# TAGASASTE PLANTING ON "NEWDALE"
(Colin Dunham - Manager)

## SUMMARY OF VISIT TO NEW NORCIA
23 October 1985

A visit to "Newdale" was arranged by Conservation and Land Management to inspect a 160ha planting of Cytisus proliferus (tagasaste - tree lucerne). Interested Department of Agriculture officers from Narrogin and Moora also attended.

The crop was planted in May 1984 by Kimberley Seeds using their direct seeding machine. This machine scalps the ground (removes the weed seed load) and places the seed on the surface with vermiculite, terrasorb and fertilizer. Plant spacings are approx 2m in the row and rows 5m apart. Up to 6 seeds are placed at each site. Currently many sites have up to 5 plants. Seed was scarified but no inoculum used.

The landscape is undulating and the soils are infertile white grey sands over gravel at about 1m but this may be variable. The crop was grazed for 4-5 weeks during July 1985, by 700 weaners which were turned off in fat condition. The plants have since made good growth and are standing about 1m in height.

There are areas where germination and or growth has been very poor. This may be due to variations in soil type that effects the rhizobium action.

The future aim of the crop is to provide a supplementary feed to replace some of the grain used in autumn. A machine is to be developed to harvest the outer branches which will be taken to the sheep. It is hoped to develop a pyramid shaped tall bush.

Potential Problems/Answers

1. Establishment

   1.1 Seed treatment and sowing depth
   Mechanically scarified seed sown very shallow gives very good germination.

   1.2 Seed inoculation
   Over most of the site establishment has been good but in some areas establishment is poor. This may be due to lack of nodulation although Acacia saligna planted in these sites are growing well.

   These sites should be replanted using the inoculum isolated by the Department of Agriculture to test this hypothesis.

   1.3 Seeding rates
   There were mixed opinions on having several plants growing from the one site. Will competition between plants restrict growth? Will several plants together provide more protection, especially from grazing stock?

The site should be monitored over an extended period to determine the ultimate outcome of densely planted plants.

It was felt that the site could carry many more plants e.g. rows 2.5m apart. This needs testing as double the overall density may deplete moisture reserves by autumn when feed is required.

1.4 Weed control
Due to the planting technique of scalping no weed problems were experienced. (Main weeds in the area being capeweed and brome grass). Some discussion on the role of herbicides were inconclusive.

1.5 Insects
Damage by the Tree Lucerne Moth (Uresiphita ormthopteralis) has been experienced. Insect numbers need to be monitored to determine if economic damage does occur.

2. Management

2.1 Fertilizer
Little is known of the nutritional requirement of tagasaste. It is possible that the trace element molybdenum is required to stimulate nodulation in some soil types.

Trials should be carried out to get some base information on fertilizer rates, types, timing and placement.

2.2 Production Economics
Systems need to be looked at to determine the economics of tagasaste. This should involve methods of grazing, feeding out cut material, timing, frequency and height of cutting. Slashers that leave jagged cuts can cause high mortalities.

Dry matter yields for various rainfalls also need looking at.

2.3 Site Selection
To determine the potential area for tagasaste, a survey should be carried out in those areas that require an alternative farming system e.g. the white sands of wheat belt. This at least will point out the possible area of need from which can be determined the level of research input that may be required.

3. Definition of Roles

There has been some confusion as to whether tagasaste is a tree or a fodder plant. This has resulted in a lack of official interest at the top of the various departments. The roles of the two Departments - C.A.L.M. and Dept of Agriculture was discussed and the following concept is put forward as a definition of roles.

3.1 Conservation and Land Management be responsible for importation of fodder trees and initial bulking up of lines for testing.

3.2 A joint approach is required for trial design and financing.

3.3 The Dept of Agriculture be responsible for field measurements - dry matter yields, growth rates and management techniques.

3.4 Conservation and Land Management to bulk up either through seed banks or vegetative propagation the various clones that may have potential - plant form, leaf size or other desirable characteristic. (Note. Mr Alex Hart C.A.L.M. has recently imported 5 provenances of tagasaste from the Canary Islands). The selection of these types may be carried out by either Department or in consultation with each other.

3.5 As C.A.L.M. is aiming at rural advisory officers being placed in the country areas the joint approach should work well at the local level.

In summary, the visit pointed to the general lack of knowledge of the plant tagasaste and of the role it may have to play in agricultural systems, or agroforestry systemes. Some farmers will undoubtedly keep planting tagasaste and research will need to provide some answers so that extension officers of both the Dept of Agriculture and Conservation and Land Management can service the demand for information that is relevant.

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