

MN NWAC Risk Assessment Worksheet (04-2011)	Common Name	<i>Latin Name</i>
	Brown Knapweed	<i>Centaurea jacea</i> L.
Reviewer	Affiliation/Organization	Date (mm/dd/yyyy)
Monika Chandler	MN Dept. of Agriculture	09/12/12

Brown knapweed is an herbaceous perennial native to Europe (Wilson and Randall 2003). In Europe, both diploid and tetraploid variations of brown knapweed coexist (Hardy and Vekemans, 2001). Tetraploids can hybridize freely with black and meadow knapweeds, also tetraploids. Brown knapweed prefers cool, moist, and sunny habitats.

Brown knapweed was introduced to western North America for forage, but it is not palatable and has low nutritional. Only two brown knapweed plants/infestations have been detected in northeastern Minnesota.

Box	Question	Answer	Outcome
1	Is the plant species or genotype non-native?	Yes, brown knapweed is native to Europe (Roché and Roché 1991 and Wilson and Randall 2003). It was planted for hay and forage in eastern Canada in the 1850s. Subsequently, brown knapweed was introduced in the Pacific Northwest for forage, hay, and as a pollen source for honeybees. (Roché and Roché 1991)	Go to Box 3
3	Is the plant species, or a related species, documented as being a problem elsewhere?	Yes. Washington Dept. of Ag lists it as a “Class B” noxious weed. Class B = Species are designated for control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal.	Go to Box 6
6	Does the plant species have the capacity to establish and survive in Minnesota?	Yes	Go to Box 7
	A. Is the plant, or a close relative, currently established in Minnesota?	Yes, are two brown knapweed populations recorded in Minnesota. We do not have solid distribution information in part because brown and meadow knapweed are difficult to distinguish and may both be present in populations. There are documented infestations of meadow knapweed (closely related) in St. Louis and Koochiching Counties.	

Box	Question	Answer	Outcome
7	Does the plant species have the potential to reproduce and spread in Minnesota?	Yes	
	A. Does the plant reproduce by asexual/vegetative means?	No, propagation is exclusively by seed (Wilson and Randall 2003)	Go to Question B
	B. Are the asexual propagules effectively dispersed to new areas?		Go to Question C
	C. Does the plant produce large amounts of viable, cold-hardy seeds?	Yes (Wilson and Randall 2003)	Go to Question F
	F. Are sexual propagules – viable seeds – effectively dispersed to new areas?	Yes	Go to Question I
	I. Do natural controls exist, species native to Minnesota, that are documented to effectively prevent the spread of the plant in question?	No	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?	This species may cause “chewing disease” in horses, although horses generally avoid knapweeds http://extension.psu.edu/field-crop-news/news/2012/09/knapweed-toxicity-in-horses	Go to Box 9
	A. Does the plant have toxic qualities, or other detrimental qualities, that pose a significant risk to livestock, wildlife, or people?	Not toxic	Go to Question B
	B. Does, or could, the plant cause significant financial losses associated with decreased yields, reduced crop quality, or increased production costs?	Yes	Go to Box 9
	C. Can the plant aggressively displace native species through competition (including allelopathic effects)?	Yes	Go to Box 9
9	Does the plant species have clearly defined benefits that outweigh associated negative impacts?	No	Go to Box 10
	A. Is the plant currently being used or produced and/or sold in Minnesota or native to Minnesota?	No	Go to Box 10

Box	Question	Answer	Outcome
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	Go to Question B
	B. Does the plant pose a serious human health threat?	No	Go to Question C
	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, brown knapweed plants can be controlled with herbicides. Herbicide recommendations are similar to spotted knapweed recommendations. It is difficult to say whether statewide eradication is feasible.	List as a prohibited/eradicate or control noxious weed depending on whether eradication is possible and reasonable
Final Results of Risk Assessment			
	Review Entity	Comments	Outcome
	NWAC Listing Subcommittee	Subcommittee debated 2 options: 1) List as a prohibited eradicate with meadow knapweed due to small distributions in state 2) Combine meadow and brown knapweeds with spotted knapweed as a prohibited-control knapweed complex - this would be done because it is hard to distinguish between the knapweed species and they can hybridize.	Suggest regulation as a prohibited noxious weed. Have to decide whether to place on eradicate or control list; or whether to combine all knapweeds
	NWAC Full-group		List as a Prohibited – Eradicate Noxious Weed
	MDA Commissioner		Approved as a Prohibited – Eradicate Noxious Weed – 1/14/2013
File #	MDARA00017BRNKNW_1_18_2013		

References:

- Hardy, O.J. and X. Vekemans. 2001. Patterns of allozyme variation in diploid and tetraploids *Centaurea jacea* at different spatial scales. *Evolution* 55(5): 943-954.
- Roché, C.T. and B.F. Roché, Jr. 1991. Meadow knapweed invasion in the Pacific Northwest, U.S.A., and British Columbia, Canada. *Northwest Science*. 65(1): 53-61.
- Wilson, L.M., and C.B. Randall. 2003. *Biology and Biological Control of Knapweed*. USDA-Forest Service FHTET-2001-07. 2nd Edition.

brown knapweed

Centaurea jacea L.

USDA PLANTS Symbol: CEJA
Invasive Plant Atlas

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