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Factsheet
Conservation Reserve Enhancement Program (CREP)
Technical Assistance Series
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Managing Canada Thistle

Canada thistle (*Cirsium arvense*) is a perennial that has plagued farmers in America since European settlement, and is a Noxious Weed in Pennsylvania. It is adapted to a wide range of soil conditions, and spreads vigorously by wind-borne seeds and by way of its extensive, creeping root system.

Not Your Average Thistle

The key to Canada thistle's weediness is its root system. The roots of Canada thistle spread aggressively, and can increase the width of a thistle patch 6 to 10 feet in a season. As the root system spreads, it gives rise to new shoots. If left unchecked, a single Canada thistle plant eventually turns into a patch containing thousands of stems.

Although thistle may serve as a food source for some insects and provide seed to some bird species, it has a negative impact on wildlife habitat quality in your CREP planting. Canada thistle grows in dense patches and reduces the vigor and establishment of grassland plantings and riparian buffers that are planted to improve wildlife habitat.

The plants you are most likely to confuse Canada thistle with are other thistles. The common, weedy thistles in PA include bull thistle (*Cirsium vulgare*), musk thistle (*Carduus nutans*), and plumeless thistle (*Carduus acanthoides*). All these thistles grow erect, have spiny foliage, and bear prominent pink flowers that produce seed attached to downy 'umbrellas' that carry them on the wind, much like dandelion seed.

Figure 1. A flowering stem of Canada thistle showing flowers ranging from the pea-like bud stage to nearly ready to disperse ripened seed. The stems of Canada thistle are smooth, while the other common weedy thistles in Pennsylvania have spiny 'wings' on their stems.

Figure 2. A 'patch' of Canada thistle emerging in the spring. A patch is often one plant, with hundreds or thousands of stems arising from a shared root system.

Bull, musk, and plumeless thistles are biennials. They have a single, strongly-taprooted crown, and reproduce only by seed. You can distinguish Canada thistle from the biennial thistles because it has small flowers (less than 1 inch) and smooth stems between the leaves (Figure 1). The biennial thistles all have spiny 'wings' - tissue that looks like a continuation of the leaf - along their stems. Another distinguishing feature is that well-established Canada thistle grows in distinct patches (Figure 2) that are easily seen early in the spring as the thistle is emerging.

The typical growth pattern for Canada thistle begins with emergence of the new shoots in the first few weeks of spring. This first flush of growth enters the flower bud stage in late May to mid-June when the plants are 3 to 4 feet tall. The scaly flower heads are the size of a large pea. The heads open showing pink flowers up to 1 inch in diameter, then close after fertilization to shelter the ripening seed. When the seed is ripe, the flower opens again and releases the 'summer snow' that carries the seed away.

Canada Thistle Control Measures

To eliminate Canada thistle you must injure and exhaust its root system, and do it repeatedly. A successful control program requires multiple seasons, and multiple treatments within a season (Table 1).

A well-established groundcover, particularly a grassland

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