

Taxon: <i>Agrostis nebulosa</i> Boiss. & Reut.	Family: Poaceae
Common Name(s): cloud grass	Synonym(s): Neoschischkinia nebulosa

Assessor: Chuck Chimera	Status: In Progress	End Date: 7 Jun 2024
WRA Score: 8.0	Designation: H(HPWRA)	Rating: High Risk

Keywords: Annual Grass, Mediterranean Climate, Naturalized Elsewhere, Ornamental, Self-Seeds

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y = -3, n = 0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
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	y
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	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed	y = 2*multiplier (see Appendix 2), n = 0	n
304	Environmental weed		
305	Congeneric weed	y = 1*multiplier (see Appendix 2), n = 0	y
401	Produces spines, thorns or burrs	y = 1, n = 0	n
402	Allelopathic		
403	Parasitic	y = 1, n = 0	n
404	Unpalatable to grazing animals		
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	n
408	Creates a fire hazard in natural ecosystems		
409	Is a shade tolerant plant at some stage of its life cycle		
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

Qsn #	Question	Answer Option	Answer
412	Forms dense thickets	y = 1, n = 0	n
501	Aquatic	y = 5, n = 0	n
502	Grass	y = 1, n = 0	y
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		
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	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
702	Propagules dispersed intentionally by people	y = 1, n = -1	y
703	Propagules likely to disperse as a produce contaminant		
704	Propagules adapted to wind dispersal	y = 1, n = -1	y
705	Propagules water dispersed		
706	Propagules bird dispersed	y = 1, n = -1	n
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m2)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	[No evidence] "Agrostis nebulosa is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	NA

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	Intermediate
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"Native to the western Mediterranean"
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 6 Jun 2024]	"Native Africa NORTHERN AFRICA: Morocco Europe SOUTHWESTERN EUROPE: Spain, Portugal"

202	Quality of climate match data	High
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 6 Jun 2024]	"Native Africa NORTHERN AFRICA: Morocco Europe SOUTHWESTERN EUROPE: Spain, Portugal"

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 6 Jun 2024]	[Grows in 7 hardiness zones] "Native to Portugal & Spain, but will grow in the U.S. in USDA Zones 3 - 10 as an annual ornamental grass. The flowers are great for fresh or dried bouquet and will turn tan as the seed-heads head in to Fall."
204	Native or naturalized in regions with tropical or subtropical climates	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Preferred Climate/s: Mediterranean Origin: Africa, Europe Major Pathway/s: Herbal, Ornamental Dispersed by: Humans References: Global-N-85, United Kingdom-U-317, New Zealand-N-15, Europe-N-819, Belgium-U-1220, Global-W-1324, Chile-I-1872, Argentina-E-1874, Belgium-W-1977, Chile-W-1977, France-W-1977."
205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	<i>Agrostis nebulosa</i> is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region.
301	Naturalized beyond native range	y
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	" <i>Agrostis nebulosa</i> Boiss. et Reut. – Annual, blades single, 10-40 cm high, smooth, panicle 5-30 cm long, very scarce. Caryopses ellipsoid, planoconvex with longitudinal furrow on ventral side, apex with bunch of hairs, bottom gradually narrowed into hilum, 1-1.2 x c. 0.4 mm. Surface longitudinal faint striate, dull, dark-brown. 2n = 14. Native to the western Mediterranean; in the Carpathians cultivated as ornamental summer plant in gardens, uniquely escaping."
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	" <i>Agrostis nebulosa</i> is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region."
	Smith, Jr., J. P. & Simpson, K. (2014). Field Guide to Grasses of California. University of California Press, Oakland, California	" <i>Agrostis nebulosa</i> , cloud grass (Naturalized annual)"
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2024). Plants of Hawai'i. http://www.plantsofhawaii.org . [Accessed 6 Jun 2024]	No evidence to date
302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[Cited as a weed. Impacts unspecified] "References: Global-N-85, United Kingdom-U-317, New Zealand-N-15, Europe-N-819, Belgium-U-1220, Global-W-1324, Chile-I-1872, Argentina-E-1874, Belgium-W-1977, Chile-W-1977, France-W-1977."

Qsn #	Question	Answer
303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

304	Environmental weed	
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	Cited as an environmental weed in Fuentes et al. (2010). The reference does not describe or provide evidence of detrimental environmental impacts.
	Fuentes, N., Ugarte, E., Kühn, I., & Klotz, S. (2010). Alien plants in southern South America. A framework for evaluation and management of mutual risk of invasion between Chile and Argentina. <i>Biological Invasions</i> , 12, 3227-3236	Classified as Risk level = 4 (high) [Potential environmental weed]

305	Congeneric weed	y
	Source(s)	Notes
	Weber, E. (2017). <i>Invasive Plant Species of the World, 2nd Edition: A Reference Guide to Environmental Weeds</i> . CABI Publishing, Wallingford, UK	"The grass invades areas of poor, acidic soils and forms dense swards, crowding out native vegetation and preventing shrub recruitment (Sessions and Kelly, 2000). In New Zealand, extensive colonies of this grass replace Festuca-dominated native grasslands and slow the natural colonization by woody plants. <i>Agrostis capillaris</i> has spread rapidly in Australia and New Zealand, which is partly due to its adaptability to new environmental conditions enabled by a high amount of genetic variation, but also by a highly plastic growth (Rapson and Wilson, 1992a, 1992b). In British Columbia (Canada), it occurs at altitudes from sea level to 2200 m (Garry Oak Ecosystems Recovery Team, 2014); in the Australian Alps, the grass climbs up to 2100 m (Pickering and Hill, 2007). The grass grows quickly and establishes well after disturbances such as fire or clearing. Thus, in Oregon (USA), bent grass became 10 times as abundant in burned areas compared to unburned areas (ISSG, 2014). The dense growth of <i>A. capillaris</i> reduces local plant and invertebrate species diversity (Johnston and Pickering, 2001). In some New Zealand grasslands invaded by <i>A. capillaris</i> , abundance and diversity of endemic grassland moths has decreased due to a lowered plant species diversity (White, 1991). An introduced slug (<i>Deroceras reticulatum</i>) appears to be associated with bent grass in New Zealand, probably because the grass offers suitable habitats. The slug caused severe damage to a native fern (<i>Botrychium australe</i>) as a result of indirect effects of the invasive grass on the local invertebrate community (Sessions and Kelly, 2002). The grass is considered a threat to native vegetation in the Australian Alps (Johnston and Pickering, 2001)."
	Kaufman, S.R. & Kaufman, W. (2023). <i>Invasive Plants: A Guide to Identification and the Impacts and Control of Common North American Species</i> . Third Edition, Revised and Updated. Stackpole Books, Essex, Connecticut	[<i>Agrostis stolonifera</i>] "Creeping bentgrass can form dense patches that outcompete native plants and prevent establishment of shrubs. In New Zealand it has been shown to change the types of insects occurring in a community."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	A number of <i>Agrostis</i> species are listed as weeds

401	Produces spines, thorns or burrs	n
	Source(s)	Notes

Qsn #	Question	Answer
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	[No evidence] "Plants annual. Culms 10-75 cm, erect or geniculate, with 2-7 nodes. Leaves mostly cauline; sheaths scabrous; ligules 1-6 mm, dorsal surfaces scabridulous, apices acute to rounded, erose to lacerate; blades 5-15 cm long, 1-4 mm wide, flat. Panicles 3-30 cm long, (2)5-20 cm wide, oblong to ovate, diffuse, usually over 1/2 the length of the culm, lowest node with (2)3-18 branches; branches scabrous, erect to spreading, lower branches 4-15 cm; pedicels (2.5)4-15 mm, much longer than the spikelets. Spikelets lanceolate, usually purplish, sometimes green to yellowish green. Glumes subequal, 1.3-2.1 mm, 1-veined, sparsely aculeolate on the veins, obtuse; calluses glabrous; lemmas 0.5-0.8 mm, transparent, thin, veins scarcely visible, smooth and glabrous or rarely hairy, apices truncate to rounded or acute, toothed or erose, usually unawned, rarely awned from near the base; paleas 0.4-0.7 mm, about as long as the lemmas and of similar texture; anthers 3,1-1.4 mm. Caryopses 0.6-0.8 mm."

402	Allelopathic	
	Source(s)	Notes
	Chung, I. M., & Miller, D. A. (1995). Allelopathic influence of nine forage grass extracts on germination and seedling growth of alfalfa. <i>Agronomy Journal</i> , 87(4), 767-772	[Unknown. Other <i>Agrostis</i> species did not exhibit allelopathic properties] "Poor establishment of alfalfa (<i>Medicago sativa</i> L.) often results when the alfalfa is sown with cool-season perennial grasses. This study was conducted to screen the inhibitory characteristics of grasses that are often grown in combination with alfalfa in grass swards. Laboratory and greenhouse studies were conducted to determine the allelopathic potential of nine grasses to alfalfa germination and seedling growth. Alfalfa seeds were germinated in aqueous extracts of nine grasses, using distilled water as a control. Measurements were taken to determine the effect of the extracts on germination, seedling length, and weight. Alfalfa germination ranged from 64% for tall fescue (<i>Festuca arundinacea</i> Schreb.) extracts to 91% for the control. Total alfalfa seedling length was reduced by 39% for grain sorghum [<i>Sorghum bicolor</i> (L.) Moench] extracts. Dry weights of alfalfa cotyledons, hypocotyls, and radicles were reduced significantly by several grass extracts. Smooth brome grass (<i>Bromus inermis</i> Leyss.), orchardgrass (<i>Dactylis glomerata</i> L.), and grain sorghum extracts were more inhibitory than other grass extracts. Alfalfa seedling emergence and survival percentage was affected by various grass root residues. Timothy (<i>Phleum pratense</i> L.) extracts caused the lowest survival percentage of 59% compared to the control of 88%. Redtop [<i>Agrostis gigantea</i> Roth; syn. <i>Agrostis alba</i> L. sensu auct. (American)] and reed canarygrass (<i>Phalaris arundinacea</i> L.) extracts had no effect on alfalfa seedling emergence and survival. Leached and nonleached residues significantly inhibited alfalfa height, leaf area, and dry weights of leaves and stems. The extent of reduction was greater in nonleached than in leached residues. These results suggest that grass residues may affect alfalfa growth and development because of inhibitory effects of allelochemicals present in grass residues."

403	Parasitic	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	"Plants annual." [Poaceae. No evidence]

Qsn #	Question	Answer
404	Unpalatable to grazing animals	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Reported to be deer resistant. Potentially unpalatable
405	Toxic to animals	n
	Source(s)	Notes
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. (2008). International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence
406	Host for recognized pests and pathogens	n
	Source(s)	Notes
	The Royal Horticultural Society. (2024). <i>Agrostis nebulosa</i> . https://www.rhs.org.uk/plants/80980/agrostis-nebulosa/details . [Accessed 7 Jun 2024]	"Pests - Generally pest-free Diseases - Generally disease-free"
407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. (2008). International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence
408	Creates a fire hazard in natural ecosystems	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown. No evidence found, but any grass could potentially contribute to the fine fuel load and increase fire risk.
409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	Notes
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 6 Jun 2024]	"ENVIRONMENT - Full sun"
	West Coast Seeds. (2024). How to Grow Cloud Grass. https://www.westcoastseeds.com/blogs/wcs-academy/how-to-grow-cloud-grass . [Accessed 7 Jun 2024]	"Exposure: Full sun to partial shade"
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y

Qsn #	Question	Answer
	Source(s)	Notes
	Hillock, D., Schnelle, M. & Hentges, C. (2022). Ornamental Grasses and Grass-Like Plants for Oklahoma. HLA-6470. Oklahoma Cooperative Extension Service, Stillwater, Oklahoma.	"Average to good soil."
	The Royal Horticultural Society. (2024). <i>Agrostis nebulosa</i> . https://www.rhs.org.uk/plants/80980/agrostis-nebulosa/details . [Accessed 7 Jun 2024]	"Grows best in well-drained soil"
	Gardener's HQ. (2024). <i>Agrostis</i> Plant Growing & Care Guide for Gardeners. https://www.gardenershq.com/Agrostis-CloudGrass.php . [Accessed 7 Jun 2024]	"Suitable Soil Types: Adaptable to a wide range of soil conditions but prefers moist, well-drained soils."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	"Plants annual. Culms 10-75 cm, erect or geniculate, with 2-7 nodes. Leaves mostly cauline; sheaths scabrous; ligules 1-6 mm, dorsal surfaces scabridulous, apices acute to rounded, erose to lacerate; blades 5-15 cm long, 1-4 mm wide, flat. Panicles 3-30 cm long, (2)5-20 cm wide, oblong to ovate, diffuse, usually over 1/2 the length of the culm, lowest node with (2)3-18 branches; branches scabrous, erect to spreading, lower branches 4-15 cm; pedicels (2.5)4-15 mm, much longer than the spikelets. Spikelets lanceolate, usually purplish, sometimes green to yellowish green. Glumes subequal, 1.3-2.1 mm, 1-veined, sparsely aculeolate on the veins, obtuse; calluses glabrous; lemmas 0.5-0.8 mm, transparent, thin, veins scarcely visible, smooth and glabrous or rarely hairy, apices truncate to rounded or acute, toothed or erose, usually unawned, rarely awned from near the base; paleas 0.4-0.7 mm, about as long as the lemmas and of similar texture; anthers 3,1-1.4 mm."

412	Forms dense thickets	n
	Source(s)	Notes
	Dore, W. G. & McNeill, J. (1980). Grasses of Ontario. Monograph 26. Canadian Government Publishing Centre, Hull, Quebec	[No evidence] " <i>Agrostis nebulosa</i> Boiss. & Reuter—This is a delicate, finely branched annual, native to the Mediterranean region and is called cloud grass. It is sometimes cultivated in gardens as an ornamental spray for dry bouquets, but it does not persist."
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	[No evidence] "Native to the western Mediterranean; in the Carpathians cultivated as ornamental summer plant in gardens, uniquely escaping."
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	[No evidence] "Plants annual." ... " <i>Agrostis nebulosa</i> is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region."

501	Aquatic	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	[Terrestrial] " <i>Agrostis nebulosa</i> is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region."

Qsn #	Question	Answer
502	Grass	y
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 5 Jun 2024]	"Genus: Agrostis Family: Poaceae (alt. Gramineae) Subfamily: Pooideae Tribe: Poeae Subtribe: Agrostidinae"
503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 6 Jun 2024]	"Genus: Agrostis Family: Poaceae (alt. Gramineae) Subfamily: Pooideae Tribe: Poeae Subtribe: Agrostidinae"
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	"Plants annual. Culms 10-75 cm, erect or geniculate, with 2-7 nodes. Leaves mostly cauline; sheaths scabrous; ligules 1-6 mm, dorsal surfaces scabridulous, apices acute to rounded, erose to lacerate; blades 5-15 cm long, 1-4 mm wide, flat."
601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	[No evidence] "Agrostis nebulosa is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region."
602	Produces viable seed	y
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	"Caryopses 0.6-0.8 mm. 2n = 14."
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 6 Jun 2024]	"Sow Cloud Grass seeds indoors 4 - 6 weeks before you plan to plant them outdoors. Surface sow seeds in soil. Or direct sow outdoors in early spring once the soil is cool and a light frost is possible. You can also plant seeds in the late autumn. If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set."

Qsn #	Question	Answer
603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown. Hybrids documented in genus

604	Self-compatible or apomictic	y
	Source(s)	Notes
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 6 Jun 2024]	"If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set." [Suggests plants may be self-fertile"
	The Royal Horticultural Society. (2024). <i>Agrostis nebulosa</i> . https://www.rhs.org.uk/plants/80980/agrostis-nebulosa/details . [Accessed 7 Jun 2024]	"self-seeds freely"

605	Requires specialist pollinators	n
	Source(s)	Notes
	Zomlefer, W.B. (1994). Guide to Flowering Plant Families. The University of North Carolina Press, Chapel Hill & London	[Poaceae] "The reduced flowers are anemophilous, although pollen-gathering insects have been reported for some grass species"

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	"Plants annual."
	The Royal Horticultural Society. (2024). <i>Agrostis nebulosa</i> . https://www.rhs.org.uk/plants/80980/agrostis-nebulosa/details . [Accessed 7 Jun 2024]	"Propagate by seed"

607	Minimum generative time (years)	1
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	"Plants annual."

Qsn #	Question	Answer
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	
	Source(s)	Notes
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 7 Jun 2024]	"If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set. "
	Lowry, B. J., Whitesides, R. E., Dewey, S. A., Ransom, C. V. & Banner, R. E. (2011). Common Weeds of the Yard and Garden. Utah State University Cooperative Extension, Logan, UT	[Unknown. <i>Agrostis stolonifera</i> seeds are dispersed in a number of ways] "The seeds are dispersed by water, on mud stuck to feet or vehicles, and as a grass seed contaminant."

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Flora of North America Editorial Committee. (2007). Flora of North America: North of Mexico, Volume 24. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Oxford University Press, Oxford, UK	" <i>Agrostis nebulosa</i> is native to Spain and Portugal. It is cultivated as an ornamental and for dried flower arrangements, but occasional escapes have been found on roadsides, ditches, and in fields in widely scattered locations in the Flora region."

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	Lowry, B. J., Whitesides, R. E., Dewey, S. A., Ransom, C. V. & Banner, R. E. (2011). Common Weeds of the Yard and Garden. Utah State University Cooperative Extension, Logan, UT	[Unknown. <i>Agrostis stolonifera</i> seeds are dispersed in a number of ways] "The seeds are dispersed by water, on mud stuck to feet or vehicles, and as a grass seed contaminant."
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed]	[Unknown. Could possibly be dispersed as a pot or landscaping contaminant] "If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set."

704	Propagules adapted to wind dispersal	y
	Source(s)	Notes
	Kaufman, S.R. & Kaufman, W. (2023). Invasive Plants: A Guide to Identification and the Impacts and Control of Common North American Species. Third Edition, Revised and Updated. Stackpole Books, Essex, Connecticut	[Probably. Related species, <i>Agrostis stolonifera</i> , has wind-dispersed seeds] "Seeds are dispersed by wind and water, and by grazers consuming seeds as they feed on the plants."
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 7 Jun 2024]	[Wind likely facilitates movement of seeds] "If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set. "

Qsn #	Question	Answer
705	Propagules water dispersed	
	Source(s)	Notes
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 7 Jun 2024]	"If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set. "
	Kaufman, S.R. & Kaufman, W. (2023). Invasive Plants: A Guide to Identification and the Impacts and Control of Common North American Species. Third Edition, Revised and Updated. Stackpole Books, Essex, Connecticut	[Probably. Related species, <i>Agrostis stolonifera</i> , dispersed by water] "Seeds are dispersed by wind and water, and by grazers consuming seeds as they feed on the plants."
706	Propagules bird dispersed	n
	Source(s)	Notes
	Kaufman, S.R. & Kaufman, W. (2023). Invasive Plants: A Guide to Identification and the Impacts and Control of Common North American Species. Third Edition, Revised and Updated. Stackpole Books, Essex, Connecticut	[Not reported from related species <i>Agrostis stolonifera</i>] "Seeds are dispersed by wind and water, and by grazers consuming seeds as they feed on the plants."
707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Lowry, B. J., Whitesides, R. E., Dewey, S. A., Ransom, C. V. & Banner, R. E. (2011). Common Weeds of the Yard and Garden. Utah State University Cooperative Extension, Logan, UT	[Unknown. <i>Agrostis stolonifera</i> seeds are dispersed in a number of ways] "The seeds are dispersed by water, on mud stuck to feet or vehicles, and as a grass seed contaminant."
708	Propagules survive passage through the gut	
	Source(s)	Notes
	Kaufman, S.R. & Kaufman, W. (2023). Invasive Plants: A Guide to Identification and the Impacts and Control of Common North American Species. Third Edition, Revised and Updated. Stackpole Books, Essex, Connecticut	[Possibly. Related <i>Agrostis stolonifera</i> dispersed by animals consuming seeds] "Seeds are dispersed by wind and water, and by grazers consuming seeds as they feed on the plants."
801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	Outsidepride Seed Source, LLC. (2024). Cloud Grass. https://www.outsidepride.com/seed/ornamental-grass/cloud-grass.html . [Accessed 7 Jun 2024]	"If you do not wish your Cloud Grass to self-seed, cut the stems for drying before the seeds are set."
802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Torres, I., Urbieta, I. R., & Moreno, J. M. (2012). Vegetation and soil seed bank relationships across microhabitats in an abandoned <i>Quercus suber</i> parkland under simulated fire. <i>Ecoscience</i> , 19(1), 1-10	[<i>Agrostis nebulosa</i> reported from seed bank. Longevity unspecified] "Appendix I, Table I. Listing of the species recorded in the standing vegetation and seed bank, unheated (HS-) and after heat shock (HS+)."
803	Well controlled by herbicides	

Qsn #	Question	Answer
	Source(s)	Notes
	Kaufman, S.R. & Kaufman, W. (2023). <i>Invasive Plants: A Guide to Identification and the Impacts and Control of Common North American Species</i> . Third Edition, Revised and Updated. Stackpole Books, Essex, Connecticut	[Probably Yes. <i>Agrostis stolonifera</i> successfully controlled with herbicides] "On larger infestations, herbicides such as glyphosate are effective."
	Beam, J. B., Barker, W. L., & Askew, S. D. (2006). Selective Creeping Bentgrass (<i>Agrostis stolonifera</i>) Control in Cool-Season Turfgrass. <i>Weed Technology</i> , 20(2), 340-344	[Probably yes. Related species successfully controlled] "Results indicate isoxaflutole or mesotrione could be used for selective bentgrass control in Kentucky bluegrass or perennial ryegrass."

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown

Summary of Risk Traits:

Agrostis nebulosa (cloud grass), is an annual grass native to southwestern Europe, including Portugal and Spain. It is particularly valued in gardens and floral arrangements for its delicate and airy appearance. With its ability to quickly reach maturity and self-seed, it has become naturalized in several locations in North America and may do so if cultivated in the Hawaiian Islands, although it is unclear what negative impacts it may have within its introduced range.

High Risk / Undesirable Traits

- Naturalized in the continental U.S. (no evidence in the Hawaiian Islands to date)
- Reported to be a weed (impacts unspecified)
- Other *Agrostis* species are invasive weeds
- Tolerates many soil types
- Reproduces by self-seeding
- Reaches maturity in one growing season (annual)
- Seeds dispersed by intentional planting and possibly other means
- Gaps in biological and ecological information may reduce accuracy of risk prediction

Low Risk Traits

- Valued as an ornamental grass, with no explicit negative impacts documented within its introduced and naturalized range
- Unarmed (no spines, thorns, or burrs)
- Non-toxic
- Grows best in high light environments (dense shade may inhibit spread)
- Herbicides may provide effective control (based on efficacy on other weedy *Agrostis* species)