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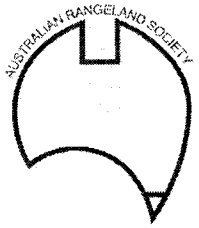

The Australian Rangeland Society

NATIVE RANGELAND TREES AND SHRUBS THAT CAN BE GROWN FROM SEED

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For various reasons, many people wish to rejuvenate areas of depauperate vegetation to a balanced mix of domestic stock, wildlife, timber and aesthetic beauty. Their biggest difficulty is often a lack of seed of the species they want or an inability to get the seed that has been collected to germinate. Publications on germinating native plant seeds (Langkamp 1987; Doran and Turnbull 1997) contain valuable information but many species important to rangeland biodiversity are not covered.

How easy is it to capture the regenerative potential of a plant dripping with seed or alternatively to prevent it from thickening up? People on the alert for regenerating weedy species often don't know how much to expect nor what the seedlings will look like. Preliminary characterisation of seedlings of many important woody or weedy plants in southern inland Qld and northern NSW has now been done.

This paper reports on the ease of seed collection, of getting fresh seed to germinate and the appearance and vigour of young seedlings of many common rangeland plants that landholders may wish to manage more reliably. It helps to know before you start if you are likely to have trouble and use your energy on species where success is more likely. The uses for this basic information are many and this is a further contribution to sustainable management and development of our rural communities.

Seed collection, ease of fresh seed germination and seedling notes on selected native plants

Plant	Seed collection	Seed germination	Seedling features
Trees			
Belah *Casuarina cristata*	Easy. Pick fruits slightly green & dry	Very unpredictable for each seed lot	Oval cotyledons; then erect, leafless stem
Black teatree *Melaleuca lanceolata*	Fairly easy. Minute seeds fall from nuts	Significant from fresh seeds & after 6 months	Tiny, slow-growing but hardy; short internodes
Bloodwoods & allies *Corymbia* spp.	Easy. Pick nuts just before valves open	Easy. No dormancy. Seeds large	Hairy leaves. Long, hairy internodes
Boonaree *Alectryon oleifolius*	Easy if set. Sporadic seeding years	Difficult, even if naked seeds used	Cotyledons stay buried. Small, alternate leaves
Bulloak *Allocasuarina luehmannii*	Easy. Pick fruits slightly green & dry in bags in the sun	Fairly difficult if fresh; uncertain longevity	Oval cotyledons; then erect, leafless stem. Hard to tell from belah
Gums and box trees *Eucalyptus* spp.	Easy. Pick nuts just before valves open	Easy. No dormancy. Seeds often tiny	Hairless. Cotyledons small; Short internodes
Kurrajong *Brachychiton populneus*	Fairly easy. Seeds large	Slow but moderate percentages emerge	Sturdy with very large, alternate leaves; stipules obvious
Leopardwood *Flindersia maculosa*	Easy. Must be newly shed; sporadic years	Germinates rapidly if fresh	Deeply notched, large cotyledons
Peach bush *Ehretia membranifolia*	Difficult. Fungal galls commonly replace fruits	Easy with fresh seed once flesh removed	Small, oval cotyledons. Stem and leaves quite hairy
Prickly pine *Bursaria incana*	Problematic. Pick slightly green	Good but slow; easily damped off	Very weak. Mealy hairs on stem; no early spines
Red ash *Alphitonia excelsa*	Fairly easy. Needs a good cleaning	Fair once coverings cleaned off	Sturdy. White underside on leaves
Vinetree *Ventilago viminalis*	Problematic. Have to beat insect grubs	Slow. Low to good percentages	Cotyledons stay buried. Small leaves & stipules

White cypress pine *Callitris glaucophylla*	Easy. Loses viability readily	Slow, but moderate percentages	Simple linear leaves. Hardy seedling
Whitewood *Atalaya hemiglauca*	Easy. Only set in early summer	Germinates slowly. Seeds 95%, fruits 50%	Cotyledons stay in soil. Simple leaves; hardy
Wild orange *Capparis mitchellii*	Problematic. Have to beat insect grubs and extract from flesh	Slow, low percentages; use fresh seed from rotting fruit	Slow growing. Large, leafy cotyledons. Small leaves + spines
Wilga *Geijera parviflora*	Easy. Best from soil under tree or emu dung	Strongly dormant if freshly hand-harvested	Shiny, deep green leaves dark dots on underside
Shrubs			
Currant bush *Carissa ovata*	Requires dedication. Must have moist flesh	Fairly easy when fresh	Shiny, leafy cotyledons; leaves in pairs ± spines
Dogwood *Jacksonia scoparia*	Very easy. Collect in December	Good germination if scarified	Vigorous, hardy; broad leaves initially
Lignum *Muehlenbeckia florulenta*	Requires dedication & good timing after rain. Drop when barely ripe	Very low germination; loses viability quickly	Leafy seedling; long sheathing collar around stem at each leaf; hardy
Nipan *Capparis lasiantha*	Requires dedication. Sporadic fruiting	Moderate if fresh from ripe fruit; slow	Slow to emerge; hardy once established; spines
Plumwood *Santalum lanceolatum*	Requires dedication. Sieved soil from under trees is a better source	Remove flesh. Strongly dormant when fresh	Leaves in pairs. Weak after seed reserves used
Propeller bush *Dodonaea heteromorpha*	Easy. Ripe seeds dark brown	Easy with fresh seeds but not whole fruits	Cotyledons pointed, thin; bluntly trilobed apex to first leaf
Ruby saltbush *Enchylaena tomentosa*	Difficult. Pick when fleshy and coloured	Low for fresh seed; longevity uncertain	Vigorous, hairy seedling; needle-like leaves
Sticky hopbush *Dodonaea viscosa*	Easy. Ripe seeds dark brown	Easy with fresh seed or fruits	Thin cotyledons; blunt tipped early leaves
Sticky peachbush *Olearia elliptica*	Easy. Falls rapidly once ripe	Quite good when fresh; some dormancy	Small, hairless seedling; pimples on leaf margins
Warrior bush *Apophyllum anomalum*	Difficult. Fleshy and rarely seen	Good from fresh seed free of fleshy coverings	Like wild orange but leaves longer & narrower; spines softer
Wild rosemary *Cassinia laevis*	Very easy. Fluffy seeds	Quite good when fresh; some dormancy	Tiny, hairy seedlings but hardy once 2 cm tall
Yellowberry bush *Maytenus cunninghamii*	Requires dedication. Fruits must be ripe and yellow	Fair germination of clean, fresh seeds; slow	Large cotyledons; slow growth; hardy

Work continues on other species but so far some have proven impossible to germinate readily after seed ageing and scarification. Those involved include Ellangowan poisonbush (*Myoporum deserti*), Western boobialla (*M. montanum*), Emu apple (*Owenia acidula*), Myrtle (*Canthium oleifolium*), Budda (*Eremophila mitchellii*), Emubush (*E. longifolia*), Quinine tree (*Petalostigma pubescens*) and Bitterbark (*Alstonia constricta*). Some with succulent fruits may require special treatment such as passage through a bird's gut. Others have little need for seed as they spread freely by root suckers. Plants from the same family often have similar germination patterns but there is no guarantee of this when trying to overcome an apparently strong dormancy for a particular species.

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