Family: ***Fabaceae***

Taxon: ***Leucaena 'Wondergraze'***

Synonym: *Leucaena leucocephala ssp glabrata* ***Common Name:*** 'Wondergraze'

Questionaire : current 20090513 **Assessor:** Chuck Chimera **Designation:** H(HPWRA)

Status: Assessor Approved **Data Entry Person:** Chuck Chimera **WRA Score** 7

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)**	**High**
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**	
204	**Native or naturalized in regions with tropical or subtropical climates**	**y=1, n=0**	**y**
205	**Does the species have a history of repeated introductions outside its natural range?**	**y=-2, ?=-1, n=0**	**n**
301	**Naturalized beyond native range**	**y = 1*multiplier (see Appendix 2), n= question 205**	
302	**Garden/amenity/disturbance weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**n**
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)**	
305	**Congeneric weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**y**
401	**Produces spines, thorns or burrs**	**y=1, n=0**	**n**
402	**Allelopathic**	**y=1, n=0**	
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**	
406	**Host for recognized pests and pathogens**	**y=1, n=0**	**n**
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**	
409	**Is a shade tolerant plant at some stage of its life cycle**	**y=1, n=0**	**y**
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**	
501	**Aquatic**	**y=5, n=0**	**n**
502	**Grass**	**y=1, n=0**	**n**
503	**Nitrogen fixing woody plant**	**y=1, n=0**	**y**
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**	
602	**Produces viable seed**	**y=1, n=-1**	**y**
603	**Hybridizes naturally**	**y=1, n=-1**	
604	**Self-compatible or apomictic**	**y=1, n=-1**	**y**
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**	**2**
701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	**y=1, n=-1**	
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**	
705	**Propagules water dispersed**	**y=1, n=-1**	
706	**Propagules bird dispersed**	**y=1, n=-1**	
707	**Propagules dispersed by other animals (externally)**	**y=1, n=-1**	**n**
708	**Propagules survive passage through the gut**	**y=1, n=-1**	**y**
801	**Prolific seed production (>1000/m2)**	**y=1, n=-1**	
802	**Evidence that a persistent propagule bank is formed (>1 yr)**	**y=1, n=-1**	**y**
803	**Well controlled by herbicides**	**y=-1, n=1**	**y**
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: H(HPWRA) **WRA Score** 7

Supporting Data:

101	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Is the species highly domesticated? Possibly] "Controlled pollination: 'Wondergraze' was developed by controlled mating (emasculated and hand pollinated flowers) of two elite accessions ('K584' x 'K636' syn. var. Tarramba) of Leucaena leucocephala ssp. glabrata to create an intraspecific hybrid. The F1 progeny were evaluated and found to be superior in yield compared with both parents, and they retained the excellent form (high degree of basal branching) of the 'K584' maternal parent. Characteristic of L. leucocephala, these plants were highly self-fertile (<1% outcrossing). Selfed seed (F2) was collected and evaluated. It was found to be very stable for all traits of interest in Hawii and Australia (yield, degree of basal branching and psyllid tolerance). An additional cycle of selfing (F3) and selection was undertaken in Australia. Selfed seed (F4) from this elite selection forms the genetic base of 'Wondergraze'. Breeder: James L. Brewbaker, Kailua, Hawaii, USA." [A fairly recently developed variety which may still possess traits of the parent lineage]
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Species suited to tropical or subtropical climate(s) 2-High] "Climate: Leucaena performs best in tropical climates (hot, wet summers and mild winters) and effectively stops growing when the average day temperature falls below 15oC. Preferably, annual average rainfall needs to be above 600 mm." [Generic description]
202	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Quality of climate match data? 2-High] "Climate: Leucaena performs best in tropical climates (hot, wet summers and mild winters) and effectively stops growing when the average day temperature falls below 15oC. Preferably, annual average rainfall needs to be above 600 mm." [Generic description]
203	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Broad climate suitability (environmental versatility)? Unknown] "Further concerns posed by Leucaena leucocephala subsp. glabrata are that, if not well-managed, the taller stature of the trees increases the risk of seed production out of reach of cattle, and the wider soil and climate tolerances extend its habitat range in Queensland away from the coast."
203	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Broad climate suitability (environmental versatility)? Unknown] "Plant: frost tolerance - absent"
204	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Native or naturalized in regions with tropical or subtropical climates? Yes] "The precise native range of Leucaena leucocephala ssp. glabrata is blurred; however, it is widespread across much of Mexico and Central America, as far south as Panama." [Wondergraze created from Leucaena leucocephala ssp. Glabrata presumably shares climatic tolerances and requirements]
204	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Climate: Leucaena performs best in tropical climates (hot, wet summers and mild winters) and effectively stops growing when the average day temperature falls below 15^0C. Preferably, annual average rainfall needs to be above 600 mm." [Generic description]
205	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Does the species have a history of repeated introductions outside its natural range? No] "Accepted Date 18 May 2007" [Recently developed cultivar now becoming commercially available]
205	2012. Leucseeds. Leucaena leucocephala ssp. glabrata cv. Wondergraze. www.leucaena.net/wondergraze.pdf	[Does the species have a history of repeated introductions outside its natural range? No] "Wondergraze is a new hybrid leucaena and seed is now available for planting."
301	2012. Weeds Australia. Weed Identification - Leucaena leucocephala ssp. Glabrata. Australian Weeds Committee, http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=E28	[Naturalized beyond native range? Unknown] "Leucaena leucocephala ssp. glabrata" … "It is valued as a high protein tree in the Northern Territory where it is grown for use in feedlots. It has become naturalised across northern Australia from the Kimberley to coastal Queensland. In the west it extends south from the Pilbara to Exmouth and in the east to northern NSW." [Refers to Leucaena leucocephala ssp. glabrata, the ssp from which 'Wondergraze' was bred. Possible that 'Wondergraze' may retain some of the parent traits.]

302	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Garden/amenity/disturbance weed? No evidence to date, but potential exists] "Other leucaena hybrids are known to be shy seeding and are commonly self-incompatible, thereby reducing their weed potential. Where trees are permitted to seed, segregation among the resultant seedlings may re-establish self compatibility, higher seed production, and higher weed risk." [No evidence to date]
302	2012. WRA Specialist. Personal Communication.	[Garden/amenity/disturbance weed? No] No evidence found
303	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Agricultural/forestry/horticultural weed? No evidence to date, but potential exists] "Other leucaena hybrids are known to be shy seeding and are commonly self-incompatible, thereby reducing their weed potential. Where trees are permitted to seed, segregation among the resultant seedlings may re-establish self compatibility, higher seed production, and higher weed risk." [No evidence to date]
303	2012. WRA Specialist. Personal Communication.	[Agricultural/forestry/horticultural weed? No] No evidence found
304	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Environmental weed? Potentially] "To date, Leucaena leucocephala ssp. glabrata has not been recorded as weedy; however, it must be noted that many people cannot tell the two subspecies apart. Most records of weediness are listed at the species (not subspecies) level, and it is also likely that the two subspecies now occur in the same places across the globe. Shelton (1996) states that Leucaena leucocephala ssp. glabrata variety Tarramba has less weed potential than subspecies leucocephala, as it is less precocious, is highly palatable to stock and does not set significant seed until the second year. Hughes and Jones (1998) suggest that these differences will not reduce the weed potential of this subspecies, especially in the long term. They suggest that the lack of international weed records may be a product of the short history of use of this subspecies—3 decades, compared to over 150 years of Leucaena leucocephala ssp. leucocephala worldwide."
304	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Environmental weed? Potentially] "Protect the long-term future of leucaena as a pasture plant by stopping it becoming a weed around your farm or neighbouring properties. Do not plant leucaena close to waterways or boundaries to minimise the weed potential (follow the guidelines in The Leucacena Network's code of practice)."
304	2012. Weeds Australia. Weed Identification - Leucaena leucocephala ssp. Glabrata. Australian Weeds Committee, http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=E28	[Environmental weed? Unknown] "It has formed dense thickets along some creek lines in North Queensland and may have suppressed regeneration of native species." [Refers to Leucaena leucocephala ssp. glabrata, the ssp from which 'Wondergraze' was bred. Possible that 'Wondergraze' may retain some of the parent traits.]
305	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Congeneric weed? Yes] "Leucaena leucocephala" …"The shrub forms extensive and dense thickets displacing the original vegetation and reducing species richness."
401	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Produces spines, thorns or burrs? No] No evidence
402	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Allelopathic? Unlikely] "Compatibility (with other species) Compatible with a range of grass and legume species. Can be difficult to establish leucaena into existing grass pastures without clean cultivation or removal of competition. Height management is essential to prevent rapidly growing hybrids from growing out of reach of grazing livestock. This can be achieved through a combination of grazing and slashing. Companion species: Top Grasses: Hybrids have been grown experimentally with signal grass (Brachiaria decumbens) in Papua New Guinea and wet tropical Australia and with imperata (Imperata cylindrica) in Indonesia and the Philippines. Normally grown as a hedgerow with grasses or crops grown between hedgerows. Can be grown as a sole species in a forage bank."
403	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Parasitic? No] Fabaceae
404	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Unpalatable to grazing animals? No] "Leucaena is a tree and under light grazing pressure will grow beyond the reach of cattle. Ensure periodic intense grazing pressure to pull down the tall runners and keep leucaena as a leafy branched shrub. This minimises the need for slashing, and reduces flower production and seed set. Follow the guidelines in the code of practice, as plants that produce seed can contribute to the weed spread of leucaena."

404	2012. Leucseeds. Leucaena leucocephala ssp. glabrata cv. Wondergraze. www.leucaena.net/wondergraze.pdf	[Unpalatable to grazing animals? No] "…has superior branching to Tarramba and has a bushy form ideal for grazing."
405	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Toxic to animals? Potentially] "Leucaena contains a toxin called mimosine that can cause weight and hair loss. Upon introduction cattle need to be inoculated with the 'rumen bug', which can be sourced from Queensland Primary Industries and Fisheries (part of the Department of Employment, Economic Development and Innovation). To maintain the bug in the herd, retain a couple of head from the initial herd to introduce into the next mob."
406	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Host for recognized pests and pathogens? No] "Plant: resistance to Heteropsylla cubana: medium to high"
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No] No evidence
408	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Creates a fire hazard in natural ecosystems? Unknown] "Mature plants are tolerant of moderate intensity fires, regrowing readily from burnt stumps."
409	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Is a shade tolerant plant at some stage of its life cycle? Presumably yes] "Unknown, but likely to be similar to L. leucocephala , being productive under moderate shade to 60% of photosynthetically active radiation (PAR)."
410	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Tolerates a wide range of soil conditions? Yes] "Leucaena will grow in a wide range of soils but is most productive in fertile (high phosphorus and alkaline pH), deep (>1 m), well-drained soils (intolerant to waterlogging)."
411	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Climbing or smothering growth habit? No] "growth - habit shrub"
412	2012. Weeds Australia. Weed Identification - Leucaena leucocephala ssp. Glabrata. Australian Weeds Committee, http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=E28	[Forms dense thickets? Unknown] "It has formed dense thickets along some creek lines in North Queensland and may have suppressed regeneration of native species." [Refers to Leucaena leucocephala ssp. glabrata, the ssp from which 'Wondergraze' was bred. Possible that 'Wondergraze' may retain some of the parent traits.]
501	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Aquatic? No] Terrestrial
502	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Grass? No] Fabaceae
503	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Nitrogen fixing woody plant? Yes] Fabaceae
503	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Nitrogen fixing woody plant? Yes] "Good management of nitrogen-producing leucaena enables a productive and vigorous grass that provides ahigh ground cover year round, maximising water captureand reducing run-off and erosion."
504	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "growth habit - shrub"
601	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Evidence of substantial reproductive failure in native habitat? Not Applicable] "Controlled pollination: 'Wondergraze' was developed by controlled mating (emasculated and hand pollinated flowers) of two elite accessions ('K584' x 'K636' syn. var. Tarramba) of Leucaena leucocephala ssp. glabrata to create an intraspecific hybrid." [No native range]
602	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Produces viable seed? Yes] "Seed: 1000 seed weight (g): Mean = 49.42"

603	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Hybridizes naturally? Unknown] "Advanced generation hybrids are generally less productive than F1s." [Artificial hybrids created, but unknown if natural hybridization can occur]
604	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Self-compatible or apomictic? Presumably yes] "Selfed seed (F4) from this elite selection forms the genetic base of 'Wondergraze'."
605	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Requires specialist pollinators? No] "Pollinators, such as bees, are generally rare at this point, which is when cross pollination could occur. By mid-afternoon the anthers have turned brown and retracted, and no further flowers open until the next morning. The species does not need specialist pollinators, being cross-pollinated by a range of generalist insects, including large and small bees (Hutton and Gray 1959)." [Description for L. leucocephala. Wondergraze, being self-fertile, would presumably not require specialized pollinators]
606	2012. Weeds Australia. Weed Identification - Leucaena leucocephala ssp. Glabrata. Australian Weeds Committee, http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=E28	[Reproduction by vegetative fragmentation? No] "Propagation is from seed." [Describes Leucaena leucocephala ssp. glabrata. Presumably similar for 'Wondergraze']
607	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Minimum generative time (years)? 2] "Although ssp. glabrata is generally noted not to set seed until the second year, time to first flowers for Tarramba was recorded at 246 days (190–289) (Anon 1997)." [No specific information for 'Wondergraze', but presumably similar to L. leucocephals ssp. Glabrata]
701	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Possibly] "Once the seeds mature, the pods shatter by opening simultaneously along both margins. Therefore, seed dispersal is largely passive, by gravity, with seeds dropping when pods open. Seed spread is generally less than 20 m, if unaided. Wind assisted movement of Leucaena leucocephala ssp. leucocephala pods has been recorded over 100 m from parent plants on coastal cliffs in the Northern Territory (P Jeffries, pers. comm., September 2002). Other modes of spread include water; deliberate spread for cultivation in the nursery trade; landscaping; soil stabilisation; agriculture and, possibly, agroforestry; accidental spread by vehicles machinery, mud on machinery; or in contaminated hay—although, the risk from most of these vectors is low (Hughes 2002)." [Similar conditions may exist for 'Wondergraze']
702	2012. Leucseeds. Leucaena leucocephala ssp. glabrata cv. Wondergraze. www.leucaena.net/wondergraze.pdf	[Propagules dispersed intentionally by people? Yes] "Wondergraze is a new hybrid leucaena and seed is now available for planting."
703	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Propagules likely to disperse as a produce contaminant? No] " Leucaena leucocephala" ... "seeds glossy brown, ellipsoid or ovoid, laterally flattened, 6-9 mm long, 3.5-5.5 mm wide, 0.8-2 mm thick, with a pleurogram ca. 4 mm long and 1.5 mm wide." [Similar sized seeds relatively large and unlikely to be a produce contaminant]
704	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Propagules adapted to wind dispersal? Unknown] "Wind-assisted movement of Leucaena leucocephala ssp. leucocephala pods has been recorded over 100 m from parent plants on coastal cliffs in the Northern Territory (P Jeffries, pers. comm., September 2002)." [Unknown for Wondergraze]
705	2003. Walton, C.S.. Leucaena (Leucaena leucocephala) in Queensland. Pest Status Review Series - Land Protection. Department of Natural Resources and Mines, Brisbane, Australia	[Propagules water dispersed? Unknown] "Nevertheless, sightings of the spread from planted ssp. glabrata in Queensland have been provided by Jones and Jones (1996), and McNeill (Shelton et al. 2001), who respectively recorded thickening up of stands of planted varieties over many years, and both inter-row and out of-paddock spread after twenty years. In Broadsound and Sarina in the last 5 years, trial leucaena pastures have been seen to spread to streams and creeks within the proximity of paddocks (C Chopping, pers. comm., August 2002)." ['Wondergraze' pods could potentially float on and be dispersed by water.]
706	1985. Smith, C.W.. Impact of Alien Plants on Hawaii's Native Biota. Pp. 180-250 in Stone & Scott (eds.). Hawaii's terrestrial ecosystems: preservation & management. CPSU, Honolulu, HI	[Propagules bird dispersed? Unknown] "The seeds are not actively dispersed except occasionally by rodents and alien granivorous birds." [L. leucocephala may be bird-dispersed. Unknown for Wondergraze]
707	2012. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? No] Leucaena seeds and pods lack any means of external attachment, so unlikely to be dispersed by attachment to animals.

708	1993. Gardener, C.J./McIvor, J.G./Jansen, A.. Passage of Legume and Grass Seeds Through the Digestive Tract of Cattle and Their Survival in Faeces. Journal of Applied Ecology. 30(1): 63-74.	[Propagules survive passage through the gut? Yes] "There were large significant differences between species when the number of seeds recovered intact in the faeces was expressed as a fraction of the number of seeds fed (Table 5). The highest value was 80% for Leucaena leucocephala and the lowest was 6% for Trifolium repens." [Seeds of 'Wondergraze' would presumably share traits of one of L. leucocephala]
708	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Propagules survive passage through the gut? Yes] "Seed: 1000 seed weight (g): Mean = 49.42" [Produces seed, so may be able to survive passage through guts of animals, similar to Leucaena leucocephala]
801	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Prolific seed production (>1000/m2)? Unknown] "Seed: 1000 seed weight (g): Mean = 49.42" [Generic description. Unknown for Wondergraze]
801	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Prolific seed production (>1000/m2)? Unknown] "Leucaena can produce large amounts of dormant seeds that will germinate over a number of years." [Generic description. Unknown for Wondergraze]
802	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Evidence that a persistent propagule bank is formed (>1 yr)? Presumably Yes] "Seed must be scarified to break the impermeable testa. Previously, hot water treatment was recommended but resulted in highly variable results including reduced viability. Mechanical scarification, using coarse sandpaper (for small seed lots) or abrasive-lined rotating drum scarifiers, is now preferred." [Although seed production is low, any seeds produced would likely persist in the soil]
802	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Evidence that a persistent propagule bank is formed (>1 yr)? Presumably Yes] "Leucaena can produce large amounts of dormant seeds that will germinate over a number of years." [Generic description. Seeds of Wondergraze presumably share this trait]
803	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. CTAHR, UH Manoa, Honolulu, HI http://www.ctahr.hawaii.edu/invweed/weedsHi.html	[Well controlled by herbicides? Yes] "Sensitive to foliar-applied triclopyr. Susceptible to soil applied tebuthiuron at 2 lb/acre and to cut-surface applications of picloram. Dicamba ineffective in cut-surface applications. Triclopyr ester applied basal bark and stump bark effective, 2,4-D in diesel and sometimes diesel alone effective in basal bark treatments" [Refers to L. leucocephala. Presumably effect on Wondergraze as well]
803	2005. Cook, B.G./Pengelly, B.C./Brown, S.D.et al.. Tropical Forages: an interactive selection tool., [CD-ROM],. SIRO, DPI&F(Qld), CIAT and ILRI, http://www.tropicalforages.info/index.htm	[Well controlled by herbicides? Yes] "Can be controlled by basal bark application of herbicides containing 120 g/L picloram and 240 g/L triclopyr mixed with diesel. Glyphosate will kill slashed regrowth although repeat applications may be necessary." [Generic description]
803	2011. Buck, S.. Growing leucaena. Queensland Government - Primary industries and fisheries, http://www.dpi.qld.gov.au/4791_15829.htm	[Well controlled by herbicides? Yes] "Unwanted plants can be easily controlled using a woody weed herbicide such as Access®." [Generic description]
804	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "Plant: coppice potential - medium"
805	2008. Leucaena Research and Consulting Pty Ltd. Leucaena (Leucaena leucocephala ssp glabrata) Variety: 'Wondergraze'. Plant Varieties Journal. 21(2): 201-203.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Probably No] "Plant: resistance to Heteropsylla cubana - medium to high" [Bred for psyllid resistance, the main pest of Leucaena in Hawaii and elsewhere]