

Assessment date 6 October 2015

<i>Ipomoea wrightii</i> ALL ZONES		Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	y	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	y	4
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	n	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	unk	-1
4.05	Toxic to animals	y	1
4.06	Host for recognised pests and pathogens	n	0
4.07	Causes allergies or is otherwise toxic to humans	y	1
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	y	1
5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	y	1

6.03	Hybridizes naturally	unk	-1
6.04	Self-compatible or apomictic	unk	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	?	
6.07	Minimum generative time (years)	1	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	unk	-1
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	y	1
7.05	Propagules water dispersed	unk	-1
7.06	Propagules bird dispersed	unk	-1
7.07	Propagules dispersed by other animals (externally)	unk	-1
7.08	Propagules dispersed by other animals (internally)	unk	-1
8.01	Prolific seed production	unk	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides	?	
8.04	Tolerates, or benefits from, mutilation or cultivation	unk	-1
8.05		?	
Total Score			12
Implemented Pacific Second Screening			no
Risk Assessment Results			High

section	# questions answered	satisfy minimum?
A		11 yes
B		11 yes
C		11 yes
total		33 yes

	Reference	Source data
1.01		cultivated, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif). 2. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (17 August 2015).	No computer analysis was performed. 1. Global hardiness zone: 8, 9, 10, 11, 12, 13; equivalent to USDA Hardiness zones: USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15°F) USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11a: to USDA Zone (40 °F) USDA Zone 11b: to (45 °F) USDA Zone 12a: to (50 °F) USDA Zone 12b: to (55 °F). 2. Native to: Pantropical, especially prevalent in the New World.
2.02		
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf).	1. Distribution in the native/cultivated range occurs in Af, As, Am, Aw, Cfa, Bsh
2.04	1. Climate Charts. World Climate Maps. http://www.climate-charts.com/World-Climate-Maps.html#rain (8-18-2015)	1. Native to areas with rainfall within this range. See 2.01 for native regions.
2.05	1. Wildflowers of Texas http://www.wildflowersoftexas.com/ipomoea-wrightii.html 8-17-2015 2. Manual of the Alien Plants of Belgium http://alienplantsbelgium.be/content/ipomoea-wrightii 8-17-2015	1. Introduced to USA: AL, AR, FL, GA, LA, MS, OK, TN, TX, VA 2. First recorded in 1993 and subsequently seen most years until 2000 in the ports of Antwerpen and Gent (in Belgium). Exclusively introduced with soybeans.
3.01	1. Galapagos Species Checklist http://www.darwinfoundation.org/datazone/checklists/379/ 8-17-2015 2. Aquatic and Wetland Plants of Southeastern United States: Dicotyledons By Robert K. Godfrey, Jean W. Wooten 3. Encyclopedia of Life http://eol.org/pages/580413/data 8-17-2015	1. Naturalized taxon in the Galapagos Islands. 2. Native to India, but widely naturalized in warm regions. 3. Introduced to Puerto Rico
3.02		no evidence
3.03	1. University of Missouri Extension http://extension.missouri.edu/p/ipm1007-83 8-17-2015 2. Global Compendium of Weeds http://www.hear.org/gcw/species/ipomoea_wrightii/ 8-17-2015 3. Gealy, David. Differential Response of Palmleaf Morningglory (<i>Ipomoea wrightii</i>) and Pitted Morningglory (<i>Ipomoea lacunosa</i>) to Flooding. Weed Science Vol. 46, No. 2 (Mar. - Apr., 1998), pp. 217-224	1. Palmleaf morningglory is primarily a weed of agronomic crops found in the southeastern United States. 2. Agricultural weed of corn and soybeans. 3. Palmleaf morningglory (IPOWER) can be a troublesome weed in rice-growing areas in the southern U.S.... IPOWER infested rice in the rice-fallow rotations in the 1950s
3.04	1. Global Compendium of Weeds http://www.hear.org/gcw/species/ipomoea_pulchella/ 8-17-2015 2. GBIF http://www.gbif.org/species/2928613 8-17-2015 2. Revolv http://www.revolv.com/main/index.php?s=Morning%20glory (8-19-2015)	1. Environmental weed in the Galapagos Islands 2. Wright's Morning Glory is not native to the United States and is considered as an invasive species. 2. By crowding out, blanketing and smothering other plants, morning glory has turned into a serious invasive weed problem.
3.05	1. Holm, LeRoy G. A Geographical Atlas of World Weeds. Malabar, FL: Krieger Pub., 1991. Print.	<i>Ipomoea triloba</i> is a serious weed in Australia and the Phillipines. <i>Ipomoea Aquatica</i> is a serious weed India, Mozambique and Thailand.
4.01		no evidence
4.02		no evidence
4.03		no evidence
4.04		no evidence
4.05	1. ASPCA https://www.aspc.org/pet-care/animal-poison-control/toxic-and-non-toxic-plants/morning-glory (8-19-2015)	1. Morning Glory is toxic to cats and dogs.

4.06		no evidence
4.07	1. Dave's Garden http://davesgarden.com/guides/pf/go/107590/#ixzz3j6c62MFa 8-17-2015	1. Seed is poisonous if ingested, Parts of plant are poisonous if ingested
4.08		no evidence, unlikely
4.09	1. Dave's Garden http://davesgarden.com/guides/pf/go/107590/#ixzz3j6c62MFa 8-17-2015 2. http://www.sunshine-seeds.de/lpomoea-wrightii-45824p.html?language=en	1. Requires Full Sun 2. full sun
4.10	1. USDA Global Soil Regions http://www.nrcs.usda.gov/Internet/FSE_MEDIA/nrcs142p2_050722.jpg (8-9-2015)	Native to regions with matching soil types of all three regions, especially South Zone.
4.11	1. Aquatic and Wetland Plants of Southeastern United States: Dicotyledons By Robert K. Godfrey, Jean W. Wooten 2. Dave's Garden http://davesgarden.com/guides/pf/go/107590/#ixzz3j6c62MFa 8-17-2015 2. Revolvly http://www.revolvly.com/main/index.php?s=Morning%20glory (8-19-2015)	1. trailing or climbing vine 2. Climber 3. By crowding out, blanketing and smothering other plants, morning glory has turned into a serious invasive weed problem.
4.12	1. Revolvly http://www.revolvly.com/main/index.php?s=Morning%20glory (8-19-2015)	1. In some places, such as Australian bushland, some species of morning glories develop thick roots and tend to grow in dense thickets.
5.01	1. Aquatic and Wetland Plants of Southeastern United States: Dicotyledons By Robert K. Godfrey, Jean W. Wooten	Found in wetlands, but is not an aquatic plant.
5.02		Family: Convolvulaceae
5.03	Encyclopedia of Life http://eol.org/pages/580413/details (8-18-2015)	Not a woody plant
5.04		no evidence of these structures
6.01		no evidence
6.02	1. Dave's Garden http://davesgarden.com/guides/pf/go/107590/#ixzz3j6c62MFa 8-17-2015 2. Gealy, David. Differential Response of Palmleaf Morningglory (<i>Ipomoea wrightii</i>) and Pitted Morningglory (<i>Ipomoea lacunosa</i>) to Flooding. Weed Science Vol. 46, No. 2 (Mar. - Apr., 1998), pp. 217-224	1. Regularly propagated by seeds 2. Viable seeds were observed
6.03		no evidence
6.04		Many morning glories will self-seed in the garden, no evidence found for this species.
6.05	1. Dave's Garden http://davesgarden.com/guides/pf/go/107590/#ixzz3j6c62MFa 8-17-2015	1. This plant is attractive to bees, butterflies and/or birds
6.06	1. Revolvly http://www.revolvly.com/main/index.php?s=Morning%20glory (8-19-2015) 2. Groth (1997) Caracterização morfológica das sementes e frutos de nove espécies invasoras de <i>Ipomoea</i> (Convolvulaceae). Revista Brasileira de Sementes, Brasília 19.2: 303-314.	1. They can quickly spread by way of long, creeping stems. 2. "reproduction only from seeds"
6.07	1. A Guide to Moist-Soil Wetland Plants of the Mississippi Alluvial Valley By Michael L. Schummer, Heath M. Hagy, K. Sarah Fleming, Joshua C. Cheshier, James T. Callicutt	1. Flowers within its first year.
7.01		no evidence

7.02	1. Summer Hill Seeds http://summerhillseeds.com/ipomoea-wrightii-p-994.html?cPath=30 (8-19-2015) 2. Sunshine Seeds http://www.sunshine-seeds.de/Ipomoea-wrightii-45824p.html?language=en (8-19-2015)	1. and 2. This plant is widely available on internet seed banks for ornamental use.
7.03	1. Manual of the Alien Plants of Belgium http://alienplantsbelgium.be/content/ipomoea-wrightii 8-17-2015	No evidence of produce contamination, however, this species does affect agricultural crops like rice and soybeans. 1. In Belgium, its spread is linked to the import of soybeans for farming.
7.04	1. Cortés-Flores et al. (2013) Fruiting phenology of seed dispersal syndromes in a Mexican neotropical temperate forest. <i>Forest Ecology and Management</i> 289: 445-454 2. Groth (1997) Caracterização morfológica das sementes e frutos de nove espécies invasoras de Ipomoea (Convolvulaceae). <i>Revista Brasileira de Sementes</i> , Brasília 19.2: 303-314. 3. Griz and Machado (2001) Fruiting phenology and seed dispersal syndromes in caatinga, a tropical dry forest in the northeast of Brazil. <i>J Tropical Ecol</i> 17: 303-321.	1. congener Ipomoea murucoides listed as dispersal syndrome of anemochory 2. Seeds are characterized as "densely covered with yellowish-translucent hairs" 3. Congener information: "Ipomoea sericophylla has seeds with hairs which are exposed after the capsule opens, thus facilitating movement by wind. "
7.05		no evidence
7.06		no evidence
7.07		no evidence
7.08		no evidence
8.01	1. Encyclopedia of Life http://eol.org/pages/580413/details (8-18-2015) 2. LSU AG Center, Soybean: Weed, Insect, and Disease Field Guide http://www.lsuagcenter.com/NR/rdonlyres/70F13BA3-DDD1-4429-90F1-077818B473C5/89306/pub3243SoybeanPocketGuideFOREPUBDF.pdf (8-20-2015)	Number of seeds per plant is unavailable 1. Four seeds produced per fruit 2. Only four seeds in each fruit
8.02		Other Morning Glory are known to have long-lived seed banks, but no evidence for a seed bank was found for this species.
8.03	1. DuPont http://www2.dupont.com/Products/en_RU/assets/downloads/Londax_en.pdf (8-19-2015) 2. Gealy, David. Differential Response of Palmleaf Morningglory (<i>Ipomoea wrightii</i>) and Pitted Morningglory (<i>Ipomoea lacunosa</i>) to Flooding. <i>Weed Science</i> Vol. 46, No. 2 (Mar. - Apr., 1998), pp. 217-224	1. LONDAX herbicide has been shown to be effective at reducing plant size. 2. Control of IPOWR infestations in rice can be inconsistent because, unlike soybean for which numerous herbicides are available (Baldwin et al. 1996), few herbicide options are available to control morningglory species in rice.
8.04		no evidence
8.05		no evidence