TAGASASTE PLANTING AT NEW NORCIA
(Colin Dunham - Manager)

SUMMARY OF VISIT TO "NEWDALE"
October 12, 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 approximately 2min 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 gray sands over gravel at about 1m, but this is 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 appeared to be associated with variations in soil type. Establishment was particularly poor in a low lying area.

The 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. At the low lying site nodules were present on severely stunted, unhealthy seedlings but there were indications of a fungal infection of the hypocotyl.

1.3 Seeding rates

There were mixed opinions whether to allow several or one plant to grow on 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. There was some discussion on the role of herbicides with the suggestion that an effective chemical between rows (e.g. Fusilade) would be expensive.

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 bas 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 the wheatbelt. 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 by the various departments. The roles of the Department of C.A.L.M. and Department of Agriculture were discussed and the following suggestions made.

3.1 A joint approach is required for trial design, financing and undertaking experimental work.

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

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

3.4 The Department of Agriculture be responsible for most field work - yield assessment, agronomic regimes, harvesting and feeding techniques, nutritional value and animal production.

C.A.L.M. rural advisory officers each have regional responsibilities and should work closely with the Department of Agriculture officers in the regions. Besides this local cooperation an interdepartmental fodder tree research coordinating committee may be justified, depending on the amount of work being done.

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 systems. Some farmers will undoubtedly keep planting tagasaste and research will need to provide some answers so that extension officers of the Departments of Agriculture and Conservation and Land Management can service the demand with reliable and relevant advice.

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