (LWG) have been consistently higher in the grass/legume pasture, as compared to grass only pasture, regardless of stocking rate (Figure 2) or year of evaluation (Figure 3).
3. Average annual LWG has ranged from 50 to 113 kg/hd and 126 to 155 kg/ha in the grass pastures and from 126 to 155 kg/hd and 311 to 425 kg/ha in the grass-legume pasture. This represents a 37% advantage of grass-legume over grass only pasture in the light stocked pasture (2 hd/ha) and a 252% advantage in the heavy stocked pasture (4 hd/ha).

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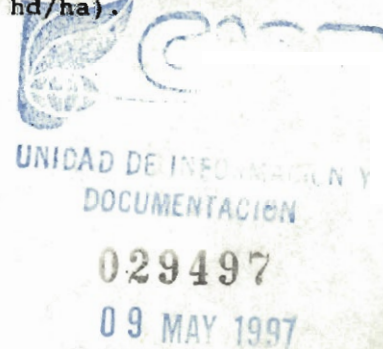
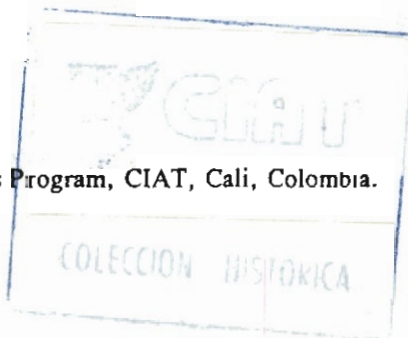


Figure. 1 Effect of year and stocking rate on legume on offer in pastures of *B. humidicola*/A. pintoi (Llanos of Colombia).

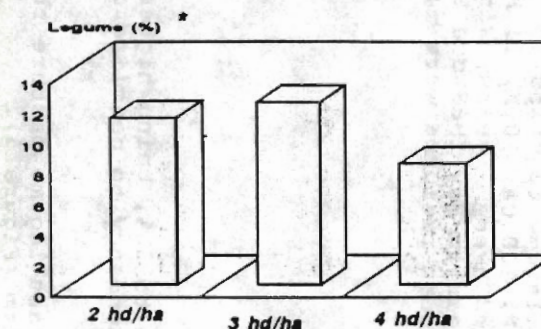
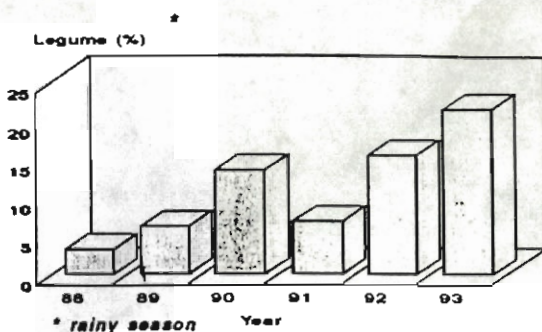


Figure 2. Effect of stocking rate on liveweight gain of steers grazing pastures of *B. humidicola* alone and in association with *A. pintoi* (Llanos of Colombia).

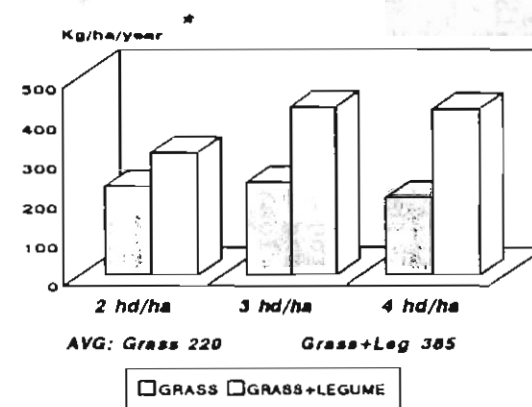
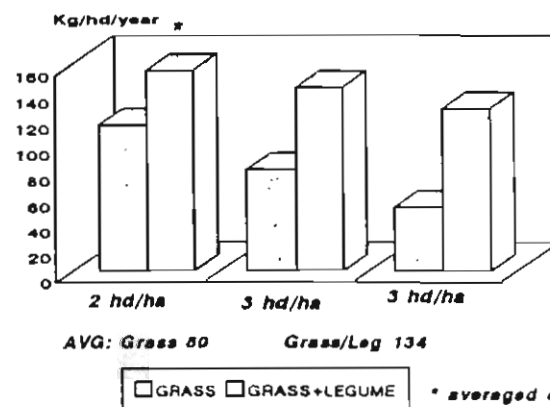


Figure 3. Liveweight gain of steers grazing *B. humidicola* pasture alone and in association with *A. pintoi* (Llanos of Colombia).

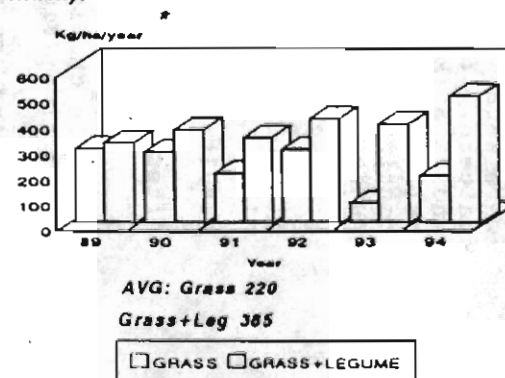
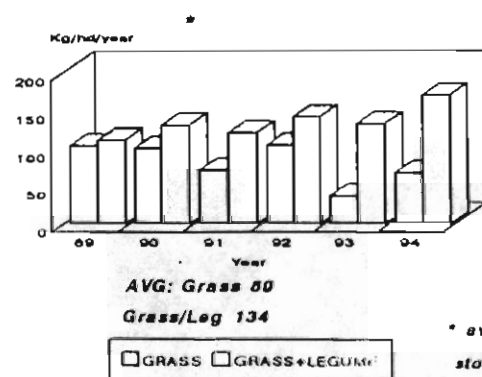


Figure 4. Effect of year and grazing system on legume on offer in pastures of *B. dictyoneura*/A. pintoi (Llanos of Colombia).

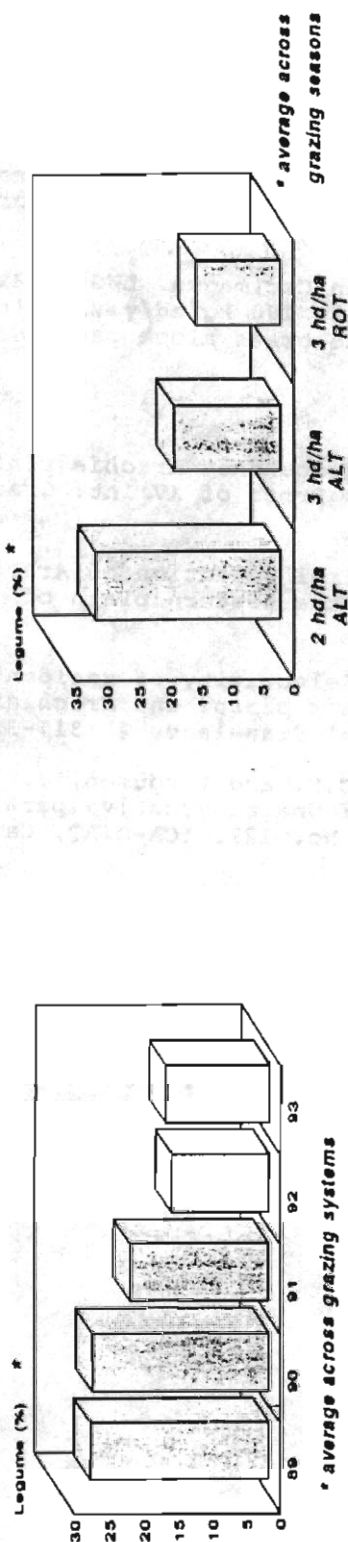


Figure 5. Effect of grazing system on liveweight gain of steers in pastures of *B. dictyoneura* alone associated with *A. pintoi* (Llanos of Colombia).

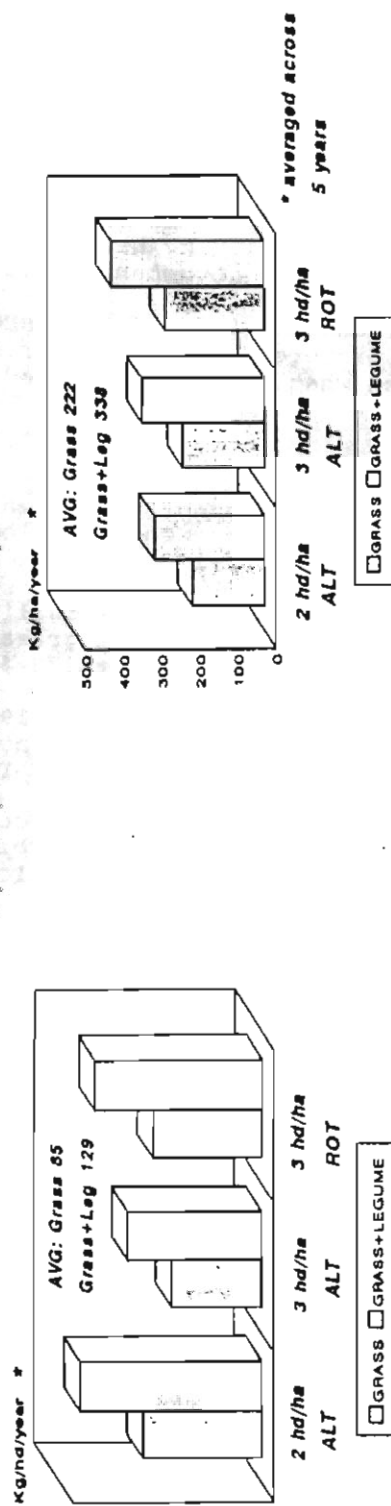


Figure 6. Liveweight gain of steers on *B. dictyoneura* alone and associated with *A. pintoi* (Llanos of Colombia).

