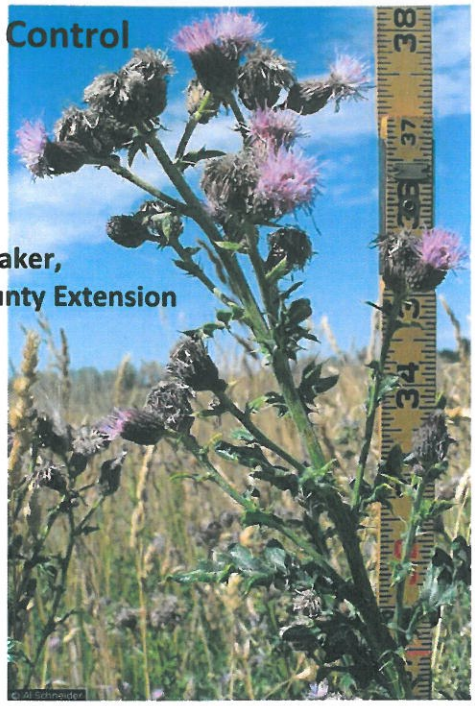
A Promising Control for Canada Thistle



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Most small and large acreage landowners in Colorado are all too familiar with Canada thistle (*Cirsium arvense*). Canada thistle is the most common noxious weed problem in Colorado. It is found in crops, pastures, rangeland, roadsides, and lawns. It is an aggressive, creeping, deep-rooted perennial plant that reproduces by seed and an extensive underground root system. It is the root system that makes Canada thistle a very difficult noxious weed to control.

The Colorado Department of Agriculture (CDA) and the USDA are researching the use of a rust fungus (*Puccinia punctiformis*) to infect the root system of Canada thistle. The rust fungus overwinters in the root system, thereby killing the plant and producing infective spores on the leaves which can spread to nearby plants, or in this case, be collected and redistributed to non-infected Canada thistle plants. The rust fungus is host specific to Canada thistle and will not affect our native thistles. The rust has been present in Colorado for decades, but because the rust spreads very slowly on its own, it has not been identified as a potential control agent.

In 1893, the rust fungus was discovered as a biological control agent for Canada thistle. The effectiveness of the rust fungus in controlling Canada thistle

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has been documented, but due to the lack of understanding of the rust fungus disease cycle, it has not been successfully used. Timing is everything in the success of collecting and distributing the rust fungus to uninfected plants. Dana Berner, a Plant Pathologist for the USDA Agricultural Research Service in Maryland, has been conducting research with the rust on Canada thistle in Maryland, New Zealand, Russia, and Greece. He reported successful control in all 13 sites and has demonstrated the fungus is a safe, effective, and economical control option for Canada thistle.

Phil Westra demonstrating the extensive root system of Canada thistle

Last year in late summer, spores of the fungus were collected from two sites with infected Canada thistle plants on the Western Slope of Colorado and redistributed to non-infected plants in September and October. Dan Bean, Director of the Biological Pest Control Program at the CDA Insectary in Palisade, Colorado, stated that once the rust enters the root system, "the plant is doomed." USDA researchers have noted that Canada thistle plants do not recover from systemic infections. These sites will be monitored by the CDA over the next couple years to determine the effectiveness of the rust fungus.

If you have a large area of Canada thistle on your property and are interested in allowing the CDA to inoculate the thistle with the rust fungus, contact Dan Bean at the CDA Insectary at 970-464-7916 or dan.bean@state.co.us. Landowners must be willing to allow the CDA to monitor the progress of the rust fungus.