

LAND MANAGEMENT

CONSERVATION TREES

Tagasaste (Tree Lucerne): *Chamaecytisus palmensis*

Main Points

- Hardy erosion control tree
- Very fast growth
- Grows in dry, windy sites
- Good shelterbelt species
- Stock fodder potential
- Nurse crop for native plants and provides food for native birds
- Short lived on wet soils
- Possum palatable
- Frost prone

Description

Tagasaste is a small, fast growing, evergreen tree reaching a height of 5-6m. It fixes nitrogen in the soil, has an open habit and long slender branchlets. Late autumn, winter, and through to early spring the shrub produces white pea-like flowers and subsequently shiny black seeds with a very hard seedcoat. Seedlings appear under parent trees after about 4 years and are palatable to stock. Tagasaste can live for 20-30 years on well drained sites.

Site Tolerances

Tagasaste has established well throughout Hawke's Bay on relatively hard sites. It will grow in windy, dry sites, particularly north to north-west facing slopes. Soil drainage is more critical than climate, with trees living for many years on pumice soils in high rainfall areas, yet only surviving for five years on clay soils after a particularly wet season. It will establish on sand dunes and on steep, exposed north or north-west faces. Tagasaste tolerates some salt laden wind and survives the driest of summers.



Tagasaste as a soil conservation tree on a north hill face.



Harvesting Tagasaste for fodder. Note that plenty of foliage is left on the stump.



Cattle feeding on Tagasaste harvested from a farm shelterbelt.

Uses

Soil conservation - this species is very successful as an early establishment plant on steep eroding slopes, for controlling gully erosion, and in protecting areas prone to wind erosion. However, it is not suitable for severely eroding gully systems.

Shelter - Tagasaste can be used for stock and horticulture shelter. It is mostly used as the shrub component in two row shelterbelts (especially on the sunny side) and is well adapted to growing under *Pinus radiata* timber belts. Tagasaste can also be planted as a multi-use soil conservation, fodder and shelter block on a warm north facing hillside. This is particularly useful for sheltering newly shorn sheep if conditions turn cold and wet. Branches can be felled for fodder or the paddock can be managed to provide a good cover of fresh pasture and highly nutritious Tagasaste seedlings.

Fodder - the foliage is high in protein with a range of 18 - 25% crude protein. Livestock should not be fed solely on a diet of Tagasaste; there is a need for at least a part diet of pasture and salt blocks should be available. Tagasaste may be grown as a one or two row shelterbelt, which can be harvested during winter and fed to livestock in either adjoining paddock. The tree can be cut back every year but at least 10% of the foliage should be left as a 'nest' of branches. Direct browsing is not recommended. However, sheep can be grazed underneath to keep the area tidy for access and to reduce weed problems.

Restoration of native species - it is an excellent nurse crop for young native plants. Its fast, reliable establishment, spreading habit and nitrogen fixing ability make it almost ideal as a nurse crop. The flowers also provide food to native birds and nectar for bees. Tagasaste is intolerant of shade, so native plants will eventually shade out the nurse crop.

Establishment

Very large areas can be planted with broadcast seed, however, the most common method is to plant seedlings. Seedlings are available from nurseries bare rooted or in root trainers. Well conditioned bare rooted seedlings are preferred. However, containerised plants

are easier to store before planting. Planting spots should be spot sprayed with a knockdown non-residual herbicide 4-6 weeks prior to planting. An application of phosphate also prior to planting can aid establishment.

Plant in the late autumn to late spring period. Seedlings should be planted in a well cultivated hole. No fertiliser is required, but slug bait may be needed to protect small seedlings.

Management

Total animal control is essential for the first two years. Try to eliminate hares, possums and goats from the area and fence out livestock. Small numbers of sheep can browse planted areas 18-24 months after planting, but can damage the trees if uncontrolled. For example, ewes will strip the bark severely during lambing. Timing of early browsing will also depend on establishment success. It may be better to sacrifice a few non-performing plants to control weeds and pasture growth.

Cattle should never directly graze the tree. Cattle will completely defoliate the tree and it will not recover from this damage. Sheep should only directly graze if a supplementary feed is needed during drought conditions.

Trees are subject to root rot in poorly drained soils. Stem boring insects can also reduce the lifespan. Tagasaste will generate its own re-establishment.

For further information

For further information on Conservation Trees ask for the other titles in this series or contact Land Management Officers at the Hawke's Bay Regional Council for advice:

Wairoa	06 838 8527
Napier	06 835 9200
Waipukurau	06 858 8636
TOLL FREE	0800 108 838

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