

MN NWAC Risk Assessment Worksheet (04-2011)	Common Name	<i>Latin Name</i>
	Paradise Plant	<i>Daphne mezereum</i>
Reviewer	Affiliation/Organization	Date (mm/dd/yyyy)
Tina Markeson	MNDOT	09/087/2011

Box	Question	Answer	Outcome
1	Is the plant species or genotype non-native?	Yes- Native to Europe	(i.e., Go to box:?) 3
2	Does the plant species pose significant human or livestock concerns or has the potential to significantly harm agricultural production?		
	A. Does the plant have toxic qualities that pose a significant risk to livestock, wildlife, or people?	Yes – Highly toxic to humans and livestock	
	B. Does the plant cause significant financial losses associated with decreased yields, reduced quality, or increased production costs?		
3	Is the plant species, or a related species, documented as being a problem elsewhere?	Southern Ontario (Some of these species have the potential to become invasive exotics in Ontario. They can reproduce aggressively on occasion but have not been shown to be a serious threat to natural areas in Ontario.) http://www.serontario.org/pdfs/exotics.pdf	Go to #6
4	Is the plant species' life history & Growth requirements understood?		
5	Gather and evaluate further information:	(Comments/Notes)	
6	Does the plant species have the capacity to establish and survive in Minnesota?	Yes –successfully cultivated within Zone 3	

Box	Question	Answer	Outcome
	A. Is the plant, or a close relative, currently established in Minnesota?	Yes – Along TH61 (North Shore Dr.)	Go to #7
	B. Has the plant become established in areas having a climate and growing conditions similar to those found in Minnesota?	Yes - Ontario	
7	Does the plant species have the potential to reproduce and spread in Minnesota?	Seed Germination of Daphne mezereum: Fruit Stages, Cold Treatment, and more; D. Zhang, J. Smagula; University of Maine; 2000	
	A. Does the plant reproduce by asexual/vegetative means?	Primarily asexual “320m ² area in WI with dense seedlings under parent plants” only 1 report found http://quod.lib.umich.edu/m/mbot/0497763.0045.102?rgn=main;view=fulltext	Go to B
	B. Are the asexual propagules effectively dispersed to new areas?	No, primary asexual means is through cuttings in the horticultural trade	Go to C
	C. Does the plant produce large amounts of viable, cold-hardy seeds?	Yes, but seed germination is very finicky	Go to F
	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?		
	E. Is this species self-fertile?	Unknown	
	F. Are sexual propagules – viable seeds – effectively dispersed to new areas?	No, most fall near the parent plant	Go to G

Box	Question	Answer	Outcome
	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?	Unknown	
	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?		
	I. Do natural controls exist, species native to Minnesota, that are documented to effectively prevent the spread of the plant in question?	No	SPECIES IS NOT CURRENTLY BELIEVED TO BE A RISK
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?		
	A. Does the plant have toxic qualities, or other detrimental qualities, that pose a significant risk to livestock, wildlife, or people?		
	B. Does, or could, the plant cause significant financial losses associated with decreased yields, reduced crop quality, or increased production costs?		

Box	Question	Answer	Outcome
	C. Can the plant aggressively displace native species through competition (including allelopathic effects)?		
	D. Can the plant hybridize with native species resulting in a modified gene pool and potentially negative impacts on native populations?		
	E. Does the plant have the potential to change native ecosystems (adds a vegetative layer, affects ground or surface water levels, etc.)?		
	F. Does the plant have the potential to introduce or harbor another pest or serve as an alternate host?		
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?		
	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?		

Box	Question	Answer	Outcome
	C. Is the plant native to Minnesota?		
	D. Is a non-invasive, alternative plant material commercially available that could serve the same purpose as the plant of concern?		
	E. Does the plant benefit Minnesota to a greater extent than the negative impacts identified at Box #8?		
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	
	B. Does the plant pose a serious human health threat?		
	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?		
11	Should the plant species be allowed in Minnesota via a species-specific management plan; designate as specially regulated?		

Box	Question	Answer	Outcome
	Mezerein: antileukemic principle isolated from Daphne mezereum.		
Final Results of Risk Assessment			
	Review Entity	Comments	Outcome
	NWAC Listing Subcommittee	One plant found in NE MN along Hwy. 61/North Shore, but never established.	Possible eradicate list; Or no listing
	NWAC Full-group		No Listing
	MDA Commissioner		No Listing
		File Number: MDARA00008DAPH_11_30_2011	

References:

(List any literature, websites, and other publications)