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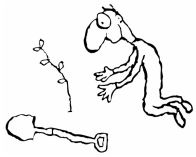

The Benefits of Using Indigenous Plants in Farm Plantings

Based on Landcare Note TG0044, by NRE
Updated and modified by TreeProject
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The use of indigenous plant species offers many benefits to landholders and the environment. It is TreeProject's policy to only grow seedlings that are locally indigenous to the area they will be planted.

Indigenous plants are the original flora that occur naturally in a given location, and include trees, shrubs, climbers, grasses and ground cover species. These plants have adapted over many thousands of years to the conditions of the locality, and are highly suited to the local soil, water, weather and other environmental conditions.

For these reasons, indigenous species will often perform better than non-indigenous species, as well as providing high levels of environmental and productivity benefits, easily fulfilling many farm purposes.

This information sheet describes some of these benefits. We hope it will encourage any landholders who are undertaking revegetation or plantings on their property to select locally indigenous species.

Local tolerance equals lower maintenance and inputs

Local species are well adapted to local conditions such as the rainfall, soils, drainage, and wind as well as extreme conditions such as drought and frosts. This creates the right conditions for the seedlings to become **more easily established** with **less nurturing**, and will generally have **higher survival rates** that non-indigenous species.

However, these benefits may be reduced at sites where significant modification to the environment has occurred.

Many indigenous plants also regenerate easily without assistance, meaning that stands should not require re-planting over time. This reduces the longer term maintenance of replanted areas, and reduces the need for re-plantings.

However weed control, grazing management and controlled soil disturbance may be required to enhance and protect naturally regenerating plants.

Environmental benefits

Planting indigenous species provides a living environment that is part of the local natural system. Indigenous plants have evolved as part of the entire biological population of an area.

A strong interdependence exists between indigenous plants, animals, insects, and micro-organisms. Planting indigenous species can contribute to the maintenance of a balanced and diverse ecosystem.

Planting a range of local plants can provide valuable resources for the survival of fauna species. Some species may have specific requirements and are dependent on indigenous plants for their survival. The absence such species may result in some fauna species becoming locally extinct.

The use of local species by landholders can enhance the health of surrounding stands of remnant vegetation. They can be used to create valuable links between stands of remnant vegetation that

occur in reserves, along roadsides and waterways and on private properties. This will allow wildlife to move along these vegetation corridors.

Establishing an understorey of local plant species will create a plant community that is attractive and ecologically balanced. Understorey species such as herbs, grasses and wild flowers provide valuable food and shelter for a range of fauna species such as lizards and small birds.

Local plant species will not become weeds, as do many introduced plants. Unlike non-indigenous plants, there is no risk of indigenous species escaping and invading areas of bushland.

Productivity benefits

Attracting insect eating wildlife

Using local plant species creates habitat for insect predators that can protect the planting, as well as adjacent farmland. Predatory wildlife includes bats, birds, gliders, predatory insects and parasites. These insect predators are important in the control of crop and pasture damaging pests, and can lead to the reduction in the use of pesticides.

Encouraging a range of insectivorous species through the planting of a variety of indigenous plants will target a range of damaging insect pest species. To demonstrate these benefits, the table below highlighting the range of insects that can be targeted by some of the more common native birdlife.

Bird Species	Insects Consumed
Straw-necked Ibis	mice, crustaceans, crickets, grasshoppers, caterpillars, beetle larvae
Parrots	lerp-insects and scale insects
Cuckoos	caterpillars
Sacred kingfishers	christmas beetles and scarabs
Thrushes	beetles, weevils and larvae
Honeyeaters	lerp & scale insects, spiders, ants, flies, and beetles
Robins & Fairy-wrens	beetles, caterpillars, and ants

Table 1 Species of birds and the insects they consume

Native mammals also consume their fair share of insects. For example, it has been estimated that a colony of bent-winged bats can consume one tonne of insects per night. Sugar gliders, one of the most common tree dwelling mammals in Australia, consume a range of pests including scarabs, caterpillars, weevils, lerp-insects and scale insects.

An understorey layer provides further resources for insect predators such as small birds, bandicoots and lizards.

Non-indigenous species are largely unsuitable habitat for native wildlife, and therefore do not bring these substantial productivity benefits. They can infact, encourage invasive exotic species that compete with the native wildlife.

Shelterbelts

A shelterbelt running along the edge of a paddock can increase farm productivity in a number of ways.

They will aid in the reduction cold winds on stock, producing healthier and happier animals. But shelterbelts will also reduce the effects of wind erosion, water erosion and damage to crops caused by strong winds.

Including understorey plants will increase the effectiveness of a shelterbelt, as they will reduce the tunnel effects of wind that arise where only tree species are used. The size of the paddock will determine the best shape and size of a shelterbelt.

Aesthetic qualities

Local plant species give areas a unique feel and landscape character. They complement the local landscape. This is further enhanced by the presence of local wildlife that uses the habitat created through the establishment of the original flora species.

In Victoria, the aesthetic quality of indigenous plantings, along with the environmental and productivity benefits, has helped to increase the value of farm properties. The appreciation of the benefits that indigenous flora can provide is increasing in the farming and general population.

Species selection

Selecting the most suitable species for your site is a very important step in undertaking a revegetation project and should be carefully considered. The success of such a project will be largely determined by the species planted. Due to the long-term nature of tree planting events, the impact of choosing inappropriate species can be substantial.

It is also important to keep the objectives for the planting project in mind when selecting species. Every area has a great range of local species, and some will be more suited to specific purposes than others. For example some local species will provide better shelter for stock than others due to their form and size.

However, the first step is to identify the original plant species in your area, and there are a number of ways you can do this. Local plant species can be found along roadsides and waterways, in reserves and parks and in remnant stands on private property. The scattered trees that remain on properties can also provide an indication of the original plant community.

Such observations can give landholders an indication of which plants they may wish to use for their planting project.

Local NRE staff, landcare groups, local councils and publications are also valuable resources for selecting the most appropriate species for your site and purpose, and their advice should be sought out. Similarly, speaking to landholders that have undertaken indigenous tree plantings in your area can be very useful for determining the best species for your site and purpose – experience is a great teacher!

Using of a range of local plant species will create a vegetation stand with different layers that is diverse, healthy, and thriving, and will provide an increased range of environmental and productivity benefits. A single species stand is akin to a monoculture, and is more vulnerable to attacks by disease and insects.

Planting a range of species will also give indication of the species that perform best at that site. This knowledge can then be used for future plantings and be passed on to other landholders

Local seed

The many years of adaptation to the conditions at a particular site result in plants developing characteristics that enable them to germinate, survive and reproduce very effectively in that particular area. The location of a plants geographic origin is known as its provenance.

The best genetics for a replanting project of local plants come from the indigenous plants that surround your planting site. This seed will provide the basis for a more successful replanting project

because it has evolved characteristics that enable it to germinate and establish well in it's own provenance.

Regional seedbanks or local seed collectors may be able to provide you with seed from the correct provenance for your project. You may also choose to collect the seed yourself, and use this in direct seeding or for growing tubestock. TreeProject can assist in growing your seedlings.

Seed collection is relatively simple and can be undertaken by people with limited experience and some basic tools. TreeProject runs seed collecting workshops every year for its members. For more information, see our information sheet on collecting native seed.

Conclusion

The characteristics described above make local plant species a great option for any tree planting project. With good site preparation, they require lower inputs of time and maintenance, and offer the same benefits of non-indigenous species while providing many other benefits for farm productivity, wildlife and the environment.

Ultimately, locally indigenous species will contribute to the long- term sustainability of farmland through maintaining biodiversity and the ecological balance. TreeProject recommends that they should be carefully considered for any farm planting project.

For more information see -

Costermons, L. (1991) *Native Trees and Shrubs of South-Eastern Australia.* Weldon Publishing, Willoughby, NSW.

Marriot, N. & M., Steere, J. & Hajek, C. (1996) *Putting the right plant in the right place*, Horsham: NRE.