

EVALUATION OF SEED PRODUCTION OF KENYA CLOVER IN THE LACHLAN VALLEY
NSW.

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BACKGROUND

Kenya clover (*Trifolium semipilosum*) is a sub-tropical perennial legume species which has been grown successfully on farms in the North Coast of NSW, S.E. Queensland and on the Atherton Tableland. Mixed pastures based on Kenya clover (KC) have yielded high milk and beef production in these areas (e.g. liveweight gains of 600 kg/ha/yr and 170 kg/hd/yr - Murtagh per.com) KC has proved to be superior to other varieties of white clover in dry matter yield, persistence and drought tolerance. (Jones and Cook 1981).

Commercial utilisation of KC has been hampered by inadequate supplies of seed and high seed prices (\$27.50/kg in 1986). Several factors have contributed to this situation. Only one cultivar, Safari, has been released and its seed production yields can be affected by the retraction of the seed head into the canopy, long duration of flowering and low head density.

In 1986 a programme was commenced to investigate the influence of environmental and management factors on growth, flowering and seed production of cv. Safari in the Lachlan Valley. The project is funded by the Australian Special Rural Research Fund and we have received assistance and support from Mr. Ron Peitsch (Forbes) and the NSW Department of Agriculture. The site at Forbes was chosen because the Lachlan Valley has irrigation and experienced specialised seed growers, a combination which could be the basis for a more reliable supply of Safari seed.

RESULTS TO DATE

The establishment of KC in trials sown in the autumn of 1986 was poor due to severe competition from naturalised medics. Soil crusting may also have been a factor. Following this a series of glasshouse experiments was conducted to evaluate seedling establishment. Safari was shown to be sensitive to sowing depth, emergence from 20 mm and 30 mm depths was only 20% and 5% (of viable seed) respectively. However, white clover cv Haifa and red clover cv Redquin gave similar results. Seed treatment tests have shown that severe scarification is needed to achieve rapid germination from Safari.

A time of sowing trial commenced in spring 1986. Establishment from the spring and early summer sowings was satisfactory and resulted in good stands by March 1987. Flowering commenced in mid-summer but head densities were low until April when a flush of flowering occurred in plots sown in September and October. The fate of these flowers and subsequent seed production is being monitored. The trial will continue for at least 12 months and it is possible that a second flush will occur in spring (induced by a 12 hour day photoperiod response) when temperature conditions for seed production may be more favourable. Further experiments in the field (defoliation treatments and harvesting trials) and in the glasshouse are also in progress.

REFERENCE

Jones, R.M. and Cook, B.G. (1981); Agronomy of Kenya White Clover cv. Safari, CSIRO Div. Trop. Crops and Pastures.