



Leafy Spurge (*Euphorbia esula*)

Provincial Designation: Noxious

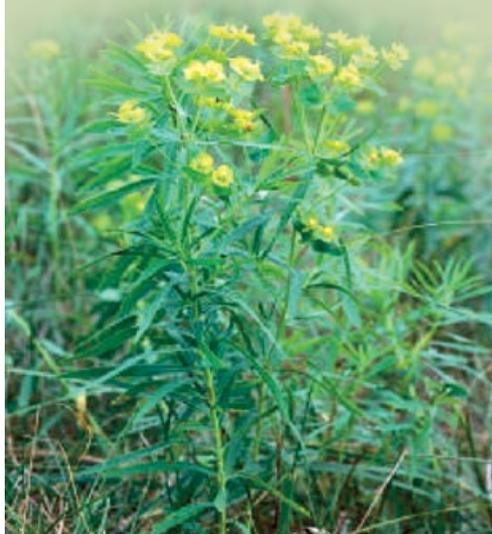
Overview:

Leafy spurge is a long-lived perennial that was introduced as either an ornamental or crop seed contaminant in the early 1800's. It reproduces primarily by re-sprouting from its extensive, persistent, creeping root system, but also by seed. Leafy spurge roots can extend 4.5 m laterally and about 9 m deep. Leafy spurge forms dense stands over times and a large plant can produce up to 130,000 seeds.

All parts of the plant contain a milky-coloured latex that can poison livestock and cause skin irritation on humans. Cypress spurge is very similar in appearance, but leafy spurge is taller, has longer leaves, and less branching in the upper part of the plant.

Habitat:

Native to much of Europe and Asia, it is adapted to a wide variety of site conditions. It grows on a range of soil types and tolerates very dry to very wet climates, but does require some warmth for good growth. Seasonal flooding of riparian infestations can distribute seed long distances.



Identification:

Stems: Stems are arranged in clumps, smooth and hairless, grow up to 1 m tall and contain a milky latex.

Leaves: Leaves are numerous and attached directly to the stem, arranged alternately or sometimes spirally. The leaves are up to 7 cm long, narrow, waxy, have smooth edges and are bluish-green in color, turning yellowish or reddish-orange in late summer.

Flowers: Flowers are small, yellowish-green, lack both petals and sepals, and are supported by 2 green, heart-shaped, leaf-like bracts, arranged in numerous small clusters.

Seed: Seeds are about 2mm, smooth, oblong, light gray to dark brown in color and grow in pods on top of the bracts. When mature the dried seed pods explode, distributing seed as far as 5 m from the parent plant.

Prevention:

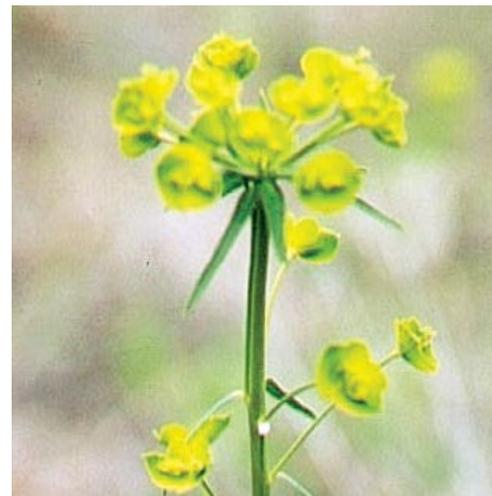
Producers should exercise caution when using hay from road ditches and when purchasing hay from known infested areas.

Use weed seed free hay, isolate animals for a week that were in an infested area so that all the seeds can go through the animals body, wash the under carriage of vehicles in a commercial area making sure all seedlings; stems; flowers; etc. are washed down the drain, and don't get soil or gravel from an area infested with leafy spurge.

Control:

Leafy spurge is extremely resilient and a combination of control methods will be necessary to achieve significant control.

Grazing: Sheep and goats will readily graze leafy spurge and are not affected by the toxic juices in the stems. The subsequent



re-sprouting will weaken the plants by diminishing root reserves. However there is the risk of seed being carried by the animals to un-infested locations.

Cultivation: There are two types of cultivation for leafy spurge; intensive throughout the growing season, and fall-only cultivation. Intensive cultivation programs should begin two to four weeks after leafy spurge emerges in the spring. Till at least four inches deep every three weeks until the soil freezes for one or two years. Fall only cultivation should be done when the re-growth of leafy spurge is three to six inches tall, and should be repeated for three years.

Mechanical: Hand-pulling and mowing is ineffective other than on small, young infestations. Wear gloves and wash after handling leafy spurge to avoid skin rashes.

Chemical:¹ A few herbicides have successfully reduced the density of infestations, but timing is critical. A combination of chemical control and seeding/fertilizing to encourage competition from desirable vegetation is the best approach. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: Five flea-beetles and 2 moths have been imported for biocontrol of leafy spurge. Flea-beetle larvae are root-feeders and adults consume shoot and leaf tips.

¹ Always follow the product labels. The use of pesticides in any manner not published on the label or registered under the *Minor Use of Pesticides* regulation constitutes an offence under both the *Federal Pest Control Products Act* and *Alberta's Environmental Protection and Enhancement Act*.