



[TREES TO FIGHT SALINITY ON FARMS]





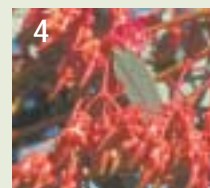
INTRODUCTION

The Forest Products Commission is in a unique position to provide trees as tools to fight salinity.

Through a committed research program the Commission has identified trees and shrubs that can withstand defined salt levels and made seeds available for propagation. The emphasis has been on species of potential commercial value.



1. *Acacia saligna* bush
2. Native habitat of *Eucalyptus occidentalis*
3. Commission Seed Centre checking seed viability before the release of seed
4. *Eucalyptus torquata* flowers
5. Screening for salt tolerance levels
6. *Callistemon phoenicous* flowers



Front Cover - Top Left: *Eucalyptus eremophila* tree
Bottom Left: *Eucalyptus camaldulensis* flowers
Top Right: *Melaleuca uncinata*
Bottom Right: Trees surviving high salinity levels

Financial viability

The native species provide more options for landowners where the salt levels are already moderate to high and add to our range of programs designed to provide a financially viable resource integrated with farming systems.

This fits in with the State Government's Action Plan for tree farming in Western Australia designed to address the challenges of salinity, greenhouse, biodiversity and to develop new timber resources and industries.

The Action Plan provides a framework to develop coherent and coordinated regionalised strategies for growing the right trees, in the right place to achieve economies of scale to attract investment into processing industries and address the environmental issues, such as salinity.

The strategic placement of trees in the landscape can provide economic return whilst allow farming to continue in a sustainable manner.

The Forest Products Commission is involved in a number of successful commercial tree initiatives - the blue gum enterprise, the 'Maritime Pine Project' and the recent 'Eucalypt Sawlog Project' specifically to manage water quality.

Research

Observations show that the right trees planted on salt scalds not only have the ability to adapt and survive but also have commercial potential.

The research program at the Forest Products Commission has three phases. The first identified trees that can withstand defined salt levels and their commercial potential (see table). The second phase is ongoing and estimates the range of salt tolerance within a species. The final phase is to provide improved individuals for these type of plantings.

New opportunities

The most exciting aspect of this project is the potential to grow a sawlog product from this land base. Salt conditions retard tree growth rates.

With most low value wood products, for example, woodchips for pulp or biofuel, this would make the planting non-commercial. Slow growth, and therefore higher wood densities, would add value to a sawlog product.

Salinity not only causes land degradation but also adds to the greenhouse effect as plant matter decays in these salt scalds. Revegetation of these areas will reverse the decline and positively add to the carbon credits.

Saltscauds have generally been revegetated as land care plantings with no hope of a commercial return. In reviewing the knowledge base of salt tolerant trees, there are a number of opportunities to rehabilitate these salt contaminated areas of the landscape and at the same time develop an economic diversification on the farm.

Furthermore, it appears that these plantings may act as a salt sink and confine the spread of the salt into the cropped areas.

TIME TO ACT

For more information on seeds and seedlings for salt affected land contact the Forest Products Commission's Plant Propagation Centre in Manjimup.

SEEDS

To buy direct, contact:
Seed Centre
Locked Bag 6
MANJIMUP
Western Australia 6258
Telephone: (08) 9772 0308
Fax: (08) 9772 1305
Email: seedcentre@fpc.wa.gov.au

Or visit its web site
www.fpc.wa.gov.au/seed for
ordering details and a more
comprehensive database on
available seeds, their
characteristics and suitability for
different soils and rainfall.

SEEDLINGS

Order from the Manjimup Nursery by contacting
Manjimup Nursery
Locked Bag 6
MANJIMUP
Western Australia 6258
Telephone: (08) 9772 0377
Fax: (08) 9772 1211
Email: manjnurs@fpc.wa.gov.au



SALT TOLERANT NATIVE SPECIES WITH COMMERCIAL POTENTIAL

Genus	Species Name	Common Name	Level of salt tolerance	Saw milling	Fire wood	Small timber-poles or wood turning	Honey producing	Essential oils	Cut flowers or foliage	Stock fodder
ACACIA	ampliceps	salt wattle	M							x
ACACIA	acuminata	rasberry jam tree	M		x	x				
ACACIA	redolens	vanilla wattle	M			x			x	
ACACIA	saligna	western wattle	H							x
ACTINOSTROBUS	pyramidalis	swamp cypress	M						x	
BANKSIA	attenuata	slender banksia	M						x	
BRACHYCHITON	gregorii	desert kurrajong	M							x
CALLISTEMON	phoeniceus	lesser bottlebrush	M						x	
CASUARINA	cristata subsp pauper	black oak	H		x					x
CASUARINA	obesa	swamp oak	X		x					
EUCALYPTUS	angustissima	narrow-leaved mallee	M				x	x		
EUCALYPTUS	annulata	open-fruited mallee	M				x	x		
EUCALYPTUS	astringens	brown mallet	M	x	x	x	x			
EUCALYPTUS	calycogona var.calycogona	gooseberry mallee	M				x			
EUCALYPTUS	camaldulensis	river red gum	M	x	x	x	x			
EUCALYPTUS	campaspe	silver-topped gimlet	M		x	x	x		x	
EUCALYPTUS	cornuta	yate	M	x	x	x	x			
EUCALYPTUS	dielsii	cap-fruited mallee	M				x			
EUCALYPTUS	diptera	two-winged gimlet	M				x			
EUCALYPTUS	eremophila subsp.eremophila	sand mallee	M				x			
EUCALYPTUS	flocktoniae	merrit	M			x	x			
EUCALYPTUS	gracilis	yorrell	M		x	x	x			
EUCALYPTUS	gratae	Lake Grace gum	M				x			
EUCALYPTUS	kondininensis	Kondinin black butt	X				x			
EUCALYPTUS	kumarlensis	Kumarl gum	M	x	x	x				
EUCALYPTUS	lesouefii	Goldfield's black butt	M		x		x			
EUCALYPTUS	longicornis	red morrel	M		x	x	x			
EUCALYPTUS	loxophleba subsp. gratiae	Lake Grace gum	M				x	x		
EUCALYPTUS	loxophleba subsp. lissophloia	smooth barked York gum	M				x	x		
EUCALYPTUS	loxophleba subsp. loxophleba	York gum	M		x	x	x	x		
EUCALYPTUS	loxophleba subsp. supralaevis	York gum	M		x	x	x			
EUCALYPTUS	myriadena subsp. myriadena	snap and rattle	M				x			
EUCALYPTUS	occidentalis var. occidentalis	flat-topped yate	H	x	x	x	x			
EUCALYPTUS	oleosa var oleosa	red mallee	M		x	x	x	x		
EUCALYPTUS	platycorys	boorabbin mall	M				x			
EUCALYPTUS	platypus var. platypus	moort	M				x			
EUCALYPTUS	ravida	silver-topped gimlet	M			x	x			
EUCALYPTUS	salicola	salt gum	M	x	x	x				
EUCALYPTUS	salubris var. glauca	silver-topped	M			x	x			
EUCALYPTUS	salubris var. salubris	gimlet	M			x	x			
EUCALYPTUS	sargentii subsp. sargentii	salt river gum	H				x			
EUCALYPTUS	spathulata subsp. spathulata	swamp mallet	H				x		x	
EUCALYPTUS	torquata	coral gum	M		x		x			
EUCALYPTUS	transcontinentalis	redwood	M		x		x			
EUCALYPTUS	woodwardii	lemon-flowered gum	M				x			
MELALEUCA	acuminata	scented honey myrtle	M					x		
MELALEUCA	halmatororum subsp. cymbifolia	swamp paperbark	X		x					
MELALEUCA	huegelii subsp.huegelii	chenille honey myrtle	M						x	
MELALEUCA	lanceolata subsp. Occidentalis	Rottnest tea-tree	M				x			
MELALEUCA	lateriflora subsp. lateriflora	oblong-leaf honey-myrtle	M					x	x	
MELALEUCA	nesophila	showy honey-myrtle	M						x	
MELALEUCA	uncinata	broom bush	M					x		

X EXTREME

H HIGH

M MEDIUM