

THE EFFECT OF GOAT MANURE AND SOIL MOISTURE CONTENT ON TILLER NUMBER AND LEAF YIELD OF *BRACHIARIA DECUMBENS* OVER THREE GROWTH CYCLES

M.A.P. Duarsa¹, I.M. Suarna², I.W. Suarna², I.B.G. Partama² and N.N.C. Kusumawati²

¹Department of Agronomy and Farming Systems, University of Adelaide, Roseworthy, SA 5371

² Fakultas Peternakan, Universitas Udayana, Denpasar - 80232, Bali, Indonesia

The use of goat manure on crops has been widely reported to increase dry matter production and improve soil fertility, microbiological activity and water holding capacity (1) as well as substitute for part of the NPK fertiliser (2). However, little information is available on the effect of goat manure on pasture production.

MATERIALS AND METHODS

A glasshouse experiment was arranged in a factorial design, with four levels of goat manure (0, 5, 10, and 15 ton dry matter/ha) and three levels of soil moisture content (75, 100 and 125% field capacity-FC), respectively. The experiment was conducted with three replications, over three growth cycles of *Brachiaria decumbens* in order to evaluate the effect of goat manure on the growth and yield on this species. A six week period was allowed for the plant to grow during each growth cycle.

RESULTS AND DISCUSSION

There was an interaction between the application of goat manure and soil moisture content on both tiller number and leaf yield of *Brachiaria* at every harvest (Fig. 1). It was demonstrated that the application of goat manure 10-15 ton/ha could significantly increase tiller number and leaf yield. *Brachiaria* produced the highest yield at 100% FC. This indicated that appropriate soil moisture content decomposed goat manure effectively. At the end of the second growth cycle tiller number and leaf yield gained the highest results. These results may be due to time of decomposition of organic compounds and hence could be related to nutrient availability to the plants.

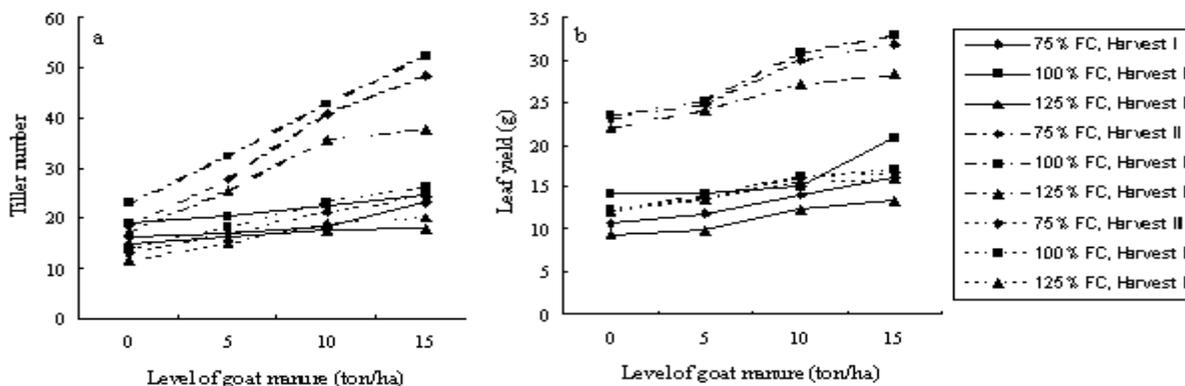


Figure 1. The effect of goat manure and soil moisture content on tiller number (a) and leaf yield (b) of *Brachiaria decumbens*.

REFERENCES

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