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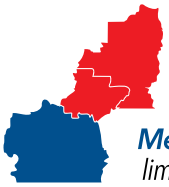
OKANAGAN INVASIVE SPECIES ONLINE

Identify, manage and report invasive species impacting agriculture



Very High Risk in North and Central Okanagan
Poses a significant threat (very high risk) and is very limited in extent.

Medium Risk / Impact in South Okanagan
limited distribution with potential to spread further.

Puncturevine

Tribulus terrestris

AKA: GOAT'S-HEAD, BULLHEAD, CALTROP, TACKWEED

DESCRIPTION

- Summer annual with a shallow taproot
- Green to reddish brown stems (0.3 – 1.5 m long)
- Normally forms dense mats but may grow upright where there is competition for light
- Leaves are 13 mm long, opposite and divided into 4-8 pairs of oval, 13 mm leaflets

Yellow flowers appear from late spring or early summer until frost, opening in the mornings only. Flowers are solitary on short stalks, each consisting of five petals, 13 mm wide. The fruit is a roughly circular, hard spiny bur with five sections that split when mature. Each bur has two spines and contains 2-5 seeds. The spines hook into humans, wild and domestic animals, tires and other surfaces, allowing for the seeds to be dispersed to new areas. Puncturevine reproduces only by seed. Without competition a single plant may produce up to 1 million seeds. Germination usually starts during spring (as early as mid-May in Osoyoos) and continues until frost. Three weeks after the plant begins to grow, flowers begin to appear. Fruits occur 1-2 weeks later.

Puncturevine

HABITAT

In British Columbia, puncturevine occurs only in the Okanagan Valley, as far north as Vernon, and in the lower Similkameen Valley. It prefers sandy or well-drained soils and readily invades disturbed ground. Puncturevine typically infests vacant lots, gravel parking areas, roadsides, unpaved trails and beaches. More recently, this invader has moved onto agricultural lands, particularly where crops border roads, in sandy headlands, between crop rows and in other locations where there is limited vegetation to compete with the puncturevine.

LOOK-A-LIKE

Common silverweed *(Potentilla anserina)* Puncturevine may be confused with this small-leaved, mat forming or low growing plant. Other examples include Prostrate knotweed *(Polygonum aviculare)* and Prostrate spurge *(Euphorbia maculata)*.

Common Silverweed

IMPACT AND RISKS

- Puncturevine is toxic to sheep
- Stiff spines on the fruit readily attach to footwear, clothing, animals, tires, machinery and supplies. They can injure the feet, hides, mouths, eyes, and digestive tracts of livestock.
- The spines can also injure people. They are especially problematic to fruit pickers working in orchards and vineyards.

Puncturevine Flower

PREVENTION AND MITIGATION

- Monitor your property regularly during the growing season to watch for puncturevine
- Reduce the amount of bare ground/ minimize soil disturbances
- Re-seed or plant disturbed soils
- Develop clear protocols for cleaning vehicles, machinery and footwear, such as check points or cleaning stations
- Placement of bins, equipment and supplies is also an essential part of reducing the spread of puncturevine. Seedpods can easily attach and be unknowingly transported from one location to another. Clearly mark locations for parking vehicles and machinery. Areas heavily infested with invasive plants should be considered "out of bounds" until measures are taken to remove or otherwise destroy the plants. Long-term control of puncturevine can be achieved by reducing the amount of seeds in the soil. Remove plants before they produce seeds and continue this practice for several years.

Puncturevine seedpod

TREATMENT AND DISPOSAL

- Hand removal or hoeing is effective for controlling small outbreaks.
- Shallow tilling (~2.5 cm deep) of young plants can be effective in larger areas. Deeper tilling is not recommended since this practice may bury seeds which will continue to germinate for several years afterwards.
- Mowing is not an effective method of control.
- Mulch applied prior to germination or when plants are small can effectively suppress outbreaks of puncturevine but it needs to be at least 7-8 cm thick. Some hand removal may additionally be required.
- Chemical control is also an option. Recent research conducted in the South Okanagan has indicated that pre-emergent herbicides including Chateau, Prism and Sandea provide season-long suppression of puncturevine. Refer to the label for crops that these herbicides can be used on. Post-emergent herbicides including Clearview and Overdrive also showed control of puncturevine throughout the growing season, but can only be applied in non-cropland sites.
- Before applying herbicides, read the label for full use and precautionary instructions. For further information on the selection and application of chemicals to protect your crop, contact AgriService BC at 1-888-221-7141 or email AgriServiceBC@gov.bc.ca.

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