NUTRITIVE VALUE OF LABLAB PURPUREUS GRAIN FOR SHEEP AND GOATS

E. GARCIA, ISMARTOYO*, R.F.* SLOCOMBE**, *R.M. DIXON** and J.H.G. *HOLMES**

High yielding tropical grain legumes (eg. ***Lablab purpureus)*** have potential as high quality feeds, but anti-nutritional factors (eg. **lectins, protease** inhibitors) may limit their use (Addison *et al.* 1984; Lambourne and Wood 1985). Two experiments were undertaken to examine the nutritive value of *Lablab purpureus* grain as a supplement for sheep and goats.

In Experiment 1, 25 goats (17–28 kg LW) were fed for 42 days in metabolism crates. Dietary treatments consisted of roughage (50% hay and 50% oat straw) and minerals *ad-libitum* fed alone (T1) or supplemented with 3 g (T2), 6 g (T3) or 12 g (T4) of airdry Highworth Lablab culls, or 12 g airdry lupin grain (*L. angustifolius)* (T5) per kg LW. Roughage intake and LW gain were both lower (P<0.05) for T4 (390 and 32 g/d) than for the other diets (T1, 600 and 64 g/d; T2, 517 and 66 g/d; T3, 595 and 76 g/d; T5, 513 and 77 g/d). Organic matter digestibility was higher (P<0.05) for T4 and T5 (674 and 663 g/kg respectively) than for T1 (585 g/kg), while T2 and T3 were intermediate.

In Experiment 2, 21 rumen cannulated Merino lambs (18-31 kg LW) were held in metabolism crates for two periods each of 49 days. Diets consisted of roughage (50% oaten chaff and 50% barley straw) and minerals *ad libitum* fed alone (D1) or supplemented with 5 g (D2), 10 g (D3) or 20 g (D4) of airdry sound Highworth lablab grain (44 g N/kg DM) *per* kg LW, or the same amounts of airdry lupin grain 50 g N/kg DM) (D5, D6 and D7). In equivalent treatments intakes of roughage and grain were similar but digestibility was lower for lablab diets. Liveweight gain was lower for lablab than lupin diets at all levels, and wool growth was lower at the highest level of supplementation (Table 1).

Table 1 Intake, digestion and production of sheep fed roughage and lablab or lupin grain

Measurement	D1	D2	D3	D4	D5	D6	D7	s.e.m.	P
DM intake (g/d)									
Roughage	545	513	646	373	560	444	323	45	**
Grain	0	114	251	424	120	237	483	–	–
Total	545	628	897	797	680	681	806	48	**
OM digestibility (g/kg)	536	616	627	690	593	676	737	17	**
DOM intake (g/d)	271	351	525	518	376	433	560	24	**
LW change (g/d)	–36	–39	64	97	39	57	105	21	**
Wool (mg/patch/d)	74	88	120	103	95	125	142	10	**

Both experiments demonstrated that lablab was inferior to lupins in nutritive value, particularly at the highest levels fed.

ADDISON, K.B., CAMERON, D.G. and BLIGHT, G.W. (1984). Aust. Soc. Anim. Prod. 14:227.

LAMBOURNE, L.J. and WOOD, I.M. (1985). Aust. J. Exp. Agric. 25:169.

* *School of Agriculture and Forestry, The University of Melbourne, Parkville, Vic.* 3052.

** *Veterinary Clinical Centre, The University of Melbourne, Werribee, Vic.* 3030.