

Nature's workforce



Biodiversity Series: How To | August 2008 Issue 8 | Produced by Cotton Catchment Communities CRC

Plan, prepare, plant Entice your workforce back...

Re-vegetation can improve your farm's microclimate for people, livestock and crops. When planning, look at nearby natural vegetation and mimic species and spacing. Treat it like another long yielding crop which will require some planning and thought...



Cotton and planted vegetation on 'Warilea'. Photo Rhiannon Smith

In summary...

The science

The deliberate planting of indigenous trees, shrubs and grasses in areas previously cleared of natural vegetation is a way to address problem like soil erosion, salinity and pockets of native vegetation with these new plantings promotes biodiversity within the pockets and within the new plantings.

Helpful hints

Plant native vegetation using the same principles you use for growing cotton.

- Plan – look at nearby natural vegetation and mimic species and spacing.

- Prepare – ensure the area is weed free 12 months before planning.

- Plant – healthy seedlings in full soil moisture profile.

Benefits to the farmer

- Windbreaks – reduce soil erosion, act as spray buffers, offer aesthetic values and harbour beneficial insects and birds.

Are you making a difference?

- Inspect plantings for weed and pest impacts and water stress every 3 months within the first 2 years of establishment.



What does the science say?

There are some basic principles in revegetation projects. The first is to use revegetation to link or buffer existing native vegetation. The second is to use the species that occur naturally in the vicinity of the site. Our native vegetation may provide a clue, as will vegetation maps of the area and surveys of other similar local sites. A broad range of species with different growth patterns and heights is needed to produce a self sustaining ecosystem. Aim to put species where they would naturally occur. Local species are better to use because they are adapted to the conditions, provide the best habitat and benefit the existing native vegetation. Thirdly and most importantly, keep the weeds under control. Young plants don't like competition, so control weeds one year before and two years after planting. Finally, manage stock and any other animals which may graze, trample, compact and spread weeds on your revegetation site.

Research shows that insects and spiders will start colonising revegetation sites almost as soon as they are planted, with birds following close behind. Revegetation is an excellent opportunity to improve biodiversity and to bring nature's "work force" back on your farm. Treat it like another long yielding crop which will require some planning and thought.

What can you do?

It is always easier to conserve what already exists; after all imitating nature is no simple task. In discussion with neighbours and extension officers, identify potential revegetation sites on your farm. Look at expanding the existing native vegetation and creating buffer zones, or planting corridors connecting patches of native vegetation. Even establishing areas around old paddock trees is easier than starting from scratch. Revegetation requires careful planning and preparation. Plant native vegetation using the same principles you use for growing cotton.

Plan – look at nearby natural vegetation and mimic species and spacing. Source plant material. Work out what to plant, where and when. How does the revegetation site fit in

with the farm plan? Can the project be linked to other revegetation projects in the area? Don't forget to place your order with the nursery 6-9 months in advance of planting.

Prepare – ensure the area is weed free 12 months before planting to build up soil moisture. Fence area if it needs to be protected from stock. Control rabbits in the vicinity of the planting. Work out the best way to prepare the soil for planting e.g. deep ripping, mounding, furrow lining. Ripping may be necessary if cultivation pans exist, otherwise use the same methods you would to prepare a crop for planting.

Plant – healthy seedlings in a full soil moisture profile. Make sure rootballs have firm contact with soil.



Putting nest boxes up in tree plantings can encourage wildlife which need hollows for nesting, such as gliders, onto your farm. *Photo Phil Spark*

Are you making a difference?

At the start of any revegetation project it is very important to establish your baseline data and beginning point as your site will change over time. Remembering that this is a long term project monitoring should continue for a number of years. Some useful monitoring methods:

- Use fixed photo points taken over time to record changes.
- Inspect plantings for weed and pest impacts and water stress every 3 months within the first 2 years of establishment.
- Assess the survival of different seedlings

by counting survivors after one month compared to number planted. Replant if less than 50%. Check survival every year.

- Monitor and record the changes to insect and bird life in the revegetation areas.

Benefits for the cotton grower

- Provides habitat for predators of pest insects, like birds, beneficial insects and spiders.
- Revegetated areas can provide timber, and other non-timber products like fodder, seed orchards and cut flowers.
- Combats degradation of the soil through stabilising the soil and limiting erosion.
- Windbreaks – reduce soil erosion, act as spray buffers, offer aesthetic values and harbour beneficial insects and birds.

Are you making a difference?

- Inspect plantings for weed and pest impacts and water stress every 3 months within the first 2 years of establishment.

Benefits for biodiversity

- Provides food, shelter and nesting sites to sustain wildlife
- Ensures that there is an adequate representation of all the different habitats.
- Connects existing vegetation patches to increase gene flow between them.



Glossy black cockatoos feed on exclusively on several She-oak species including Belah (*Casuarina cristata*) and Black She-oak (*Allocasuarina littoralis*). Include these trees in your planting to encourage this bird onto your farm. Photo Janelle Montgomery.

For more information:

www.cotton.crc.org.au/content/Catchments/Publications/Environment_NRM_Publications.aspx

www.greeningaustralia.org.au/resources/resources

Florabank – Australia's premier native seed resource www.florabank.org.au

www.namoi.cma.nsw.gov.au

Publications

Andrews, S., Carr, D.B., & Ward, H. (2004) *A manual for planted farm forestry for the northern inland of New South Wales*. Greening Australia NSW Inc and Northern Inland Forestry Investment Group., Armidale, NSW.

Bennett, A. Kimber, S. Ryan, P. (2000) *Revegetation and Wildlife: A guide to enhancing revegetated habitats for wildlife conservation in rural environments*. Environment Australia, Bushcare – National Projects Research and Development Program, Research Report 2/00, Clayton, Vic.

Cleugh, H (2003). *Trees for shelter: A guide to using windbreaks on Australian Farms*. Rural Industries Research and Development Corporation, Canberra. (Download the summary report from <http://www.rirdc.gov.au/reports/AFT/02-059sum.html>)

Corr, K. (comp.) (2003) *Revegetation Techniques: A guide for establishing native vegetation in Victoria*. Greening Australia Victoria, Heidelberg, Vic.

Dalton, G. (1998) *Creative Revegetation: Enhancing biodiversity by design*. Primary Industries and Resources South Australia, Fact Sheet, Adelaide, SA.

Voller, P. (comp.) (1999) *Growing Trees on Cotton farms*. Rural Industries Research and Development Corporation, Kingston, Canberra.

