

Assignment #1: Weed Profile

Cultural Control of American Dragonhead (*Dracocephalum parviflorum*)

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Introduction

American dragonhead is also known as false dragonhead, dragon's head, or dragonhead mint. It is a weed commonly seen in cropping systems in northern North America, but has shown some promise for agronomic production of bird seed. The plant has either a biennial or annual growth habit, and it often found in disturbance areas. It is common to see on field boundaries or around fences. In nature it is often seen as a colonizing species after a fire has taken place. The plants will produce seeds which will then become dormant until the next fire. It has been known to be a source of food for birds in winter, as the thick sturdy stems hold the seeds up above the snow layer which allows them to be eaten.

Identification

American dragonhead is an annual, biennial, or short lived perennial forb and is a member of the mint family. It has either solitary or clustered stems that arise from a taproot. It is identifiable by mainly by its leaves which are opposite, petiolate, and very coarsely toothed. Leaves have palmate venation, and leaf veins extend to the end of the leaf margins. The plant has flowers that are bluish-purple in color, and they are located in clusters at the leaf axils or at the end of branches. Once the seed house has been formed it is identifiable by the stiff spiny bracts at the base of the spike that make the head look prickly. The seeds are brownish-black and roughly 3mm long. Seeds are large, have high oil content, and can stay dormant for a very long time (Conn et al. 1990).

Adaptations

American dragonhead is mainly a colonizing species, and requires disturbance to break seed dormancy. The fact that the seeds can remain dormant for such a long time means that the plant does not have to have a parent plant in an area to colonize it. It is often seen to take over regions after a fire, or growth can be stimulated by mechanical disturbance (Mraz and Spitzova et al. 1988). A few years after the disturbance the plant has usually declined in number and importance in the community. American dragonhead can be found growing on open moist sites, gravelly soils along streams, open woodlands, or on moist wooded hillsides. In agriculture it is commonly seen along fences and berms. The range of ecological adaptation is from New York state all the way through the Midwest of the U.S. and Canada all the way up into Alaska.

Cultural Control

American dragonhead is not usually a large issue in agricultural production. This is likely due to its low competitive ability, evidenced by how it is almost completely replaced by other species about 3 years after the plant has colonized a new area after a disturbance. Thus, early seeding of a crop with a low disturbance method to lessen germination of the plant will likely be sufficient to keep the weed well under management. Veldhuizen and Knight et al. did record that after seeding plots to American dragonhead they successfully controlled any volunteers in a later planting of cereals by using a proper spring tillage rotation (2006).

Summary

American Dragonhead is generally not a weed worried about in agricultural production. It has low competitive ability, and control is easily accomplished through spring tillage and timely seeding. The plant is usually seen to be a colonizer after natural disturbances, particularly fires. The seeds are high in oil content, and are often sought after by birds as food in winter. This has led to research into possibly producing American Dragonhead in an agricultural fashion for birdseed markets.

References

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