

A PRACTICAL SELECTION PROGRAMME FOR A RAM BREEDING SCHEME

R.S. COPLAND* and D.H. HICKSON[#]

This poster presents a programme incorporating genetic principles (Turner and Young 1969), suitable for use on a ram breeding nucleus run in conjunction with a commercial flock. Ram hoggets bred each year (400) are ranked on clean fleece weight into ram breeding nucleus (top 2%), commercial flock (next 10%), sale rams (next 60%), and culls (lowest 28%). Fibre diameter is held constant, and rams are retained for 2 years. The ewe hoggets from the nucleus and commercial flocks are allocated on greasy fleece weight to the ram breeding nucleus, commercial flock or culls equally. These ewes are retained for 5 years. Selection for resistance to fleece rot and body strike is by culling affected animals. Reproductive performance is enhanced by compensating twins for maternal effects, and participating in The Coolah (N.S.W.) Merino Development Group.

The estimated selection differentials (standardised) for clean fleece weight are 1.21 kg (rams), and 0.58 kg (ewes). Assuming a heritability of 0.5 for clean fleece weight, the predicted gain is 445 g of clean wool per generation, or 127 g annually. Wool cuts support this prediction, although seasonal conditions have produced wide variations. Other measures of success are increased lambing percentage, low requirement for jetting, success in district wether trials, and low labour input.

TURNER and YOUNG, S.S.Y. (1969). "Quantitative Genetics in Sheep Breeding". (Cornell Univ. Press: Ithaca, New York).

* Pastoral Veterinary Centre, P.O. Box 168, Goondiwindi. 4390.

Eural Pastoral Company, "Eural", Garah. 2405.

EFFECT OF LEVEL OF NITROGEN FERTILIZER ON MILK OUTPUT
FROM A CALLIDE RHODES GRASS PASTURE

R.T. COWAN, K.F. LOWE, P.C. UPTON and T. BOWDLER

Milk production declines rapidly from February to June on Queensland dairy farms. This experiment looks at the efficiency of using urea fertilizer to increase yield of a summer growing grass during this period, and so reduce the decline in milk yield. A Callide Rhodes grass pasture- (*Chloris gayana* cv. Callide) was established in 1983, and from September 1983 stocked at 2 or 3 Holstein-Friesian cows/ha. At 2 cows/ha urea was applied at rates equivalent to 0, 150, 300, 450 and 600 kg N/ha/yr, and at 3 cows/ha at 150, 300 and 600 kg N/ha/yr.

Over 2 years pasture on offer and milk yield have increased with level of urea application. At 2 cows/ha average weight of pasture on offer was 0.8, 1.6, 4.0, 5.2 and 5.2 t DM/ha and of milk 2.25, 2.72, 2.98, 3.33 and 3.65 t/cow/year at 0, 150, 300, 450 and 600 N respectively. At 3 cows/ha comparable values were 1.7, 1.3 and 4.6 t DM/ha and 2.61, 2.90 and 3.05 t milk/cow/year at 150, 300 and 600 N respectively. Marginal efficiency of nitrogen use averaged 4 and 8 kg milk/kg N in years 1 and 2 respectively. Fat and protein contents in milk were increased with level of fertilizer. Milk production, milk fat and protein contents and liveweights of cows were increased by the use of urea fertilizer during summer and autumn.

Qld. Dept of Primary Industries, Mutdapilly Research Station, M.S. 825, Ipswich, Qld. 4305