ALBERTA invasive species COUNCIL
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Smooth Hawkweed

Hieracium laevigatum Willd.

Alberta Regulation: Unregulated

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Overview:

Smooth hawkweed is a member of the Aster Family and native to Europe. It is a fibrous rooted, perennial herb with a milky latex in the stems and leaves. Smooth hawkweed reproduces by seed and lacks stolons.[1] Seeds are produced by apomixis - asexually - as non-native hawkweeds are polyploids (n=9), as opposed to the native diploid hawkweeds. Occasional sexual reproduction occurs, facilitating out-crossing and hybridization.[1]

Hawkweeds develop a low rosette of basal leaves before producing a flowering stem. Dandelion-like flowers are borne at the ends of stems and when mature produce a dandelion-like puffball of seeds which are wind dispersed.

Non-native hawkweeds exhibit many characteristics of an invasive plant: high seed production and germination rates, asexual seed production, wind-dispersed seed, vegetative reproduction via rhizomes, stolons, and root fragments, and rapid growth.[1] A few invasive hawkweed species are popular ornamentals. All of these characteristics facilitate rapid colonization and monopolizing of resources. An undetected patch of hawkweed has great potential to become an un-eradicable infestation.

Habitat:

Hawkweeds prefer well drained, coarse textured soils, moderately low in organic matter, in mesic habitats.[1]

Identification:

Stems: Are erect, branched, stiff, and, covered with numerous stellate (star-like) and glandular hairs[1], especially just below the flower heads.[2] Plants grow 40-110 cm tall.[1]

Leaves: Basal leaves are green and broadly elliptical and taper quickly to a petiole. Leaf margins are coarsely to sharply-toothed. Basal leaves persist throughout flowering. Stems have 7-10 well developed leaves with the upper leaves smaller and sessile.[1]

Flowers: Plants produce 10-25 large, yellow flower heads and the involucres are hairless.[1] Clusters of flowers occur near the tops of stems although a few flower heads may branch off farther down the stem.[2] Fruits are achenes 1.5-2.0 mm long with a dirty white pappus[3] 4-5+ mm long.[1]

Prevention:

Learning to recognize hawkweeds from the many yellow-flowered members of the Aster Family is the key to prevention. Hairs are an important characteristic of non-native hawkweeds and also in distinguishing between species. Rhizomes facilitate rapid colonization of a patch of ground. Long term management of hawkweeds requires maintaining healthy forbs and grasses - fertilization of desirable vegetation can result in out-competition of hawkweeds. Re-seed disturbance in areas susceptible to hawkweed invasion.

Control:

Grazing: Unknown. Invasive plants should never be considered as forage.

Mechanical: Mowing before flowering will prevent seed production of taller plants but will not prevent reproduction via rhizomes. Hand digging of small infestations where all

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Smooth Hawkweed (Continued)

root can be removed may be effective. Root fragments can generate new plants, therefore any mechanical tilling/cultivation would be ineffective.

Chemical: Hexazinone, 2,4-D, and glyphosate are registered for use on *Hieracium* spp./hawkweeds. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: None researched to date specifically for *Hieracium laevigatum*.

Leo_Michaels

REFERENCES

1 Wilson, Linda. Key to Identification of Invasive and Native Hawkweeds in the Pacific Northwest. British Columbia Ministry of Forests and Range, Forest Practices Branch, Invasive Alien Plant Program.

2 Smooth Hawkweed Hieracium flagellare. Whatcom County Noxious Weed Control Board.. www.co.whatcom.wa.us/publicworks/weeds. Accessed August 6, 2014.