



Last Updated 30-04-2011

Red Bartsia (*Odontites vernus*)

aka Late Flowering Eyebright, Red Rattle

Provincial Designation: Prohibited Noxious

Overview:

Red Bartsia is an annual in the figwort family that was introduced to Manitoba in the mid 1950s. It arrived at the Gimli Canadian Armed Forces Base in packing crates from Germany. It escaped into areas adjacent to the runways which local farmers mowed for hay. The plant soon spread throughout the Interlake Region of Manitoba.¹

Red Bartsia infests mostly pastures and hayland because it does not compete well with annual crops. It is unpalatable to livestock, so it quickly overtakes forage stands, causing losses of 50-70%. Recent surveys have shown that Red Bartsia is now moving into native grasslands. Some researchers speculate that seeds transported on the all terrain vehicles (ATVs) used by hunters is one probable cause for these new infestations.³

Red Bartsia is a hemiparasite. It can survive on its own but will also feed off the roots of a wide range of grass and forb hosts when conditions are adverse.³ Each plant can produce up to 1400 seeds. The seeds easily float and

stick to animal fur, clothing and equipment, aiding in dispersal.⁴



PHOTO: Emmet J. Judziewicz, Wisconsin State Herbarium

Habitat:

In Manitoba, seedlings typically emerge from mid-May to mid-June suggesting that the plant requires warmer temperatures for germination. Several flushes can occur over the growing season.⁴ Red Bartsia does not persist under cultivation¹ and appears to thrive in a variety of soil types.

Identification:

Stems: Erect, 10-50 cm tall, usually branched and hairy.⁵

Leaves: Opposite, 1-4 cm long, lance-shaped with 2-3 pairs of blunt teeth and hairy.⁵

Flowers: In spike-like racemes. Individual flowers resemble tiny snapdragons. Petals pinkish-red, about 1 cm long, with two lips; the upper straight and the lower shallowly 3-lobed.⁵

Seeds: Numerous, in hairy capsules, 6-8 mm long.⁵ Individual seeds tiny, beige and oval with small wings.⁶

Prevention:

Red Bartsia is mostly spread by humans in contaminated hay and on equipment and ATVs.³ Buyers need to check sources of hay to ensure that bales are weed-free. Producers and hunters should routinely inspect and clean equipment before entering uninfested areas.⁴ Purchasing certified seed is also an effective tactic since Red Bartsia is classified as a prohibited noxious weed in the Canadian Seeds Act and Regulations.⁷



PHOTO: <http://commons.wikimedia.org>



Roadside infestation

PHOTO: Emmet J. Judziewicz, Wisconsin State Herbarium

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Red Bartsia *(continued)*



PHOTO: Fred Paulson, Interlake Weed District

Control:

Cultural: Research is exploring the use of compost mulches to control Red Bartsia in native grasslands. Preliminary results showed that mulches suppressed the annual weed while allowing native perennials to penetrate through the compost layer.³

Cultivation: Cultivating an infested pasture and planting annual crops for at least 9 years to deplete the Red Bartsia seed bank can be effective strategy.⁴

Mechanical: Mowing is not recommended and can help to spread the problem.⁴ Small populations can be hand-pulled but vigilance is required to ensure that plants appearing in successive flushes over the summer are removed before they go to seed.²

Chemical:⁹ Few herbicides are registered for Red Bartsia control in forage crops. MCPA is recommended as an emergency spot treatment only in established alfalfa.⁷

Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pesticide Management Regulatory Agency. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: There are no known biocontrol agents for Red Bartsia.



PHOTO: Fred Paulson, Interlake Weed District



PHOTO: Michèle Ammeter, Macdonald Weed District

REFERENCES

- 1 How to Control Red Bartsia <http://www.gov.mb.ca>
- 2 Plants Database <http://plants.usda.gov>
- 3 Kennedy, Brad. 2008. Impacts and control of the invasive species Red Bartsia (*Odontites vernus*) in tallgrass prairie remnants in Manitoba. 35th Natural Areas Conference, Nashville, Tenn. <http://www.naepcc.org/08conference/talk>
- 4 Winters, Daniel. 2010. German invader turning fields Red. Manitoba Cooperator, March 25 <http://www.agcanada.com>
- 5 Moss, E.H., 1983. Flora of Alberta, University of Toronto Press
- 6 Seed ID Workshop, Ohio State University <http://www.oardc.ohio-state.edu/seedid>
- 7 <http://laws-lois.justice.gc.ca>
- 8 Forage Crops Chart of Recommended Herbicides <http://www.agric.gov.sk.ca>
- 9 Always follow the product labels. The use of pesticides in any manner not published on the label or registered under the *Minor Use of Pesticides* regulation constitutes an offence under both the *Federal Pest Control Products Act* and *Alberta's Environmental Protection and Enhancement Act*.