

**Family:** *Xanthorrhoeaceae*

**Taxon:** *Xanthorrhoea preissii*

**Synonym:** *Xanthorrhoea reflexa* D.A.Herb.  
*Xanthorrhoea pecoris* F.Muell.

**Common Name:** Balga  
Grass Tree

<b>Questionnaire :</b>	current 20090513	<b>Assessor:</b>	Chuck Chimera	<b>Designation:</b> L
<b>Status:</b>	Assessor Approved	<b>Data Entry Person:</b>	Chuck Chimera	<b>WRA Score</b> -5
101	Is the species highly domesticated?		y=-3, n=0	n
102	Has the species become naturalized where grown?		y=1, n=-1	
103	Does the species have weedy races?		y=1, n=-1	
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"		(0-low; 1-intermediate; 2-high) (See Appendix 2)	Intermediate
202	Quality of climate match data		(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)		y=1, n=0	n
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0	n
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0	y
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205	n
302	Garden/amenity/disturbance weed		n=0, y = 1*multiplier (see Appendix 2)	
303	Agricultural/forestry/horticultural weed		n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed		n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed		n=0, y = 1*multiplier (see Appendix 2)	n
401	Produces spines, thorns or burrs		y=1, n=0	n
402	Allelopathic		y=1, n=0	n
403	Parasitic		y=1, n=0	n
404	Unpalatable to grazing animals		y=1, n=-1	n
405	Toxic to animals		y=1, n=0	n
406	Host for recognized pests and pathogens		y=1, n=0	
407	Causes allergies or is otherwise toxic to humans		y=1, n=0	n
408	Creates a fire hazard in natural ecosystems		y=1, n=0	y
409	Is a shade tolerant plant at some stage of its life cycle		y=1, n=0	n
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0	y
411	Climbing or smothering growth habit		y=1, n=0	n

412	Forms dense thickets	y=1, n=0	n
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	n
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	>3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m <sup>2</sup> )	y=1, n=-1	y
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: L

WRA Score -5

---

**Supporting Data:**

101	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. Flora of the South West: Introduction, keys, ferns to monocotyledons. UWA Publishing, Crawley, Western Australia	[Is the species highly domesticated? No] No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	2005. Korczynskij, D./Lamont, B.B.. Grasstree ( <i>Xanthorrhoea preissii</i> ) leaf growth in relation to season and water availability. Austral Ecology. 30: 765–774.	[Species suited to tropical or subtropical climate(s)? 1-intermediate] "Xanthorrhoea preissii is an arborescent species ubiquitous throughout much of mediterranean, southwestern Australia."
202	2005. Korczynskij, D./Lamont, B.B.. Grasstree ( <i>Xanthorrhoea preissii</i> ) leaf growth in relation to season and water availability. Austral Ecology. 30: 765–774.	[Quality of climate match data? 2-high] "Xanthorrhoea preissii is an arborescent species ubiquitous throughout much of mediterranean, southwestern Australia."
203	2004. Windmill Outback Nursery. Xanthorrhoea species. <a href="http://www.australiaplants.com/xanthorrhoea.htm">http://www.australiaplants.com/xanthorrhoea.htm</a>	[Broad climate suitability (environmental versatility)? No] "Temperature Rating: USDA Zone 9"
203	2010. rarepalmseeds.com. Xanthorrhoea preissii. <a href="http://www.rarepalmseeds.com/pix/XanPre.shtml">http://www.rarepalmseeds.com/pix/XanPre.shtml</a>	[Broad climate suitability (environmental versatility)? No] "It does best in warm temperate climates and prefers a place in sun on well drained ground."
203	2011. Western Australian Herbarium. FloraBase - The Western Australian Flora - Xanthorrhoea preissii. Department of Environment and Conservation, <a href="http://florabase.calm.wa.gov.au/browse/profile/1256">http://florabase.calm.wa.gov.au/browse/profile/1256</a>	[Broad climate suitability (environmental versatility)? No] "Ranges, coastal plain, near watercourses. Distribution: SW: AW, GS, JF, SWA, WAR. " [generally found at lower elevations]
204	2005. Korczynskij, D./Lamont, B.B.. Grasstree ( <i>Xanthorrhoea preissii</i> ) leaf growth in relation to season and water availability. Austral Ecology. 30: 765–774.	[Native or naturalized in regions with tropical or subtropical climates? No] "Xanthorrhoea preissii is an arborescent species ubiquitous throughout much of mediterranean, southwestern Australia."
204	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Native or naturalized in regions with tropical or subtropical climates? No] No evidence
205	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Does the species have a history of repeated introductions outside its natural range? Yes] "Trade in wild harvested Xanthorrhoea between 1995 and 1997 included <i>X. australis</i> , <i>X. fulva</i> , <i>X. glauca</i> , <i>X. gracilis</i> , <i>X. johnsonii</i> , <i>X. latifolia</i> , <i>X. minor</i> , <i>X. preissii</i> , and <i>X. thorntonii</i> . 214 Main export markets for Xanthorrhoea in 1997 were Singapore, Norway and Great Britain."
205	2011. San Marcos Growers. Products > Xanthorrhoea preissii. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1611">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1611</a>	[Does the species have a history of repeated introductions outside its natural range? Yes, sold commercially in California]
301	2005. Wagner, W.L./Herbst, D.R./Lorence, D.H.. Flora of the Hawaiian Islands website. Smithsonian Institution, Washington, D.C. <a href="http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm">http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm</a>	[Naturalized beyond native range? No] No evidence
301	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Naturalized beyond native range? No] No evidence
302	1979. Holm, L. G./Pancho, J.V./Herberger, J.P./Plucknett, D.L.. A Geographical Atlas of World Weeds. John Wiley and Sons, New York, NY	[Garden/amenity/disturbance weed? Unknown] Listed as a weed of unknown impact within Australia
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Agricultural/forestry/horticultural weed? No] No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Environmental weed? No] No evidence

305	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Congeneric weed? No] No evidence
401	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. Flora of the South West: Introduction, keys, ferns to monocotyledons. UWA Publishing, Crawley, Western Australia	[Produces spines, thorns or burrs? No] "Perennial herb, tree-like with trunk up to 3 m high, often branching. Leaves green, 600-750 mm long and 2-3 mm wide, 4-angled in cross-section, 2-2.5 mm thick, occasionally broader and more compressed."
402	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Allelopathic? No] No evidence
402	2005. Korczynskij, D./Lamont, B.B.. Grasstree ( <i>Xanthorrhoea preissii</i> ) leaf growth in relation to season and water availability. <i>Austral Ecology</i> . 30: 765-774.	[Allelopathic? No] "Xanthorrhoea preissii is a common component of various vegetation types, including forests, woodlands and shrublands, and grows on a variety of soil types over its distribution." [No evidence]
403	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. Flora of the South West: Introduction, keys, ferns to monocotyledons. UWA Publishing, Crawley, Western Australia	[Parasitic? No] "Perennial herb, tree-like with trunk up to 3 m high, often branching. Leaves green, 600-750 mm long and 2-3 mm wide, 4-angled in cross-section, 2-2.5 mm thick, occasionally broader and more compressed."
404	2004. Koch, J.M./Richardson, J./Lamont, B.B.. Grazing by Kangaroos Limits the Establishment of the Grass Trees <i>Xanthorrhoea gracilis</i> and <i>X. preissii</i> in Restored Bauxite Mines in Eucalypt Forest of Southwestern Australia. <i>Restoration Ecology</i> 12(2): 297-305	[Unpalatable to grazing animals? No] "This study examined factors affecting germination, survival, and growth of the grass trees <i>Xanthorrhoea gracilis</i> and <i>X. preissii</i> on newly rehabilitated bauxite mine pits in the jarrah forest of southwestern Australia. Grazing by kangaroos ( <i>Macropus fuliginosus</i> ) was the major factor in reducing survival and growth of both species during the first 2 years. Provision of artificial grazing protection increased survival and growth (plant mass) of both species by 3-fold."
404	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Unpalatable to grazing animals? No] "Some animal usage may be detrimental to xanthorrhoeas. For instance, regular browsing of <i>X. preissii</i> by Port Lincoln parrots can kill plants."
405	2004. Koch, J.M./Richardson, J./Lamont, B.B.. Grazing by Kangaroos Limits the Establishment of the Grass Trees <i>Xanthorrhoea gracilis</i> and <i>X. preissii</i> in Restored Bauxite Mines in Eucalypt Forest of Southwestern Australia. <i>Restoration Ecology</i> 12(2): 297-305	[Toxic to animals? No evidence] "This study examined factors affecting germination, survival, and growth of the grass trees <i>Xanthorrhoea gracilis</i> and <i>X. preissii</i> on newly rehabilitated bauxite mine pits in the jarrah forest of southwestern Australia. Grazing by kangaroos ( <i>Macropus fuliginosus</i> ) was the major factor in reducing survival and growth of both species during the first 2 years. Provision of artificial grazing protection increased survival and growth (plant mass) of both species by 3-fold."
405	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Toxic to animals? No evidence for <i>X. preissii</i> ] "Some Xanthorrhoea are toxic to stock, even causing death. Evidence suggests that feeding on young inflorescences is the cause of this poisoning, but further trials are required to identify all Xanthorrhoea species, plant parts and toxins responsible for stock poisoning."
406	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Host for recognized pests and pathogens? Possibly] "A confirmed threat to Xanthorrhoea is the root rot/dieback fungus <i>Phytophthora cinnamomi</i> . The fungus is found in all Australian States and Territories."
407	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Causes allergies or is otherwise toxic to humans? No evidence of human poisoning or toxicity] "Some Xanthorrhoea are toxic to stock, even causing death. Evidence suggests that feeding on young inflorescences is the cause of this poisoning, but further trials are required to identify all Xanthorrhoea species, plant parts and toxins responsible for stock poisoning."
408	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Creates a fire hazard in natural ecosystems? Yes, highly combustible] "Xanthorrhoeas are highly combustible and although arborescent plants can accumulate significant fuel they can survive fire. The impact of fire is influenced by fire frequency, timing and intensity. Leaf and inflorescence production can increase following fire. Although xanthorrhoeas have fire-protective mechanisms, significant fire deaths have been recorded in three arborescent species, including deaths of adult plants."

409	2004. Koch, J.M./Richardson, J./Lamont, B.B.. Grazing by Kangaroos Limits the Establishment of the Grass Trees <i>Xanthorrhoea gracilis</i> and <i>X. preissii</i> in Restored Bauxite Mines in Eucalypt Forest of Southwestern Australia. <i>Restoration Ecology</i> 12(2): 297-305	[Is a shade tolerant plant at some stage of its life cycle? No] " <i>Xanthorrhoea preissii</i> grows in open conditions on sandplains as well as under trees in the jarrah forest (Marchant et al. 1987) and hence appears to benefit from full sun conditions particularly in the moister microsite ... It appears that <i>X. gracilis</i> , as a forest species, may be more tolerant of shade conditions than <i>X. preissii</i> ."
409	2011. San Marcos Growers. Products > <i>Xanthorrhoea preissii</i> . <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1611">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1611</a>	[Is a shade tolerant plant at some stage of its life cycle? No] "Exposure: Full Sun"
410	2004. Corrick, M.G./Fuhrer, B.. <i>Wildflowers of Southern Western Australia</i> . Rosenberg Publishing, Kenthurst, Australia	[Tolerates a wide range of soil conditions ? Yes] "Habitat: widespread and common on a variety of soil types from Jurien Bay to Albany region"
410	2004. Windmill Outback Nursery. <i>Xanthorrhoea</i> species. <a href="http://www.australiaplants.com/xanthorrhoea.htm">http://www.australiaplants.com/xanthorrhoea.htm</a>	[Tolerates a wide range of soil conditions ? Yes] "Sand, sandy loam, loam or gravel soils."
410	2011. Western Australian Herbarium. FloraBase - The Western Australian Flora - <i>Xanthorrhoea preissii</i> . Department of Environment and Conservation, <a href="http://florabase.calm.wa.gov.au/browse/profile/1256">http://florabase.calm.wa.gov.au/browse/profile/1256</a>	[Tolerates a wide range of soil conditions ? Yes] "Grey to black sands, grey-brown loam, brown gravelly sandy clay, laterite, granite."
411	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Climbing or smothering growth habit? No] "Perennial herb, tree-like with trunk up to 3 m high, often branching. Leaves green, 600-750 mm long and 2-3 mm wide, 4-angled in cross-section, 2-2.5 mm thick, occasionally broader and more compressed."
412	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Forms dense thickets? No evidence]
412	2005. Borsboom, A.C.. <i>Xanthorrhoea: A review of current knowledge with a focus on X. johnsonii and X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Forms dense thickets? No evidence]
501	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Aquatic? No] "Perennial herb, tree-like with trunk up to 3 m high, often branching. Leaves green, 600-750 mm long and 2-3 mm wide, 4-angled in cross-section, 2-2.5 mm thick, occasionally broader and more compressed."
502	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Grass? No] <i>Xanthorrhoeaceae</i>
503	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Nitrogen fixing woody plant? No?] <i>Xanthorrhoeaceae</i>
504	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Perennial herb, tree-like with trunk up to 3 m high, often branching. Leaves green, 600-750 mm long and 2-3 mm wide, 4-angled in cross-section, 2-2.5 mm thick, occasionally broader and more compressed."
601	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. <i>Flora of the South West: Introduction, keys, ferns to monocotyledons</i> . UWA Publishing, Crawley, Western Australia	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	2004. Koch, J.M./Richardson, J./Lamont, B.B.. Grazing by Kangaroos Limits the Establishment of the Grass Trees <i>Xanthorrhoea gracilis</i> and <i>X. preissii</i> in Restored Bauxite Mines in Eucalypt Forest of Southwestern Australia. <i>Restoration Ecology</i> 12(2): 297-305	[Produces viable seed? Yes] " <i>Xanthorrhoea preissii</i> is long lived and has been aged at over 300 years (Lamont & Downes 1979). Both species germinate readily, with published germination percentages of 36 and 44, respectively (Bell et al. 1993; Koch & Taylor 2000)."

603	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Hybridizes naturally? No] "Species involved in hybridism are <i>X. glauca</i> , <i>X. resinifera</i> , <i>X. fulva</i> , <i>X. johnsonii</i> and <i>X. latifolia</i> . Hybridisation appears to be restricted to Xanthorrhoea species in habitats on Quaternary sand deposits along the east coast of Australia.227 Hybridism has only been recorded where two Xanthorrhoea species meet on an ecocline (e.g. between wet and dry habitats)."
604	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Self-compatible or apomictic? Unknown] "Although self-pollination is possible in <i>X. johnsonii</i> , it appears limited because insect pollinators are very efficient at removing pollen from a flower spike before its female parts mature." [related species demonstrates self-compatibility]
605	1980. Keighery, G. J.. Bird pollination in South Western Australia: A checklist. Plant Systematics and Evolution. 135(3-4): 171-176.	[Requires specialist pollinators? No] "Xanthorrhoea is primarily insect pollinated by an enormous range of vectors (100 species presently recorded)." [But also adapted for bird pollination]
606	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Reproduction by vegetative fragmentation? No evidence]
607	1979. Lamont, B.B./Downes, S.. The Longevity, Flowering and Fire History of the Grasstrees Xanthorrhoea preissii and Kingia australis. Journal of Applied Ecology. 16(3): 893-899.	[Minimum generative time (years)? 4+] "The tallest plant of <i>X. preissii</i> that was studied in detail was 124 years old before it produced its first inflorescence, although a nursery specimen is known to have flowered after only 10 years from seed (E. Wittwer, personal communication)."
607	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Minimum generative time (years)? 4+] "Many Xanthorrhoea species grown from seed can first flower at 5–6 years of age. Flowering can still occur in Xanthorrhoea estimated to be 300 or more years old. Based on known growth rates, some tall <i>X. preissii</i> are estimated to be 350 years old, while radio carbon dating gave ages up to 600 years."
701	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules likely to be dispersed unintentionally? No] No evidence
701	2006. Sweedman, L./Merritt, D.. Australian seeds: a guide to their collection, identification and biology. Csiro Publishing, Collingwood, Australia	[Propagules likely to be dispersed unintentionally? No evidence] No means of external attachment
702	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules dispersed intentionally by people? Yes] "Trade in wild harvested Xanthorrhoea between 1995 and 1997 included <i>X. australis</i> , <i>X. fulva</i> , <i>X. glauca</i> , <i>X. gracilis</i> , <i>X. johnsonii</i> , <i>X. latifolia</i> , <i>X. minor</i> , <i>X. preissii</i> , and <i>X. thornstonii</i> .214 Main export markets for Xanthorrhoea in 1997 were Singapore, Norway and Great Britain."
702	2011. San Marcos Growers. Products > Xanthorrhoea preissii. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1611">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1611</a>	[Propagules dispersed intentionally by people? Yes] Sold as an ornamental
703	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules likely to disperse as a produce contaminant? No] No evidence
703	2006. Sweedman, L./Merritt, D.. Australian seeds: a guide to their collection, identification and biology. Csiro Publishing, Collingwood, Australia	[Propagules likely to disperse as a produce contaminant? No. No evidence, and seeds relatively large & unlikely to be inadvertently dispersed. Seeds ca. 15 mm long]
704	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules adapted to wind dispersal? No] "Field observations of <i>X. johnsonii</i> suggest there is no explosive seed dispersal mechanism, most seed falling close to the parent plant.90 Xanthorrhoea glauca subsp. Angustifolia seeds also fall to the ground at maturity,138 a Victorian study finding seedlings were usually growing within 2m of the parent plant.104 Probably all Xanthorrhoea have this form of primary seed dispersal. Secondary dispersal has not been well documented for Xanthorrhoea species."
704	2006. Sweedman, L./Merritt, D.. Australian seeds: a guide to their collection, identification and biology. Csiro Publishing, Collingwood, Australia	[Propagules adapted to wind dispersal? No] No wings, or other morphological features to aid in wind dispersal.

705	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules water dispersed? Unknown] "Secondary dispersal has not been well documented for Xanthorrhoea species. Xanthorrhoea johnsonii seeds can float, which would allow further dispersal during heavy rain."
706	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules bird dispersed? No] "Seed dispersal appears limited ... The seeds of <i>X. glauca</i> subsp. <i>angustifolia</i> (ex <i>X. australis</i> ) have no morphological adaptations to facilitate dispersal by birds..." [True for <i>X. preissii</i> as well]
707	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules dispersed by other animals (externally)? No] "Field observations of <i>X. johnsonii</i> suggest there is no explosive seed dispersal mechanism, most seed falling close to the parent plant.90 Xanthorrhoea glauca subsp. <i>angustifolia</i> seeds also fall to the ground at maturity,138 a Victorian study finding seedlings were usually growing within 2m of the parent plant.104 Probably all Xanthorrhoea have this form of primary seed dispersal. Secondary dispersal has not been well documented for Xanthorrhoea species." [No means of external attachment]
708	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Propagules survive passage through the gut? Unknown] "Field observations of <i>X. johnsonii</i> suggest there is no explosive seed dispersal mechanism, most seed falling close to the parent plant. Xanthorrhoea glauca subsp. <i>angustifolia</i> seeds also fall to the ground at maturity, a Victorian study finding seedlings were usually growing within 2m of the parent plant. Probably all Xanthorrhoea have this form of primary seed dispersal. Secondary dispersal has not been well documented for Xanthorrhoea species." [No evidence that seeds are consumed or dispersed internally]
801	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Prolific seed production (>1000/m <sup>2</sup> )? Potentially] "Up to 2600 seeds have been counted on <i>X. resinifera</i> flower spikes,116 an estimated 7500 on <i>X. australis</i> ,116 and 2100–6000 on <i>X. preissii</i> ."
802	2005. Borsboom, A.C.. Xanthorrhoea: A review of current knowledge with a focus on <i>X. johnsonii</i> and <i>X. latifolia</i> , two Queensland protected plants-in-trade. Environmental Protection Agency, Queensland, AU	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown for <i>X. preissii</i> ] "Limited published information was found on how long Xanthorrhoea seeds can remain viable. Based on seedling germinations in the wild, it was suggested that viable Xanthorrhoea seeds do not persist in the soil seed bank longer than two years. Whether this is the result of seed predation is unclear. Seed viability can remain high for much longer than two years in laboratory storage. After <i>X. glauca</i> subsp. <i>angustifolia</i> (ex <i>X. australis</i> ) seeds were stored five years at room temperature and humidity in insect-free, sealed, brown-paper bags without insecticide, their germination rate was not significantly different from seed stored similarly for one year. The germination rate of both the five year and one year- old seed was in excess of 95 percent. The germination rate of the five-year-old and one year old seeds was not significantly different, whether the seed germinated in total darkness or in a 12/12 hr 12oC/20oC temperature and light/dark cycle with an average photoflux reading of 58.4 μmol.m-2s- 1.218 However, total darkness induced germination earlier in five-year-old seed, while one-year-old seed germinated earlier in the light/dark cycle conditions."
803	2011. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No evidence that this species is being chemically controlled, and no information on herbicide efficacy found.
804	1993. Bell, D.T./Plummer, J.A./Taylor, S.K.. Seed Germination Ecology in Southwestern Western Australia. Botanical Review. 59(1): 24-73.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "A group of species that also produce viable, easily germinable seeds are species of Xanthorrhoea ( Xanthorrhoeaceae) and Haemodorum (Haemodoraceae) ( Appendix I). These monocotyledonous species resprout after fire and tend to flower prolifically in the growing season following the fire (Bell et al., 1989)."
805	2011. WRA Specialist. Personal Communication.	[Effective natural enemies present locally? Unknown]