

Leafy Spurge and Gravel Pits

One of the thriving non-native species introduced to North America is leafy spurge (*Euphorbia esula*). Leafy spurge is a noxious perennial weed that has rapidly spread across much of North America, especially throughout the western provinces and states. It will readily establish itself in a variety of environments, and it is quick to take advantage of disturbed sites.



Leafy spurge spreads rapidly through seed and vegetative reproduction. Each leafy spurge plant can produce about 140 seeds. Most seeds remain viable for 8 years, although some may last for up to 20 years. The roots of the leafy spurge plant can reach a depth of 26 feet (7.9m) and extend 15 feet (4.6m) across. Buds along the roots contribute to the main spread of the plant.

Gravel pits are frequent victims of leafy spurge infestations due to regular disturbances and the routine transport of gravel. They are considered to be critical priority treatment areas.

Prevention

As roads are the main arteries for spreading invasive species, spurge-infested gravel pits from which construction aggregates are excavated and hauled to build and maintain roads, it is increasingly important to effectively manage gravel pits and monitor what material comes out of them.

Trucks, loaders and other equipment used in a gravel pit infested with spurge need to be checked and cleaned before moving them to a non-infested area. The removal of overburden should be done in layers so material containing the largest amount of the seed bank is not mixed into the top layer of gravel. Ideally, it is best to avoid using aggregates obtained from a gravel pit that has spurge present.

Land Use and Reclamation

Once leafy spurge has become established, appropriate management can reduce the impact, limit further spread, and even restore impacted landscapes.

Reclamation of a gravel pit or quarry should take into consideration invasive species such as leafy spurge. Controls should be practiced around an active pit, or across the entire property if the pit is temporarily not in use. At the time of reclamation, in addition to sloping the banks of the deposit and revegetating disturbed sites with competitive plants, and during the early years of plant establishment, weed control should be part of the land management plan.

IPM

To effectively control leafy spurge, implement the right combination of Integrated Pest Management (IPM) techniques. Spray all leafy spurge in the pit area and along roads leading to and from the pit to reduce seed spread on vehicles. ***Preventing leafy spurge from setting seed in these areas is a major factor in limiting its spread.*** An aerial application of 2,4-D at 1.5 litres per acre will have a significant impact on the leafy spurge density within 1 or 2 years. Spray at optimal times to prevent seed set (early spring and early fall). If the patch is small, hand pulling and proper disposal of all plant material could be an option.

Resources

Leafy Spurge Stakeholders Group: www.brandonu.ca/rdi/leafyspurge.html

Team Leafy Spurge: www.team.ars.usda.gov/

Local Weed Supervisor and local MAFRI Office

US Center for Invasive Plant Management:

http://www.weedcenter.org/prevention/gyc_gravel_pit/06_gr_pit_min_stds.pdf

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Leafy Spurge: Identification and Prevention

Declared a noxious weed in Manitoba, leafy spurge (*Euphorbia esula* L.) is a long-lived and hardy plant introduced to North America from Europe and Asia. Without coordinated prevention and control strategies, the costs of leafy spurge will rise exponentially above the most recent estimates of \$20 million a year for Manitoba alone.

What does it look like?

Growth begins in early April, allowing the spurge to establish itself before surrounding plants begin active growth. Although leafy spurge is quite distinctive during its blooming period, the vegetative form is often overlooked enabling time for the plant to establish itself before landowners notice it.

Each plant may produce several stems, giving the spurge a shrubby appearance. Height of mature stems may vary from 16-32 inches (40-81 cm). The stems are hairless, with numerous linear-shaped, pale blue-green or green leaves. The alternating leaves are 3/4 - 3 inches (2-7.5 cm) long.

Numerous greenish yellow bracts forming a flat-topped cluster start to appear in May, about three weeks after the plant emerges. Often mistaken for the flowers, these bracts form a flat-topped umbel. The small, green and inconspicuous true flowers will emerge two weeks after the bracts. Flowering is usually complete by mid-July, and the seeds have matured and are dispersed by late July to early August. Some plants may produce flowers until frost.

Each leafy spurge plant produces approximately 140 seeds per stem. At maturity, the seed capsules will explode, hurling the seeds up to 15 feet (4.6 m) from the plant. Most leafy spurge seeds will remain viable for up to eight years, although some may survive even longer.

The root system of leafy spurge is extensive, often growing 26 feet (7.9 m) deep and 15 feet (4.6 m) across annually. Buds along the root system will create new seedlings, which is the main method leafy spurge spreads.

All parts of the plant produce sticky latex, often irritating the skin, mouth, eyes, and/or digestive tract when in contact.

Where is it found?

It is most commonly found on roadsides, trails, pastures, wet riparian areas and disturbed sites such as gravel pits and construction areas. Leafy spurge invades overstocked grazing land and under-vegetated or fragile grasslands where it has the competitive advantage.

How do you stop it?

The best defence against leafy spurge is early detection. New infestations often occur as the result of a disturbance. If you see a new infestation, contact your local weed supervisor who can provide assistance. Avoid transporting forage and straw, and soil or gravel from contaminated areas. Clean vehicles and equipment when moving them from infested areas as seed and root fragments can cause new infestations.

Need more info?

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Team Leafy Spurge: www.team.ars.usda.gov

Local Weed Supervisor

Local MAFRI office

