MN NWAC Risk Assessment Worksheet (04-2011)	Common Name	*Latin Name*
	Canada thistle	*Cirsium arvense* (L.) Scop.
Reviewer	**Affiliation/Organization**	**Date (mm/dd/yyyy)**
Roger Becker	**University of Minnesota**	**Aug. 16, 2013**

Box	Question	Answer	Outcome
1	Is the plant species or genotype non-native?	Yes (Slotta et al., 2010).	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?		
	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?	Yes, northern hemisphere world-wide. (Donald, W. 1994), is a U.S. Federal Noxious Weed, and is declared noxious weed in 33 states (PLANTS database http://plants.usda.gov/core/profile?symbol=CIAR4 , Accessed 8/16/13).	Go to box 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?		

Box	Question	Answer	Outcome
	A. Is the plant, or a close relative, currently established in Minnesota?	Yes. U of M Herbarium records show first specimen from Minneapolis in 1878. Maps show distribution throughout the U.S. in 43 states and all but 2 Canadian Provinces (USDA Plants, http://plants.usda.gov/core/profile?symbol=CIAR4 and in every county in Minnesota (EDDMapS http://www.eddmaps.org/distribution/usstate.cfm?sub=2792) (Appendix A).	Go to box 7
	B. Has the plant become established in areas having a climate and growing conditions similar to those found in Minnesota?		
7	Does the plant species have the potential to reproduce and spread in Minnesota?		
	A. Does the plant reproduce by asexual/vegetative means?	Yes (Moore, 1975).	Go to 7B
	B. Are the asexual propagules effectively dispersed to new areas?	Yes.	Go to 7F
	C. Does the plant produce large amounts of viable, cold-hardy seeds?	[not directed to here by analysis but yes (Becker et al., 2008).]	
	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?		
	F. Are sexual propagules – viable seeds – effectively dispersed to new areas?	Yes via various means on equipment, in mulch and hay, in feed and seed, etc. However, wind dispersal attached to pappi is minimal. (Becker et al., 2008).	Go to 7I
	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]	
	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?		

Box	Question	Answer	Outcome
	I. Do natural controls exist, species native to Minnesota, that are documented to effectively prevent the spread of the plant in question?	Not presently. There is a long history of biological control efforts on Canada thistle McClay (2002), which have resulted in some elements of control with insects and pathogens but currently none effectively prevent spread on a broad geographical basis. *Ceutorhynchus litura* (F.) (synonym *Hadroplontus litura*) may provide significant reductions of Canada thistle in Minnesota with augmented release, but has yet to be widely accepted as host specific (personal observations) nor have wide-spread efforts been made to implement *C. litura* in Minnesota. (personal communication, Monkia Chandler MDA).	Go to Box 8
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?	No known plant toxins. Physical deterrent. Spines on leaves on some biotypes are fairly rigid and pose a risk to foraging animals when mature and in wide-spread, vigorous populations.	Go to box 9
	B. Does, or could, the plant cause significant financial losses associated with decreased yields, reduced crop quality, or increased production costs?	[yes, Ziska, L. 2010; Bork, et al., 2007; Grekul, C.W. and E.W. Bork. 2004; Donald and Khan, 1996.]	
	C. Can the plant aggressively displace native species through competition (including allelopathic effects)?	(debatable)	
	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.)?		

Box	Question	Answer	Outcome
	F. Does the plant have the potential to introduce or harbor another pest or serve as an alternate host?	(no)	
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?	No.	Go to box10
	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?		
	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 (see box 6A).	Go to 10 B
	B. Does the plant pose a serious human health threat?	No (though can be a physical deterrent, see box 8A).	Go to 10 C

Box	Question	Answer	Outcome
	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?	No, not on a statewide basis. [self-evident in distribution maps and history in the state. Yes at the local, field specific level (Bork et al., 2007; De Bruijn, S.L. and Bork, E.W. 2006; numerous others).]	List as Restricted Noxious Weed. If could develop effective biological control programs in Minnesota, list as a Prohibited/ Control Noxious Weed
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	First review – 06/20/2013, Final Review 08/12/2013 The general consensus of the subcommittee based on the risk assessment data and the widespread nature of Canada thistle, was to reclassify this species as a Restricted Noxious Weed.	Restricted Noxious Weed
	NWAC Full-group	Review 12/18/2014 – Members agree unanimously that Canada thistle is widespread and has been a large focus of weed management for over a century in MN. However, a difference in opinion arises when the discussion centers on whether or not current efforts have any impact on controlling or eradicating populations. Some members expressed concerns that the risk assessment is ignoring the fact that without the century-long battle against this plant by counties and townships, this species would be worse today.	Vote 8 – 4 to recommend reclassifying Canada thistle as a Restricted Noxious Weed

Box	Question	Answer	Outcome
	MDA Commissioner	Reviewed 02/24/2014 -Petition letters received by the commissioner's office from four member organizations overwhelmingly disagreed with NWAC's final recommendations for Canada thistle. Counties and townships also reflected the displeasure their constituents had with the notion of reclassifying this species from an enforcement perspective. They also indicated that their constituents and citizens consider this to be one of the most important weed species statewide. The MDA also received other comments regarding the recommendations to reclassify Canada thistle that basically reflected that farmers and private landowners alike would be upset if the recommendation was approved.	**The commissioner rejected NWAC's recommendation and has directed that Canada thistle remain as a Prohibited-Control species** to support the counties and townships opinion, in addition to comments from the Farmer's Union and MN Crop Improvement Association, that any changes would be detrimental to grazing agriculture and potentially cause confusion within the seed industry
	FILE # MDARA00034CANT_2_24_2014	**Prohibited-Control Noxious Weed**	

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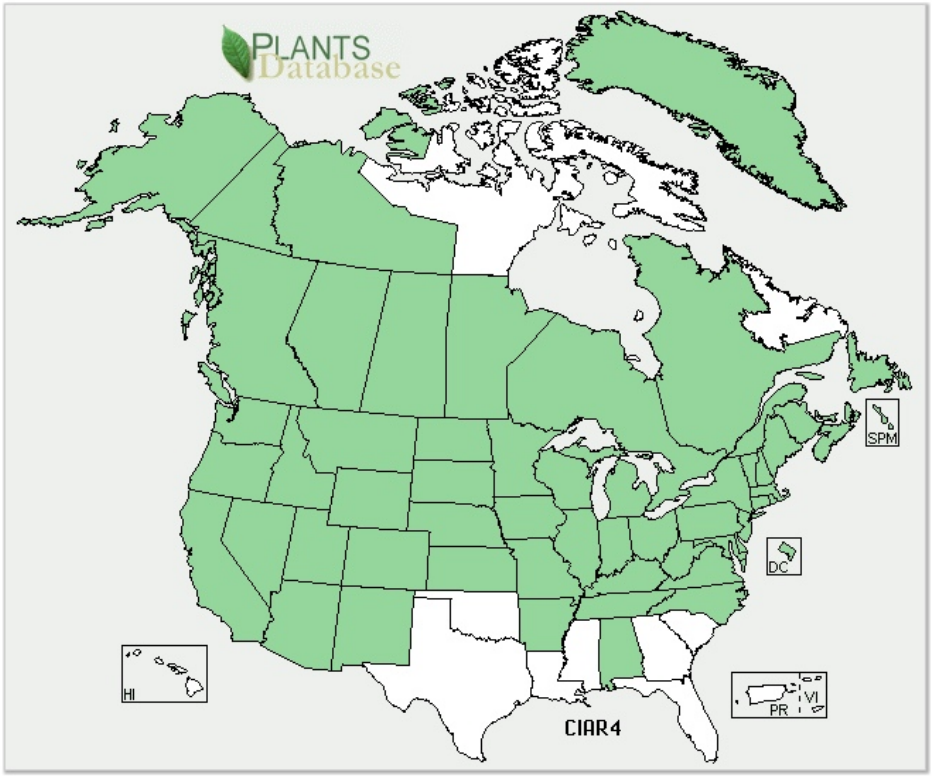
Appendix A.

Distribution of Canada thistle in the U.S. PLANTS http://plants.usda.gov/core/profile?symbol=CIAR4 (Accessed 8/9/13)

***Cirsium arvense* (L.) Scop.**
Canada thistle

General Information	
Symbol:	CIAR4
Group:	Dicot
Family:	Asteraceae
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	CAN I GL I SPM I L48 I AK I
Data Source and Documentation	



View Native Status

Present Absent/Unreported

See U.S. county distributions (when available) by clicking on the map or the linked states below:

USA (AK, AL, AR, AZ, CA, CO, CT, DC, DE, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SD, TN, UT, VA, VT, WA, WI, WV, WY), **CAN** (AB, BC, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT), **DEN** (GL), **FRA** (SPM)

Distribution of Canada thistle in Minnesota. http://www.eddmaps.org/distribution/usstate.cfm?sub=2792 (Accessed 8/16/13)

EDDMapS
Early Detection & Distribution Mapping System

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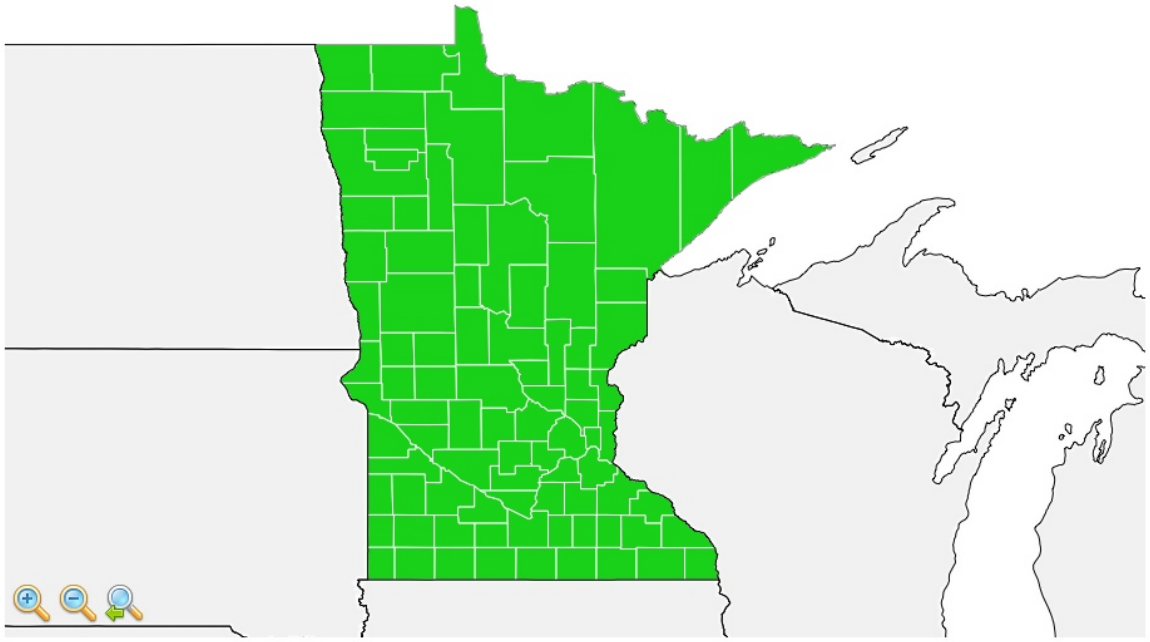
Canada thistle

***Cirsium arvense* (L.) Scop.**

USDA PLANTS Symbol: CIAR4
Invasive Plant Atlas

Distribution Maps: County / Southeast / Points on Google Maps



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EDDMapS. 2013. Early Detection & Distribution Mapping System. The University of Georgia - Center for Invasive Species and Ecosystem Health. Available online at http://www.eddmaps.org/; last accessed August 16, 2013.