

MN NWAC Risk Assessment Worksheet (04-2011)	Common Name	Latin Name
	Amur Miscanthus, Silver Banner Grass, Silver Plume Grass, Japanese Plume Grass, Japanese Silver Grass, Ogi (Japan), Chinese Silver Grass	<i>Miscanthus sacchariflorus</i> (Maxim.) Hack.
Reviewer	Affiliation/Organization	Date (mm/dd/yyyy)
James Calkins		09/12/2012

Amur miscanthus (*Miscanthus sacchariflorus*) is a perennial, warm-season, rhizomatous grass (Poaceae) that grows to heights of 6-8 feet. It is native to temperate Asia (northern China and Japan). Like all miscanthus, it is wind pollinated, but rarely, if ever, produced seed in Minnesota. Planted for its attractive, silvery flower heads it is used occasionally in the landscape, but can spread aggressively on good soils by vegetative means and produce large colonies. It is hardy to U.S.D.A. Cold Hardiness Zone 2.



Photo Credits: James Calkins

Box	Question	Answer	Outcome (i.e., Go to box:?)
1	Is the plant species or genotype non-native?	Yes; native to temperate Asia.	Go to Box 3
2	Does the plant species pose significant human or livestock concerns or has the potential to significantly harm agricultural production?	No.	
	A. Does the plant have toxic qualities that pose a significant risk to livestock, wildlife, or people?	No.	

Box	Question	Answer	Outcome (i.e., Go to box:?)
	B. Does the plant cause significant financial losses associated with decreased yields, reduced quality, or increased production costs?	No.	
3	Is the plant species, or a related species, documented as being a problem elsewhere?	Yes or No depending on definition of invasive (ability to spread by seed or rhizomes); Hitchcock's Manual of Grasses of the United States (1950) cited this species as escaped in east central Iowa; Pohl (1978) states this species is a weed in the North Central states; banned in Massachusetts.; wild type of the related species <i>Miscanthus sinensis</i> documented as invasive.	If Yes – Go to Box 6 If No – Go to Box 4
4	Is the plant species' life history & growth requirements are understood?	Yes.	Go to Box 6
5	Gather and evaluate further information:	(Comments/Notes)	
6	Does the plant species have the capacity to establish and survive in Minnesota?	Yes; hardy to USDA Zone 4.	
	A. Is the plant, or a close relative, currently established in Minnesota?	Yes.	Go to Box 7
	B. Has the plant become established in areas having a climate and growing conditions similar to those found in Minnesota?	Yes.	
7	Does the plant species have the potential to reproduce and spread in Minnesota?		
	A. Does the plant reproduce by asexual/vegetative means?	Yes; primarily (or exclusively) by vegetative means only (rhizomes); considered to be less invasive than <i>Miscanthus sinensis</i> ; little to no seed set (usually less than 1%), but this is apparently enough to cause relatively large, intermittent stands like the one along Highway 7 west of Excelsior, MN (Mary Meyer, personal communication) – Note: It is also possible that the existing distribution along Highway 7 could be related to other factors that result in the movement of vegetative propagules (e.g., rhizome segments dispersed by snow plowing activities).	Go to Question B

Box	Question	Answer	Outcome (i.e., Go to box:?)
	B. Are the asexual propagules effectively dispersed to new areas?	No; at least not without human assistance.	Go to Question C
	C. Does the plant produce large amounts of viable, cold-hardy seeds?	No; few if any seeds produced; viable seed is not produced in the Upper Midwest.	Go to Question D
	D. If this species produces low numbers of viable seeds, does it have a high level of seed/seedling vigor or do the seeds remain viable for an extended period?	No/Unknown.	Go to Question E
	E. Is this species self-fertile?	No; all <i>Miscanthus</i> spp. are self-incompatible and require out-crossing to produce viable seeds.	Go to Question G
	F. Are sexual propagules – viable seeds – effectively dispersed to new areas?	No; dispersal believed to be minimal if it occurs at all.	
	G. Can the species hybridize with native species (or other introduced species) and produce viable seed and fertile offspring in the absence of human intervention?	No; <i>Miscanthus sacchariflorus</i> and <i>M. sinensis</i> are the parents of <i>M. x giganteus</i> , a sterile hybrid; hybridization of <i>M. sinensis</i> and <i>M. sacchariflorus</i> appears unlikely under Minnesota conditions (short growing season).	Go to Question H
	H. If the species is a woody (trees, shrubs, and woody vines) is the juvenile period less than or equal to 5 years for tree species or 3 years for shrubs and vines?	No.	The plant is not currently believed to be a risk – No Regulatory Action
	I. Do natural controls exist, species native to Minnesota, that are documented to effectively prevent the spread of the plant in question?	No.	
8	Does the plant species pose significant human or livestock concerns or has the potential to significantly harm agricultural production, native ecosystems, or managed landscapes?	No.	
	A. Does the plant have toxic qualities, or other detrimental qualities, that pose a significant risk to livestock, wildlife, or people?	No.	

Box	Question	Answer	Outcome (i.e., Go to box:?)
	B. Does, or could, the plant cause significant financial losses associated with decreased yields, reduced crop quality, or increased production costs?	No.	
	C. Can the plant aggressively displace native species through competition (including allelopathic effects)?	Yes.	
	D. Can the plant hybridize with native species resulting in a modified gene pool and potentially negative impacts on native populations?	No.	
	E. Does the plant have the potential to change native ecosystems (adds a vegetative layer, affects ground or surface water levels, etc.)?	Yes.	
	F. Does the plant have the potential to introduce or harbor another pest or serve as an alternate host?	No; no specific information found.	
9	Does the plant species have clearly defined benefits that outweigh associated negative impacts?		
	A. Is the plant currently being used or produced and/or sold in Minnesota or native to Minnesota?	Yes, but not commonly planted in Minnesota.	
	B. Is the plant an introduced species and can its spread be effectively and easily prevented or controlled, or its negative impacts minimized through carefully designed and executed management practices?		
	C. Is the plant native to Minnesota?	No.	
	D. Is a non-invasive, alternative plant material commercially available that could serve the same purpose as the plant of concern?	Yes; <i>Spartina pectinata</i> (prairie cordgrass; in wet areas) and other native grasses might be considered suitable alternatives.	

Box	Question	Answer	Outcome (i.e., Go to box:?)
	E. Does the plant benefit Minnesota to a greater extent than the negative impacts identified at Box #8?	Has been studied as a potential forage and biomass crop and has been used as forage.	
10	Should the plant species be enforced as a noxious weed to prevent introduction &/or dispersal; designate as prohibited or restricted?		
	A. Is the plant currently established in Minnesota?	Yes; present in managed landscapes and large stands can be found along highways and on old farmsteads, but usually remain fairly stable and do not overtake other areas. Over the past 25 years, this plant has not advanced or declined in Minnesota and existing stands can be eliminated using herbicides and/or mowing (Mary Meyer, University of Minnesota, Department of Horticultural Science, personal communication).	
	B. Does the plant pose a serious human health threat?	No.	
	C. Can the plant be reliably eradicated (entire plant) or controlled (top growth only to prevent pollen dispersal and seed production as appropriate) on a statewide basis using existing practices and available resources?	Yes; mowing and glyphosate.	
11	Should the plant species be allowed in Minnesota via a species-specific management plan; designate as specially regulated?		

Final Results of Risk Assessment

	Review Entity	Comments	Outcome
	NWAC Listing Subcommittee	Not thought to be a threat in MN at this time.	No Regulatory Action.
	NWAC Full-group		No Regulation. Recorded to NWAC Database
	MDA Commissioner		
File #	MDARA00013MISSAC_1_18_2013		

References:

(List any literature, websites, and other publications)

1. Hitchcock, A.S. 1950. Manual of Grasses of the United States, Second Edition (revised by Agnes Chase). US Government Printing Office, Washington, D.C.
2. Massachusetts Prohibited Plant List. Accessed Oct. 26, 2012. http://www.mass.gov/agr/farmproducts/Prohibited_Plant_Index2.htm
3. Minnesota DNR; <http://www.dnr.state.mn.us/invasives/terrestrialplants/grasses/amursilvergrass.html>; listed as invasive.
4. Pohl, Richard. 1978. How to Know the Grasses, Third Edition. Wm. C. Brown, Dubuque, Iowa.
5. University of Minnesota; <http://miscanthus.cfans.umn.edu/sacchariflorus.html>; viable seed not produced in Midwest.
6. USDA Germplasm Resources Information Network; <http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?24490>; listed as invasive in MA.