



The benefits of using indigenous plants

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The use of indigenous plant species offers many benefits to landholders and the environment.

Indigenous plants are the original flora, or plants that occur naturally, in a given location. Indigenous plants have adapted over thousands of years to the conditions of the locality.

Indigenous plants offer many maintenance, environmental, and productivity advantages. The benefits are a result of the suitability and natural occurrence of indigenous plants in a particular area.

The benefits of establishing indigenous plant species are that they:

- require relatively lower input to be established and maintained;
- are tolerant of local environmental conditions;
- maintain the ecology and biodiversity of an area;
- provide a balanced and suitable habitat for native fauna;
- contribute to the productivity of farm enterprises; and
- maintain the unique character of the landscape.

Indigenous plants can provide many environmental benefits as well as fulfil farm purposes such as the provision of shelter, wind breaks, soil erosion control, salinity control and provide timber for fence posts and firewood.

The benefits of planting indigenous species

Lower maintenance 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.

Due to the suitability of indigenous species to local conditions there are several benefits associated with their planting and maintenance. Indigenous species:

- can be more easily established
- have a higher survival rate, and
- require less nurturing than non-indigenous species.

These benefits may be reduced at sites where significant modification to the environment has occurred.

Many indigenous plants also regenerate easily without assistance and should not require re-planting. However

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

The use of a range of local plant species to create different layers will create a vegetation stand that is diverse, healthy, and thriving. A healthy stand will be created by increasing its resistance to insect and disease attack. The local origin of the plants will also result in a high resistance to local pests and diseases.

Planting several indigenous species can provide an 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.

Stands that consist of more than one species have higher habitat value and may be more aesthetically pleasing.

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 microorganisms. 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

Using local plant species creates habitat for insect predators that can protect the planting itself as well as adjacent farmland, and improve productivity. Predatory wildlife may include bats, birds, gliders, predatory insects and parasites. These insect predators are important in the control of crop and pasture damaging pests.

Encouraging a range of insectivorous species through the planting of a variety of indigenous plants can result in reduced crop and pasture damage and a reduction in the use of pesticides.

Birds eat a large variety of insects. Some examples are listed in Table 1.

Table 1 Species of birds and the insects they consume

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

An example of the volume of insects consumed by native fauna is the common bent-winged bat. It was estimated that a colony of bent-winged bats consumed one tonne of insects per night.

Sugar gliders are another valuable insect predator. They are one of the most common tree dwelling mammals in Australia. They consume a range of pests including scarabs, caterpillars, weevils, lerp-insects and scale insects.

Understorey plants increase the effectiveness of shelterbelts, improve soil fertility and reduce erosion, thus improving farm productivity.

Creating an understorey in shelterbelts and windbreaks can reduce the tunnel effects of wind that arise where only tree species are used.

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

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. There will be some local species that are 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.

Local NRE staff, nurseries and publications are valuable resources for selecting the most appropriate species for your site and purpose. These resources can also assist you to identify the original plant species in your area.

There are a number of ways you can determine species that are indigenous to your area. 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.

Identifying the original community can also provide an indication of the environmental conditions and quality of the site.

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

Speaking to landholders that have undertaken indigenous tree plantings in your area can also be useful for determining the best species for your site and purpose.

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. Therefore the best seed source will come from those plants. Local seed may be the best choice for direct seeding or the propagation of tube stock.

Locally collected 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 its own provenance.

Local nurseries may be able to provide you with seed from the correct provenance for your project. If local provenance seed is not available at local nurseries you can collect the seed yourself and propagate your own plants or ask a nursery to propagate them for you.

Seed collection is relatively simple and can be undertaken by people with limited experience and some basic tools. See Landcare Note LC0107: *How to collect seed from native trees and shrubs*. Greening Australia and your local NRE office can provide sufficient information for you to undertake seed collection.

Conclusion

The above characteristics make local plant species a good option for projects where lower inputs of time and maintenance are preferred although some maintenance is important for the success of all tree establishment projects.

Indigenous plant species offer the same benefits of non-indigenous species as well as many other benefits for wildlife and the environment. They contribute to the long-term sustainability of farmland through maintaining biodiversity and the ecological balance.

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 utilise the habitat created through the establishment of the original flora species.

Further information

See Landcare Notes:

LC0111: *Using indigenous plants*

LW0010: *How wildlife habitats can benefit your property*

LW0032: *The value of understorey vegetation*

For further information about the use of indigenous plants and establishment techniques contact:

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References

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