

**Family:** Asteraceae

**Taxon:** *Thymophylla tenuiloba*

**Synonym:** *Dyssodia tenuiloba* (DC.) B. L. Rob.

*Dyssodia texana* Cory

*Hymenatherum tenuilobum* DC. (basionym)

*Hymenatherum treculii* A. Gray

*Hymenatherum wrightii* A. Gray

**Common Name:** Dahlberg's daisy

golden fleece

<b>Questionnaire :</b>	current 20090513	<b>Assessor:</b>	Assessor	<b>Designation:</b> H(HPWRA)
<b>Status:</b>	Assessor Approved	<b>Data Entry Person:</b>	Assessor	<b>WRA Score 7</b>
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	n
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	y
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed		n=0, y = 1*multiplier (see Appendix 2)	y
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)	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	n
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	
408	Creates a fire hazard in natural ecosystems		y=1, n=0	n
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	
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	
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	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
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	y
705	Propagules water dispersed	y=1, n=-1	n
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/m2)	y=1, n=-1	
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	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 7

## Supporting Data:

101	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Is the species highly domesticated? No evidence]
101	2012. James Cook University. NQ Weeds by scientific name. <a href="http://www-public.jcu.edu.au/discovernature/weeds/index.htm">http://www-public.jcu.edu.au/discovernature/weeds/index.htm</a> [Accessed 01 Sep 2013]	[Is the species highly domesticated? No] "There are various cultivars of this garden escape. Originally from Texas and Mexico." [No evidence that cultivars are highly domesticated]
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, <a href="http://www.tropicos.org/">http://www.tropicos.org/</a>	[Species suited to tropical or subtropical climate(s) 2-High] Collected at 23°37'00"N latitude [subtropical]
201	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Species suited to tropical or subtropical climate(s) 2-High] "Native: South-Central U.S.A.: United States - Texas; Northern Mexico: Mexico - Coahuila, Nuevo Leon, Tamaulipas"
202	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Quality of climate match data 2-High]
203	2013. Learn 2 Grow. <i>Thymophylla tenuiloba</i> . <a href="http://www.learn2grow.com/plants/thymophylla-tenuiloba/">http://www.learn2grow.com/plants/thymophylla-tenuiloba/</a> [Accessed 01 Sep 2013]	[Broad climate suitability (environmental versatility)? No] "USDA Hardiness Zone - 10 - 12"
203	2013. Missouri Botanical Gardens. <i>Thymophylla tenuiloba</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx</a> [Accessed 29 Aug 2013]	[Broad climate suitability (environmental versatility)? No] "Zone: 9 to 10"
204	2010. Starr, F./Starr, K./Loope, L.L.. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers. 107: 61-68.	[Native or naturalized in regions with tropical or subtropical climates? Yes] " <i>Dyssodia tenuiloba</i> (dog fennel, lemon drop), a yellow-flowered bedding plant, was first reported in Hawai'i as naturalized in 2002 and is now known from the islands of Kaua'i, O'ahu, Moloka'i, Maui, and Kaho'olawe (Starr et al. 2002; Starr et al. 2006; Lorence & Flynn 2006). It is here reported as a new island record for Lāna'i..."
204	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Native: South-Central U.S.A.: United States - Texas; Northern Mexico: Mexico - Coahuila, Nuevo Leon, Tamaulipas"
205	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Does the species have a history of repeated introductions outside its natural range? Yes] "native to southern Texas and adjacent Mexico, and has escaped from cultivation in Florida, the Caribbean, Africa and Asia." [Also cultivated and naturalized in the Hawaiian Islands]
301	1997. Rojer, A.. Biological Inventory of Saba. KNAF project 96-10. Carmabi Foundation, Curaçao, Netherlands Antilles	[Naturalized beyond native range?] "Plants of Saba" [Includes <i>Thymophylla tenuiloba</i> ]
301	2001. Cronquist, A.. Vascular Flora of the Southeastern United States: Asteraceae. UNC Press Books, Chapel Hill, NC	[Naturalized beyond native range?] "adventive in Fla and s Miss" [Florida and Mississippi]
301	2002. Guala, G.F./Burton, F.J./Proctor, G.R./Clifford, S.P.. Additions to the Flora of the Cayman Islands. Kew Bulletin. 57(1): 235-237.	[Naturalized beyond native range?] " <i>Dyssodia tenuiloba</i> (DC.) B. L. Rob. Burton 267. Grand Cayman, adventitious in plant nursery."

301	2002. Starr, F./Martz, K./Loope, L.L.. New plant records from the Hawaiian archipelago. Bishop Museum Occasional Papers. 69: 16-27.	[Naturalized beyond native range? Yes] "Native to south central Texas and adjacent Mexico, and naturalized in other warm parts of the world where cultivated primarily as a bedding plant <i>D. tenuiloba</i> [ <i>Thymophylla tenuiloba</i> (DC.) Small] (Dahlberg daisy, golden fleece) is a recent ornamental introduction to Hawai'i which tends to readily naturalize where it is planted on both Maui and O'ahu. On Maui, we collected this yellow aster in sandy sites in Kihei and Waiehu. On O'ahu, B. Gagne collected it along the Pali Highway in lower Nu'uuanu Valley. These collections represent a new state record for Hawai'i. <i>Dyssodia</i> (dog weed, fetid marigold) is a genus of about 32 species of strongly scented herbs native to the southwestern United States and northern Mexico. <i>Dyssodia tenuiloba</i> is an erect to spreading, bushy annual or short lived perennial, to 1 ft; leaves opposite in lower part, alternate above, to 3/4 in long, pinnately parted into 7–11 linear filiform, bristle tipped segments, margins glandular; heads to 1/2 in across, involucre turbinate campanulate, involucre bracts united 3/4 their length, glandular; disc flowers yellow, ray flowers golden yellow orange (L.H. Bailey Hortorium, 1976). Material examined. MAUI: W. Maui, Waiehu, scattered at base of large sand dune behind residential area, 100 ft [30 m], 26 Apr. 2000, Starr & Martz 000426-1; E. Maui, Kihei, Kihei Rd. and Lipoa, spreading down road from initial planting at condominium, 5 ft [1.5 m], 26 Jan. 2000, Starr & Martz 000126-1. O'AHU: Honolulu, lower Nu'uuanu Valley, along Pali Hwy between the scenic overlook above Chinese cemetery and Pauoa Road exit, 100 ft [30 m], 3 May 2000, B.H. Gagne 3150."
301	2004. Nesom, G.L.. Asteraceae from wool mill sites in South Carolina, including new records for North America. <i>Sida</i> . 21: 1215-1223.	[Naturalized beyond native range? Yes] " <i>Thymophylla tenuiloba</i> (DC.) Small var. <i>tenuiloba</i> (syn = <i>Dyssodia tenuiloba</i> (DC.) B.L. Robins. var. <i>tenuiloba</i> ) Berkeley Co.: 8 Apr 1957, Ahles 22580 Native to Mexico and Texas, naturalized in a few Gulf coast states (e.g. Florida and Mississippi, Cronquist 1980; Alabama, Lelong 1988); first report for South Carolina."
301	2005. Sorrie, B.A.. Alien vascular plants in Massachusetts. <i>Rhodora</i> . 107(931): 284-329.	[Naturalized beyond native range? Yes] "The non-native vascular flora of Massachusetts is listed with earliest and latest dates of occurrence." ... " <i>Thymophylla tenuiloba</i> (DC.) Small – 1882–1883; W, fill land."
301	2006. Starr, F./Starr, K./Loope, L.L.. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers. 87: 31-43.	[Naturalized beyond native range? Yes] " <i>Dyssodia tenuiloba</i> (dog weed, Dahlberg daisy) was previously reported from the islands of Maui and O'ahu (Starr et al., 2002), and is now known from Moloka'i and Kaho'olawe. On Kaho'olawe this quickly spreading bedding plant with small yellow flowers and highly dissected leaves has been found in two widely separated high traffic locations. On Moloka'i this bedding plant has escaped from plantings near the Hotel Moloka'i. <i>Dyssodia tenuiloba</i> should also be looked for on other Hawaiian Islands, such as Kaua'i, where it was collected (Flynn 6747 BISH) in Lihue at the Wal-Mart Garden Center for \$0.77 per 4-inch pot and labeled as "Zinnia 'Dreamland mix' F1 hybrids". Material examined. KAHO'OLAWA: Honokanaia, on side of path from helicopter LZ to bunkhouse, 15 ft [5 m], 30 Mar 2004, Starr, Starr, Higashino, & Abbott 040330 1; Moaulanui, near water catchment building, 1300 ft [400 m], 7 Jun 2004, Starr, Starr, Higashino, & Bruch 040607-2. MOLOKA'I: Kaunakakai, 'Ōhai Ali'i Rd., on side of road, spreading from nearby plantings, 25 ft [8 m], 17 May 2005, Starr & Starr 050517-14."
301	2010. Starr, F./Starr, K./Loope, L.L.. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers. 107: 61-68.	[Naturalized beyond native range? Yes] " <i>Dyssodia tenuiloba</i> (dog fennel, lemon drop), a yellow-flowered bedding plant, was first reported in Hawai'i as naturalized in 2002 and is now known from the islands of Kaua'i, O'ahu, Moloka'i, Maui, and Kaho'olawe (Starr et al. 2002; Starr et al. 2006; Lorence & Flynn 2006). It is here reported as a new island record for Lāna'i, where it was cultivated in a few yards of Lāna'i City and locally common and naturalized near the dump along Kaumālapa'u Rd, where it was collected. Naturalized populations were also observed near the cemetery above Kō'e'e and along Keōmuku Rd. Material examined. LĀNA'I: Kaumālapa'u Rd, near dump, locally common and naturalized in area of dry scrub in association with <i>Cenchrus ciliaris</i> and <i>Emilia fosbergii</i> , 262 m (860 ft), 2 Apr 2007, Starr & Starr 070402-01."
302	2007. Habitat Network East Gippsland. Make Your Garden Waterwise - But Don't Plant Weeds. <a href="http://hneg.org.au">http://hneg.org.au</a> [Accessed 30 Aug 2013]	[Garden/amenity/disturbance weed? Yes] "Another is <i>Thymophylla tenuiloba</i> ... In July 2004 it was found infesting several hectares of a grassy paddock in Qld, the first ever naturalisation in Australia. Botanical collections describe it as weedy and spreading very quickly from the original planting."

302	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf Dyssodia, Bristleleaf, Prickleleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Garden/amenity/disturbance weed? Yes] "On Jun 4, 2008, stephanotis from Queen Creek, AZ (Zone 8b) wrote: This little plant is cute at first, but spreads through rampant reseeding. The seed heads are similar to dandelion and are carried on the wind, so they come up everywhere. My neighbors that know I have it have ended up cursing my existence because they are constantly having to rip it out of their yards. Most of the seeds drop down under the very dense mat of fern like foliage, and so reseed heavily in the original place they were planted. Once you have it, it's nearly impossible to get rid of unless you spray with Roundup or continuously pull the seedlings which come up constantly. The seeds are also very messy when they get on the ground, so I don't recommend this near a swimming pool at all. If you want a groundcover type plant that reliably comes back from seed and covers a huge area, then this is for you, but if you are going to try to keep it confined, good luck!"
302	2013. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - <i>Thymophylla tenuiloba</i> . Arizona State University, <a href="http://www.public.asu.edu/~camartin/Martin%20Landscape%20plant%20library.htm">http://www.public.asu.edu/~camartin/Martin%20Landscape%20plant%20library.htm</a> [Accessed 01 Sep 2013]	[Garden/amenity/disturbance weed? Yes] "This is a free-spirited diminutive plant that is able to naturalize across yours and your neighbor's yard with little effort - BEWARE!. As such, some consider this a noxious weed despite it's cute ornament."
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No] No evidence to date
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence to date]
305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? Yes] <i>Dyssodia decipiens</i> , <i>Dyssodia montana</i> , <i>Dyssodia papposa</i> , <i>Dyssodia pinnata</i> , <i>Dyssodia tagetiflora</i> , <i>Dyssodia tenuifolia</i> , <i>Thymophylla aurantiaca</i> , <i>Thymophylla pentachaeta</i> , <i>Thymophylla setifolia</i> [Listed as weeds of some type]
401	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Produces spines, thorns or burrs? No] "A trailing annual 12-16 inches long and half as tall, Dahlberg daisy emits a resinous aromatic odor when handled. It has leaves pinnately divided into 7-11 linear, entire lobes, oppositely arranged at the base of the plant but alternate higher along the stem."
402	2013. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2000. Staples, G.W./Herbst, D.R./Imada, C.T.. Survey of invasive or potentially invasive cultivated plants in Hawai'i. Bishop Museum Occasional Papers. 65: 1-35.	[Parasitic? No] "A trailing annual 12-16 inches long and half as tall..." [Asteraceae]
404	1974. Everitt, J.H./Drawe, D.L.. Spring Food Habits of White-Tailed Deer in the South Texas Plains. <i>Journal of Range Management</i> . 27(1): 15-20.	[Unpalatable to grazing animals? No] "Table 2. Overall frequency (%) of occurrence and volume (%) of plant species in the diet of white-tailed deer for the spring seasons of 1970 and 1971 on the Randado Ranch in South Texas." [Includes <i>Dyssodia tenuiloba</i> . Syn. for <i>Thymophylla tenuiloba</i> ]
404	1999. Everitt, J.H./Drawe, D.L./Lonard, R.I.. Field Guide to the Broad-leaved Herbaceous Plants of South Texas: Used by Livestock and Wildlife. Texas Tech University Press, Lubbock, TX	[Unpalatable to grazing animals? No] "The leaves are occasionally eaten by white-tailed deer."
405	1999. Everitt, J.H./Drawe, D.L./Lonard, R.I.. Field Guide to the Broad-leaved Herbaceous Plants of South Texas: Used by Livestock and Wildlife. Texas Tech University Press, Lubbock, TX	[Toxic to animals? No] "The leaves are occasionally eaten by white-tailed deer."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No] No evidence
406	2013. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - <i>Thymophylla tenuiloba</i> . Arizona State University, <a href="http://www.public.asu.edu/~camartin/Martin%20Landscape%20plant%20library.htm">http://www.public.asu.edu/~camartin/Martin%20Landscape%20plant%20library.htm</a> [Accessed 01 Sep 2013]	[Host for recognized pests and pathogens? No] "Disease and pests: None, though its prostrate habit makes a great shelter for ants."
406	2013. Missouri Botanical Gardens. <i>Thymophylla tenuiloba</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx</a> [Accessed 29 Aug 2013]	[Host for recognized pests and pathogens? No] "No serious insect or disease problems. Root rot may occur in poorly-drained wet soils."

407	2004. Crescent Bloom. <i>Dyssodia tenuiloba</i> . <a href="http://crescentbloom.com/plants/specimen/DU/Dyssodia%20tenuiloba.htm">http://crescentbloom.com/plants/specimen/DU/Dyssodia%20tenuiloba.htm</a> [Accessed 01 Sep 2013]	[Causes allergies or is otherwise toxic to humans? No evidence] "Internal poison no Dermatologic poison no Livestock poison no"
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 evidence]
407	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf <i>Dyssodia</i> , Bristleleaf, Pricklyleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Causes allergies or is otherwise toxic to humans? Unknown. This reference contradicts other references which do not mention toxicity] "Danger: Seed is poisonous if ingested Parts of plant are poisonous if ingested All parts of plant are poisonous if ingested Handling plant may cause skin irritation or allergic reaction Plant has spines or sharp edges; use extreme caution when handling Pollen may cause allergic reaction"
407	2013. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - <i>Thymophylla tenuiloba</i> . Arizona State University, <a href="http://www.public.asu.edu/~camartin/Martin%20landscape%20plant%20library.htm">http://www.public.asu.edu/~camartin/Martin%20landscape%20plant%20library.htm</a> [Accessed 01 Sep 2013]	[Causes allergies or is otherwise toxic to humans?] "Also, some find the highly aromatic foliage and flowers annoying to downright irritating."
408	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Creates a fire hazard in natural ecosystems? No evidence] "A trailing annual 12-16 inches long and half as tall..." [Unlikely, as an herbaceous annual]
409	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf <i>Dyssodia</i> , Bristleleaf, Pricklyleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Is a shade tolerant plant at some stage of its life cycle? No] "Sun Exposure: Full Sun"
409	2013. Missouri Botanical Gardens. <i>Thymophylla tenuiloba</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx</a> [Accessed 29 Aug 2013]	[Is a shade tolerant plant at some stage of its life cycle? No] "Sun: Full sun"
410	2013. Floridata. <i>Thymophylla tenuiloba</i> . <a href="http://www.floridata.com/ref/t/thym_ten.cfm">http://www.floridata.com/ref/t/thym_ten.cfm</a> [Accessed 01 Sep 2013]	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)?] "Dahlberg daisy likes a well drained, sandy soil with a pH of 6.8 or higher. It is well adapted to calcareous or limey soils and will usually self-sow under such conditions."
410	2013. Learn 2 Grow. <i>Thymophylla tenuiloba</i> . <a href="http://www.learn2grow.com/plants/thymophylla-tenuiloba/">http://www.learn2grow.com/plants/thymophylla-tenuiloba/</a> [Accessed 01 Sep 2013]	[Tolerates a wide range of soil conditions? Yes] "Soil pH - Acidic, Neutral, Alkaline; Soil Drainage - Well Drained; Soil type - Loam, Sand; Tolerances - Pollution, Drought, Soil Compaction"
411	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Climbing or smothering growth habit? No] "A trailing annual 12-16 inches long and half as tall..."
412	1999. Diggs, G.M./Lipscomb, B.L./ Robert J. O'Kennon, R.J.. Shinnery & Mahler's Illustrated Flora of North Central Texas. BRIT Press, Fort Worth, TX	[Forms dense thickets? Possibly] "Annual or short-lived perennial 10-30 cm tall, sometimes forming dense clumps"
412	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf <i>Dyssodia</i> , Bristleleaf, Pricklyleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Forms dense thickets? May form dense localized mats that could compete with or exclude other vegetation] "My neighbors that know I have it have ended up cursing my existence because they are constantly having to rip it out of their yards. Most of the seeds drop down under the very dense mat of fern like foliage, and so reseed heavily in the original place they were planted. Once you have it, it's nearly impossible to get rid of unless you spray with Roundup or continuously pull the seedlings which come up constantly."
501	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Aquatic? No] "A trailing annual 12-16 inches long and half as tall..."
502	2001. Cronquist, A.. Vascular Flora of the Southeastern United States: Asteraceae. UNC Press Books, Chapel Hill, NC	[Grass? No] Asteraceae

503	2001. Cronquist, A.. Vascular Flora of the Southeastern United States: Asteraceae. UNC Press Books, Chapel Hill, NC	[Nitrogen fixing woody plant? No] Asteraceae
504	1989. Gandhi, K.N./Thomas, R.D.. Asteraceae of Louisiana. Sida, Bot. Misc. No. 4. SMU Herbarium/BRIT, Dallas, TX	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Taprooted, aromatic annuals, appearing as stunted bushes, to 40 cm tall; main stem short, the branches dichotomous; herbage bearing translucent oil glands." [Not a true geophyte, but tap roots may allow <i>Thymophylla tenuiloba</i> to persist as a functional geophyte]
601	1995. Richardson, A.. Plants of the Rio Grande Delta. University of Texas Press, Austin, TX	[Evidence of substantial reproductive failure in native habitat? No] No evidence
601	1999. Everitt, J.H./Drawe, D.L./Lonard, R.L.. Field Guide to the Broad-leaved Herbaceous Plants of South Texas: Used by Livestock and Wildlife. Texas Tech University Press, Lubbock, TX	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	2013. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - <i>Thymophylla tenuiloba</i> . Arizona State University, <a href="http://www.public.asu.edu/~camartin/Martin%20landscape%20plant%20library.htm">http://www.public.asu.edu/~camartin/Martin%20landscape%20plant%20library.htm</a> [Accessed 01 Sep 2013]	[Produces viable seed? Yes] "If given half a chance, it can vigorously reseed and naturalize in Phoenix landscapes for years on end across yours and your neighbor's yard."
602	2013. Missouri Botanical Gardens. <i>Thymophylla tenuiloba</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a612/thymophylla-tenuiloba.aspx</a> [Accessed 29 Aug 2013]	[Produces viable seed? Yes] "Will self-seed in the garden under optimum growing conditions."
603	2013. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown] No evidence found
604	2007. Noyes, R.D.. Apomixis in the Asteraceae: diamonds in the rough. Functional Plant Science and Biotechnology. 1(2): 207-222.	[Self-compatible or apomictic? Possibly] " <i>Thymophylla tenuiloba</i> (DC.) Small is an annual herb in the southern United States and Mexico. The distribution of chromosome counts for this taxon shows geographically restricted diploid populations and widespread triploids ( $2n=3x=24$ ) (Strother 1989). Triploids in this species have very poor pollen but high seed set. Apomixis has also been presumed for triploid <i>T. acerosa</i> (DC.) Strother (Carr et al. 1999), as well as for the triploid ( $2n=3x=45$ ) populations of the related species <i>Chrysactinia mexicana</i> A. Gray (Strother 1989). The Tageteae is a well defined group concentrated in the arid New World comprising 22 genera and 225 species (FNA 2006, 21: 222; as subtribe Pectidae). Although Strother (1989) argues that apomixis is widespread in the tribe, and the occurrence of the trait would appear to be highly likely, apomixis has not been documented cytologically."
605	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Requires specialist pollinators? No evidence from floral morphology] "The stalked, yellow, radiate flower heads are about 0.5 inches in diameter, with a cuplike involucre (the involucre bracts fused 3/4 their length) that sheds cylindrical fruit about 0.15 inches long, each bearing a pappus of about 10 scales and 3 bristles"
605	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf <i>Dyssodia</i> , Bristleleaf, Pricklyleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Requires specialist pollinators? No] "Self-sows freely" [Ability to produce seeds in cultivation or natural settings suggest pollinators are not specialized, and not a limiting factor]
606	2013. Floridata. <i>Thymophylla tenuiloba</i> . <a href="http://www.floridata.com/ref/t/thym_ten.cfm">http://www.floridata.com/ref/t/thym_ten.cfm</a> [Accessed 01 Sep 2013]	[Reproduction by vegetative fragmentation? No] "Dahlberg daisy is rarely found with the bedding plants at garden centers, so you will have to grow it from seed, but it's worth it."
607	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Minimum generative time (years)? 1+] "A trailing annual 12-16 inches long and half as tall..." [Annual] ... "It can survive for more than a year in our climate, although older plants become straggly and eventually need replacement."
701	2002. Starr, F./Martz, K./Loope, L.L.. New plant records from the Hawaiian archipelago. Bishop Museum Occasional Papers. 69: 16-27.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "On Maui, we collected this yellow aster in sandy sites in Kihei and Waiehu. On O'ahu, B. Gagne collected it along the Pali Highway in lower Nu'uuanu Valley."
701	2006. Starr, F./Starr, K./Loope, L.L.. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers. 87: 31-43.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "On Kaho'olawe this quickly spreading bedding plant with small yellow flowers and highly dissected leaves has been found in two widely separated high traffic locations. On Moloka'i this bedding plant has escaped from plantings near the Hotel Moloka'i."

701	2009. Neyland, R.. Wildflowers of the Coastal Plain: A Field Guide, Includes the Lower Mississippi River Valley, Gulf, and Atlantic Coastal States. LSU Press, Baton Rouge, LA	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "...Dahlberg daisy inhabits open woods and roadsides from southern TX to FL and north to SC. <i>T. tenuiloba</i> var. <i>wrightii</i> (Gray) ... inhabits savannas and roadsides and occurs in southeastern TX." [Varieties occur along roadsides, and seeds may be dispersed along these heavily trafficked corridors]
701	2010. Starr, F./Starr, K./Loope, L.L.. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers. 107: 61-68.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "It is here reported as a new island record for Lānaʻi, where it was cultivated in a few yards of Lānaʻi City and locally common and naturalized near the dump along Kaumālapaʻu Rd, where it was collected. Naturalized populations were also observed near the cemetery above Kōʻele and along Keōmuku Rd."
702	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules dispersed intentionally by people? Yes] "native to southern Texas and adjacent Mexico, and has escaped from cultivation in Florida, the Caribbean, Africa and Asia." [Also cultivated and naturalized in the Hawaiian Islands]
703	2013. Birds & Blooms. Dahlberg Daisies for Dry Sunny Gardens. <a href="http://birdsandbloomsblog.com/2013/02/27/dahlberg-daisies/">http://birdsandbloomsblog.com/2013/02/27/dahlberg-daisies/</a> [Accessed 01 Sep 2013]	[Propagules likely to disperse as a produce contaminant? No] "Like many members of the aster family (Asteraceae), these plants are prodigious re-seeders. Once you have Dahlbergs in your garden, you can expect volunteers to return each year in the general area where you planted them. Some folks in the Southwestern U.S. have noted this plant can be almost invasive in its spread, but I don't find them all that hard to root out if they appear in places where you don't want them. If you prefer more formal gardens, though, this might not be the plant for you." [No evidence, although potential for seed contamination in soil of potted plants may exist]
704	2000. Staples, G.W./Herbst, D.R./Imada, C.T.. Survey of invasive or potentially invasive cultivated plants in Hawai'i. Bishop Museum Occasional Papers. 65: 1-35.	[Propagules adapted to wind dispersal? Probably Yes] "Table 2. Annotated checklist of invasive or potentially invasive cultivated plants in Hawai'i with dispersal syndrome" ... " <i>Dyssodia tenuiloba</i> - Dispersal Syndrome - W? = wind" [Presumably wind-dispersed based on morphology]
704	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf <i>Dyssodia</i> , Bristleleaf, Pricklyleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Propagules adapted to wind dispersal? Yes] "This little plant is cute at first, but spreads through rampant reseeding. The seed heads are similar to dandelion and are carried on the wind, so they come up everywhere."
705	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules water dispersed? No evidence] "Table 2. Annotated checklist of invasive or potentially invasive cultivated plants in Hawai'i with dispersal syndrome" ... " <i>Dyssodia tenuiloba</i> - Dispersal Syndrome - W? = wind" [Presumably wind-dispersed based on morphology]
706	1995. Richardson, A.. Plants of the Rio Grande Delta. University of Texas Press, Austin, TX	[Propagules bird dispersed? No] "Achenes 2.5-3 mm tall; pappus of scales ca 3 mm long." [Adapted for wind and/or gravity dispersal]
707	1995. Richardson, A.. Plants of the Rio Grande Delta. University of Texas Press, Austin, TX	[Propagules dispersed by other animals (externally)? No] "Achenes 2.5-3 mm tall; pappus of scales ca 3 mm long." [Adapted for wind dispersal, although pappus may allow achenes to adhere to animal fur]
708	1999. Everitt, J.H./Drawe, D.L./Lonard, R.I.. Field Guide to the Broad-leaved Herbaceous Plants of South Texas: Used by Livestock and Wildlife. Texas Tech University Press, Lubbock, TX	[Propagules survive passage through the gut? Unknown] "The leaves are occasionally eaten by white-tailed deer." [Seeds not adapted for internal dispersal, so unknown if they are inadvertently consumed by animals, and if so, if they remain intact]
801	2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf <i>Dyssodia</i> , Bristleleaf, Pricklyleaf, Dogweed, Fe - <i>Thymophylla tenuiloba</i> . <a href="http://davesgarden.com/guides/pf/go/220/">http://davesgarden.com/guides/pf/go/220/</a> [Accessed 29 Aug 2013]	[Prolific seed production (>1000/m <sup>2</sup> )? Unknown] "This little plant is cute at first, but spreads through rampant reseeding."
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] Orthodox seed storage for several species of <i>Thymophylla</i> and <i>Dyssodia</i> , but no information for <i>T. tenuiloba</i>
802	2013. Birds & Blooms. Dahlberg Daisies for Dry Sunny Gardens. <a href="http://birdsandbloomsblog.com/2013/02/27/dahlberg-daisies/">http://birdsandbloomsblog.com/2013/02/27/dahlberg-daisies/</a> [Accessed 01 Sep 2013]	[Evidence that a persistent propagule bank is formed (>1 yr)? Possibly. Seeds persist from year to year] "Like many members of the aster family (Asteraceae), these plants are prodigious re seeders. Once you have Dahlbergs in your garden, you can expect volunteers to return each year in the general area where you planted them. "

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- 803 2013. Dave's Garden. PlantFiles: Dahlberg Daisy, Golden Fleece, Tiny Tim Bristle-Leaf Dyssodia, Bristleleaf, Pricklyleaf, Dogweed, Fe - *Thymophylla tenuiloba*. <http://davesgarden.com/guides/pf/go/220/> [Accessed 29 Aug 2013] [Well controlled by herbicides? Unknown] "Once you have it, it's nearly impossible to get rid of unless you spray with Roundup or continuously pull the seedlings which come up constantly." [Efficacy unknown]
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- 804 2013. WRA Specialist. Personal Communication. [Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
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- 805 2013. WRA Specialist. Personal Communication. [Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown] Distribution and naturalization in the Hawaiian Islands suggests No
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## **Summary of Risk Traits**

### **High Risk / Undesirable Traits**

- Can grow in tropical climates
- Naturalized in Hawaiian Islands, (Kauai, Oahu, Molokai, Maui, and Kahoolawe, Lanai) and elsewhere
- Can become aggressive and weedy in garden settings
- Other Thymophylla and Dyssodia species have become invasive
- Grows on many soil types
- Reproduces by wind-dispersed seeds
- Dispersed by people
- May be apomictic
- Reached maturity in one year (annual) but may persist for several years in areas with a conducive climate
- May be accidentally dispersed along roads and heavily travelled corridors

### **Low Risk Traits**

- Unarmed (no spines, thorns or burrs)
- Palatable to deer
- Landscaping and ornamental value