

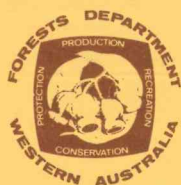
LIBRARY

Department of Biodiversity,
Conservation and Attractions

This PDF has been created for digital preservation. It may be used for research but is not suitable for other purposes. It may be superseded by a more current version or just be out-of-date and have no relevance to current situations.



Helms Arboretum



Helms Arboretum

History

The Helms Arboretum commemorates the name of Andy Helms who was well and affectionately known by generations of forestry students at the Australian Forestry School Canberra where he lectured in Forest Management and Mensuration during the 1940's and 1950's. Born in Denmark, Europe, he had a varied forestry career which included periods with the New South Wales Forestry Commission, the W.A. Forests Department, as a private consultant at Esperance and with the Tasmanian Forestry Commissioner, before becoming a well respected academic at Canberra. He was Manager of Esperance Pine Forests Limited when planting began in 1928. Although the company was not successful the experience with pines and the astuteness of Andy Helms led on to nutritional trials that became the starting point for further research and the eventual development of the Esperance plains.

The arboretum is really in two parts – a small pine plantation planted 1956-1969 and the arboretum, created in 1973 to ascertain if there were other types of trees which would flourish in Esperance, plantings 1973-1980. The soil type varies between deep Gibson sands (50cm +) in the north east section to varying depth shallow sand in the western section (0-30cm). The arboretum lies in the 500-550mm rainfall area. Apart from the plot near the entrance all plantings have been on virgin country. This has effected the performance of some species in comparison to established pasture, however, this is being corrected by aerial application of fertiliser.

The majority of species are in ½ha blocks at a spacing of 4m × 4m, as the trees mature and some express dominance inferior trees will be gradually removed to make way for the proper development of the better trees. Even with thinning most trees will grow with a much straighter habit than in an open site. This must be borne in mind when selecting species.

Helms Arboretum

How to Use the Guide

The guide indicates whether each species is suited to shallow (mallee type) or deep (sandplain) soils and the minimum rainfall you can expect the tree to survive in. The performance and form of species in the arboretum may not be applicable to your property. Rainfall and depth of friable soil is probably the most important criteria when selecting species for the south coast. The best approach is to learn to identify favoured species, look at plantings and talk to farmers on neighbouring properties and endeavour to get on-farm advice from experienced personnel from the Forests or Agriculture Departments.

Publications on raising and caring for trees are available from the Department of Agriculture Esperance, Forests Department, Kalgoorlie phone (090) 21 2095. Como phone (09) 367 6333.

Compiled by Norm Caporn

O = Ornamental

W = Windbreak

S = Shade

T = Timber

*** = Salt tolerant**

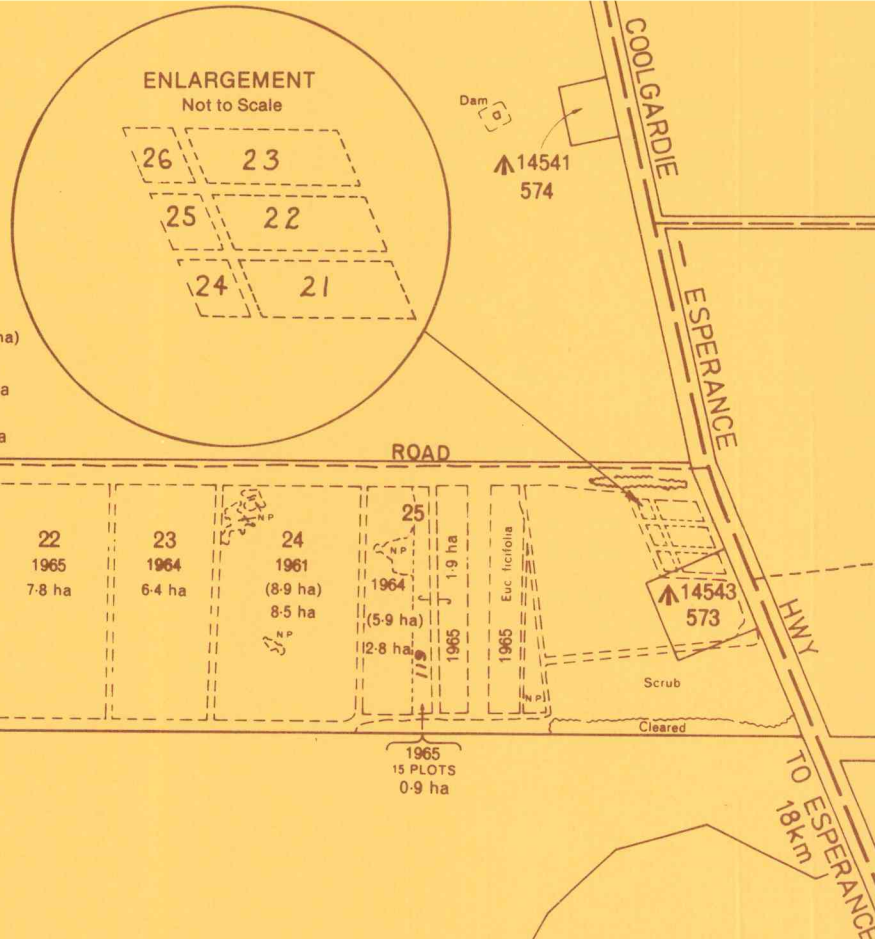
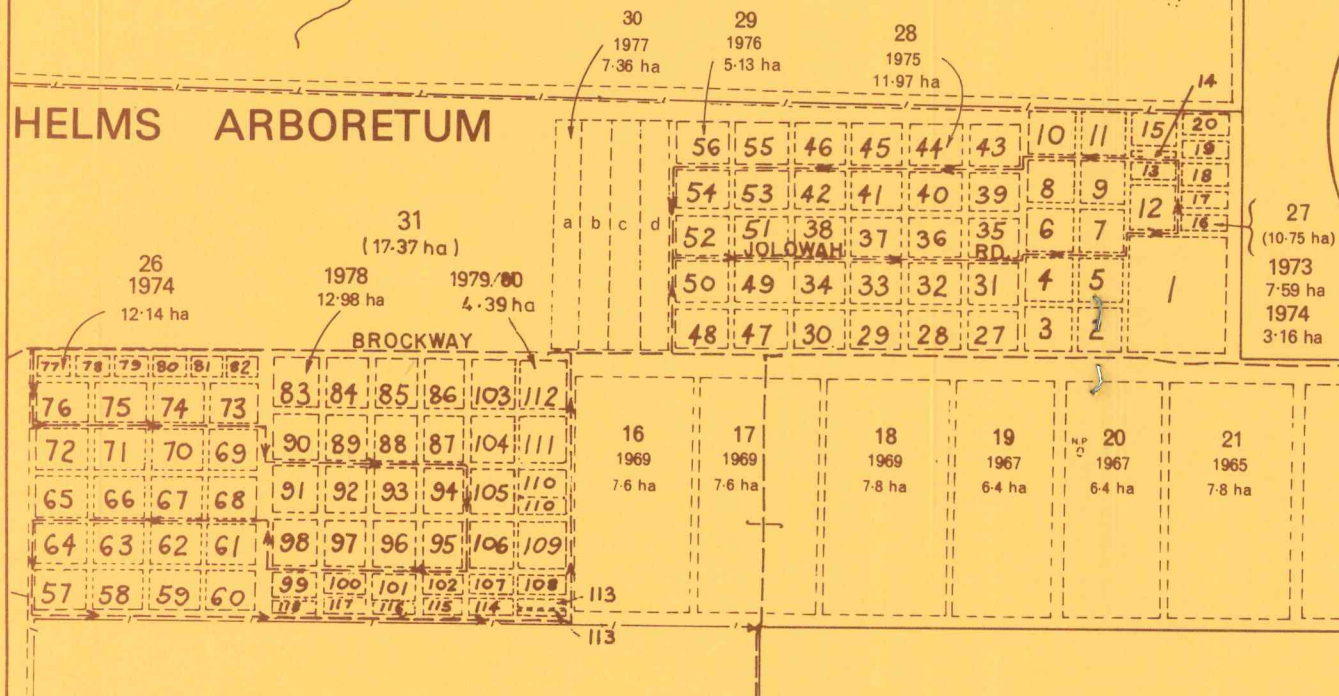
Species for Sandplain Soils DEEP SANDS

Rainfall	Species	Year planted	Plot No.	Use
300-400mm	Acacia acuminata <i>Raspberry jam</i>	80	110	T
	Acacia peuce <i>Waddy</i>	80	110	Arid zone sp.
	Eucalyptus astringens <i>Brown mallet</i>	73/74	8/62	W S *
400-500mm	Ceratonia siliqua <i>Carob bean</i>	80	113	S fodder
	Cupressus arizonica <i>Arizona cypress</i>	73	18	W S T
	Eucalyptus angulosa <i>Ridge-fruited mallee</i>	78	90	W O
	Eucalyptus caesia <i>Silver princess</i>	76	47	O
	Eucalyptus caesia <i>Gungurru</i>	76	48	O
	Eucalyptus citriodora <i>Lemon-scented gum</i>	75	37	O
	Eucalyptus cladocalyx <i>Sugar gum</i>	74	72	W S
	Eucalyptus cladocalyx var nana <i>Dwarf sugar gum</i>	73/74	4/76	W S
	Eucalyptus cornuta <i>Yate</i>	79	107	W S T
	Eucalyptus decipiens <i>Red Heart</i>	65	119	W S
	Eucalyptus erythrocorys <i>Illyarrie</i>	75	31	O
	Eucalyptus falcata <i>Silver Mallet</i>	73/74	11/61	W S
	Eucalyptus gardneri <i>Blue mallet</i>	74/75	41/63	W S T
	Eucalyptus goniantha <i>Jerdacuttup mallee</i>	75	34	O

Rainfall	Species	Year planted	Plot No.	Use
400-500mm (contd)	<i>Eucalyptus lehmannii</i> <i>Bushy yate (conferruminata)</i>	73/74	32/77	W
	<i>Eucalyptus occidentalis</i> <i>Flat-topped yate</i>	73/74	24/68	
	<i>Eucalyptus platypus</i> var <i>heterophylla</i> <i>Coastal Moort</i>	73	6	W S
	<i>Eucalyptus preissiana</i> <i>Bell-fruited mallee</i>	74	79	O
	<i>Eucalyptus redunca</i> var <i>melanophloia</i> <i>Black marlock</i>	65	119	W *
	<i>Eucalyptus spathulata</i> <i>Swamp mallet</i>	74/75	42/78/115	W S *
	<i>Eucalyptus stoatei</i> <i>Scarlet pear gum</i>	74	80	O
	<i>Melaleuca nesophila</i> <i>Showy honey myrtle</i>	81	118	W
	<i>Melaleuca armillaris</i> <i>Bracelet honey myrtle</i>	81	104	W
	<i>Pinus halepensis</i> <i>Aleppo pine</i>	73/75	17/36	W S T
	<i>Pinus halepensis</i> var <i>brutia</i> <i>Aleppo pine</i>	75	32	W S T
	<i>Pinus pinaster</i> <i>Maritime pine</i>	54/77	—	W S T
	<i>Pinus pinea</i> <i>Stone pine</i>	76	52	W S
	<i>Actinostrobus pyramidalis</i> <i>Native cypress</i>	73	19	O
	<i>Agonis flexuosa</i> <i>W.A. peppermint</i>	78	96	O W S
	<i>Angophora costata</i> <i>Apple myrtle</i>	78	86	O W S
	<i>Callitris calcarata</i> <i>Black cypress pine</i>	73	13	O W
	<i>Callitris preissii</i> <i>Rottnest Island pine</i>	73/74	20/15	O W
	<i>Casuarina obesa</i> <i>Swamp oak</i>	75/80	55/112	W S *
> 500 mm				

Rainfall	Species	Year planted	Plot No.	Use
^ 500 mm	<i>Cupressus macrocarpa</i> <i>Monterey cypress</i>	73/5/8	14/40/101	W S T
	<i>Eucalyptus bicostata</i> <i>Eurabbie</i>	73/74	23/69	W S T
	<i>Eucalyptus bosistoana</i> <i>Gippsland grey box</i>	76	49	W S T
	<i>Eucalyptus botryoides</i> <i>Bangalay</i>	73/74	9/70	W S T
	<i>Eucalyptus brevistylis</i> <i>Rate's tingle</i>	78	99	W S
	<i>Eucalyptus calcicola</i> <i>Hamelin Bay mallee</i>	78/80	89/114	W
	<i>Eucalyptus calophylla</i> <i>Marri</i>	78	83	W S
	<i>Eucalyptus calophylla</i> var <i>rosea</i> <i>Pink-flowered marri</i>	78	84	W S
	<i>Eucalyptus camaldulensis</i> <i>River gum</i>	73/74	7/26/65	W S
	<i>Eucalyptus cinerea</i> <i>Argyle gum</i>	76	51	O
	<i>Eucalyptus diversicolor</i> <i>Karri</i>	74	75	W S T
	<i>Eucalyptus dives</i> <i>Broad-leafed peppermint</i>	78	100	W S
	<i>Eucalyptus doratoxylon</i> <i>Spearwood mallee</i>	76	46	W
	<i>Eucalyptus ficifolia</i> <i>Red-flowering gum</i>	65/75	28	O
	<i>Eucalyptus globulus</i> <i>Tasmanian blue gum</i>	73/74	3/60	W S
	<i>Eucalyptus gomphocephala</i> <i>Tuart</i>	73	2	W S T
	<i>Eucalyptus incrassata</i> <i>Lerp mallee</i>	75	46	W
	<i>Eucalyptus lane-poolei</i> <i>Salmon-bark wandoo</i>	65	119	W
	<i>Eucalyptus leucoxylon</i> var <i>rosea</i> <i>Pink-flowered yellow gum</i>	75	30	O

HELMS ARBORETUM



Rainfall	Species	Year planted	Plot No.	Use
> 500 mm (contd)	<i>Eucalyptus macrocarpa</i> <i>Mottlecah</i>	78	87	O
	<i>Eucalyptus maculata</i> <i>Spotted gum</i>	73/74	5/59	W S T
	<i>Eucalyptus maidenii</i> <i>Maiden's gum</i>	78	92	W S T
	<i>Eucalyptus melliodora</i> <i>Yellow box</i>	76/80	53/111	W S O
	<i>Eucalyptus microcorys</i> <i>Tallowwood</i>	74	57	W S T
	<i>Eucalyptus nicholii</i> <i>Willow-leaved peppermint</i>	75	29	W S O
	<i>Eucalyptus patellaris</i> <i>Weeping box</i>	80	113	O
	<i>Eucalyptus resinifera</i> <i>Red mahogany</i>	73/74	25/58	W S T
	<i>Eucalyptus rhodantha</i> <i>Rose mallee</i>	78	91	O
	<i>Eucalyptus robusta</i> <i>Swamp mahogany</i>	73/5/8	21/27/85	W S T
	<i>Eucalyptus rudis</i> <i>Flooded gum</i>	78	93	W S
	<i>Eucalyptus saligna</i> <i>Sydney blue gum</i>	74/75	38/71	W S T
	<i>Eucalyptus sideroxylon</i> <i>Red ironbark</i>	79	108	W S T
	<i>Eucalyptus todtiana</i> <i>Coastal blackbutt</i>	75	33	O
	<i>Eucalyptus woollsiana</i> <i>Grey box</i>	79	109	W S T
	<i>Lagunaria patersonii</i> <i>Norfolk Island hibiscus</i>	78	95	W S O
	<i>Leptospermum laevigatum</i> <i>Coastal tea-tree</i>	81	99	W
	<i>Melaleuca lanceolata</i> <i>Rottnest Island tea-tree</i>	73	16	W
	<i>Melia azedarach</i> <i>Cape lilac</i>	81	56	W S O

Rainfall	Species	Year planted	Plot No.	Use
500 mm ^	<i>Pinus canariensis</i> <i>Canary Island pine</i>	73/75	12/35	W S O
	<i>Pinus eldarica</i> <i>Alabrian pine</i>	78	103	W S T
	<i>Pinus elliottii</i> <i>Slash pine</i>	73/76	15/50	W S T
	<i>Pinus oocarpa</i> <i>Nicaraguan pitch pine</i>	78	104	trial species
	<i>Pinus radiata</i> <i>Monterey pine</i>	73	1	W S T
	<i>Schinus terebinthifolius</i> <i>Japanese pepper tree</i>	78	97	O
	<i>Tristania conferta</i> <i>Box</i>	78	102	O
	<i>Virgillia capensis</i> (oroboides) <i>Cape virgillia</i>	78	88	O

Species for Mallee Country

SHALLOW SOILS

Rainfall	Species	Year planted	Plot No.	Use
300 mm	Eucalyptus diptera	74	74	S W *
	Eucalyptus dundasii <i>Dundas blackbutt</i>	78	98	S T
	Eucalyptus salmonophloia <i>Salmon gum</i>	74	66	S T
	Eucalyptus salubris <i>Gimlet</i>	75	44	W S *
	Eucalyptus torquata <i>Coral gum</i>	76	54	W S O
300-400 mm	Acacia acuminata <i>Raspberry jam</i>	80	110	T
	Acacia peuce <i>Waddy</i>	80	110	O
	Eucalyptus annulata <i>Open-fruited mallee</i>	74	73	W S
	Eucalyptus astringens <i>Brown mallet</i>	73/74	8/62	W S *
	Eucalyptus brockwayi <i>Dundas mahogany</i>	74	67	S T
	Eucalyptus eremophila <i>Tall sand mallee</i>	73	10	W S
	Eucalyptus gracilis var yilgarnensis <i>Yorrell</i>	75	39	W S
	Eucalyptus redunca var elata <i>Inland wandoo</i>	75	40	W S T
	Eucalyptus sargentii <i>Salt river gum</i>	75	43	W S *
	Eucalyptus sheathiana <i>Ribbon-barked mallee</i>	80	117	W S
	Ceratonia siliqua <i>Carob bean</i>	80	113	S fodder
	Eucalyptus caesia <i>Silver princess</i>	76	47	O

Rainfall	Species	Year planted	Plot No.	Use
400-500 mm	<i>Eucalyptus caesia</i> <i>Gungurru</i>	76	48	O
	<i>Eucalyptus citriodora</i> <i>Lemon-scented gum</i>	75	37	O
	<i>Eucalyptus cladocalyx</i> <i>Sugar gum</i>	74	72	W S
	<i>Eucalyptus cladocalyx</i> var <i>nana</i> <i>Dwarf sugar gum</i>	73/74	4/76	W S
	<i>Eucalyptus cornuta</i> <i>Yate</i>	79	107	W S T
	<i>Eucalyptus falcata</i> <i>Silver mallet</i>	73/74	11/61	W S
	<i>Eucalyptus forrestiana</i> <i>Fushia mallee</i>	74	82	O
	<i>Eucalyptus gardneri</i> <i>Blue mallet</i>	74/75	41/63	W S T
	<i>Eucalyptus goniantha</i> <i>Jerdacuttup mallee</i>	75	34	O
	<i>Eucalyptus loxophleba</i> <i>York gum</i>	65/75	45	W S *
	<i>Eucalyptus nutans</i> <i>Red-flowered moort</i>	74	81	W S O
	<i>Eucalyptus occidentalis</i> <i>Flat-topped yate</i>	73/74	24/68	S *
	<i>Eucalyptus platypus</i> <i>Moort</i>	76	64	W S
	<i>Eucalyptus platypus</i> var <i>heterophylla</i> <i>Coastal moort</i>	73	6	W S
	<i>Eucalyptus preissiana</i> <i>Bell-fruited mallee</i>	74	79	O
	<i>Eucalyptus redunca</i> var <i>melanophloia</i> <i>Black marlock</i>	65	119	W S *
	<i>Eucalyptus spathulata</i> <i>Swamp mallet</i>	74/75	42/78/115	W S *
	<i>Eucalyptus stoatei</i> <i>Scarlet pear gum</i>	74	80	O
	<i>Eucalyptus wandoo</i> <i>Wandoo</i>	78	105	W S T