FC Noxious Weed Control

Best Management Practices

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Velvetleaf

Abutilon theophrasti

Family: Malvaceae

Class B-Designate Noxious Weed

Control Required

Background Information

Velvetleaf is of the Malvaceae family. It was introduced into the U. S. from Asia in the 1700's as a potential fiber crop. It never competed well with hemp, in part because of a lack of proper machinery for fiber processing. The early experimental plantings with velvetleaf became the source of velvetleaf as a weed in row crops. It is a tap-rooted summer annual growing from a stout main stem. The stem branches at the top displaying solitary yellow to orange flowers with five petals. The entire plant is covered in short, fine hairs that give the plant a velvety feel. Velvetleaf spreads by seed with each plant capable of producing up to 17,000 seeds that remain viable for 50-60 years.

Velvetleaf is on the WA State quarantine list. It is prohibited to transport, buy, sell, offer for sale, or distribute plants or plant parts, seeds in packets, blends, or wildflower mixes of this species, into or within the state of Washington. See WAC 16-752 for more detail.

Above-Velvetleaf plants can grow as tall or taller than corn.

Below– Notice the stout stem and extensive root system.

Impacts

Velvetleaf is a problem in row crops. It does very well under low light conditions and can still produce seed under a crop canopy. Root growth can exceed that of many other weeds which enables the plant to overtop corn. Velvetleaf inhibits the germination of crop seeds, possibly through the release of chemicals into the soil. Plant residue reduces the yield of soybean and corn. The long viability of the seed makes eradication difficult in areas where there is a high seed bank.

Key Identifying Traits

- Entire plant is covered in soft hairs giving the plant a velvety touch.
- 2-5 inch leaves are heart shaped and pointed at the tip, alternately arranged.
- Stout stems have a distinct odor when crushed.
- Yellow to yellow-orange 5 petal flowers in summer give way to pod-like capsules containing seeds.

Velvetleaf flower

Biology and Ecology

- Tap rooted summer annual growing from 3-8 feet tall
- Self pollinating
- Seedlings grow rapidly and emerge at various times throughout the summer.
- Mature plants produce new flowers every couple days.
- Woody pod-like capsules disperse seed at maturity through tiny slits on the outside of the capsule.
- Harbors several diseases and pests of corn, soybean and other crops.

Pod-like seed capsule

Control Measures

Prevention: Preventing a seed bank is a crucial step to keep velvetleaf from establishing. Pull up individual plants before they have a chance to seed. Prevent spread from infested fields by cleaning equipment.

Biological: None

Cultural: Crop rotation helps to prevent favorable growing conditions for this plant by changing the environment velvetleaf has exploited. Till the soil to bring seed to the surface, wait for seed germination and spray with a broadleaf herbicide. Avoid nutrient loading as velvetleaf is opportunistic. Additional nutrients will be used to extend flowering and seed production.

Mechanical: Small populations and young plants can be hand pulled. Plowing is not recommended as this promotes seed germination.

Chemical: Spot treatments of a contact herbicide such as 2,4-D, Dicamba or glyphosate applied post-emergence will control velvetleaf plants but will need to be repeated as seed germination occurs.

For this and other publications, see our website at: fcweedboard.com

Photos: WA State Noxious Weed Control Board

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