## Chemical Control


✓**Tordon 22K** (picloram) applied in **spring or fall** can provide up to 85-90% control in 1st year. Has to be reapplied every 4 years to get long-term results. Tordon 22K **cannot be sprayed near water sources**, and is not recommended to apply on sandy soils, as it is slow to break down and can leach down into the groundwater.

✓Spring application of **Tordon 22K + 2,4-D for 3 years** more economical and still effective for long-term control.

✓**Glyphosate in fall + 2,4-D in spring** can show up to 80-90% control after 1st year.

If you drive or walk through a patch of spurge, make sure you clean off your shoes and vehicles at the site to avoid spreading its seeds to other areas!

Leafy spurge infests over 5 million acres of land in the United States and the Canadian prairies! – Team Leafy Spurge

For more information on this and other invasive alien plant species, or to **report sitings** of them, please contact:

**Swift Current Creek Watershed Stewards Inc. (SCCWS)**

Phone: (306) 778-5007

Email: stewards@sccws.com

Website: http://www.sccws.com

Photo credits for this publication to: Team Leafy Spurge (http://www.team.ars.usda.gov/); Saskatchewan Watershed Authority; Steve Dewey, Utah State University, Bugwood.org; William M. Ciesla, Forest Health Management International, Bugwood.org

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Native Plant Society of Saskatchewan, Inc.

Government of Saskatchewan

# Leafy Spurge

***(Euphorbia esula)***

**Have you seen this plant?**

This plant costs producers and taxpayers an estimated $144 million per year in Montana, Wyoming, North and South Dakota alone!

– Team Leafy Spurge

USDA - APHIS - PPQ
Bozeman, MT

SWIFT CURRENT CREEK
*Watershed Stewards*

## Where is it found?

Leafy spurge is native to Eurasia, but was introduced to North America in contaminated seed. Because it is not native to our area and takes over landscapes, it is considered an invasive alien species. It generally grows in pastures, rangelands, waste areas, along roadsides, wooded areas, and riparian areas (along creek, wetlands, etc.). It can thrive anywhere from meadows to woodlands because it has a symbiotic relationship with mycorrhizal fungi that improve its nutrition in dry, nutrient-poor soils.

## Management / Control

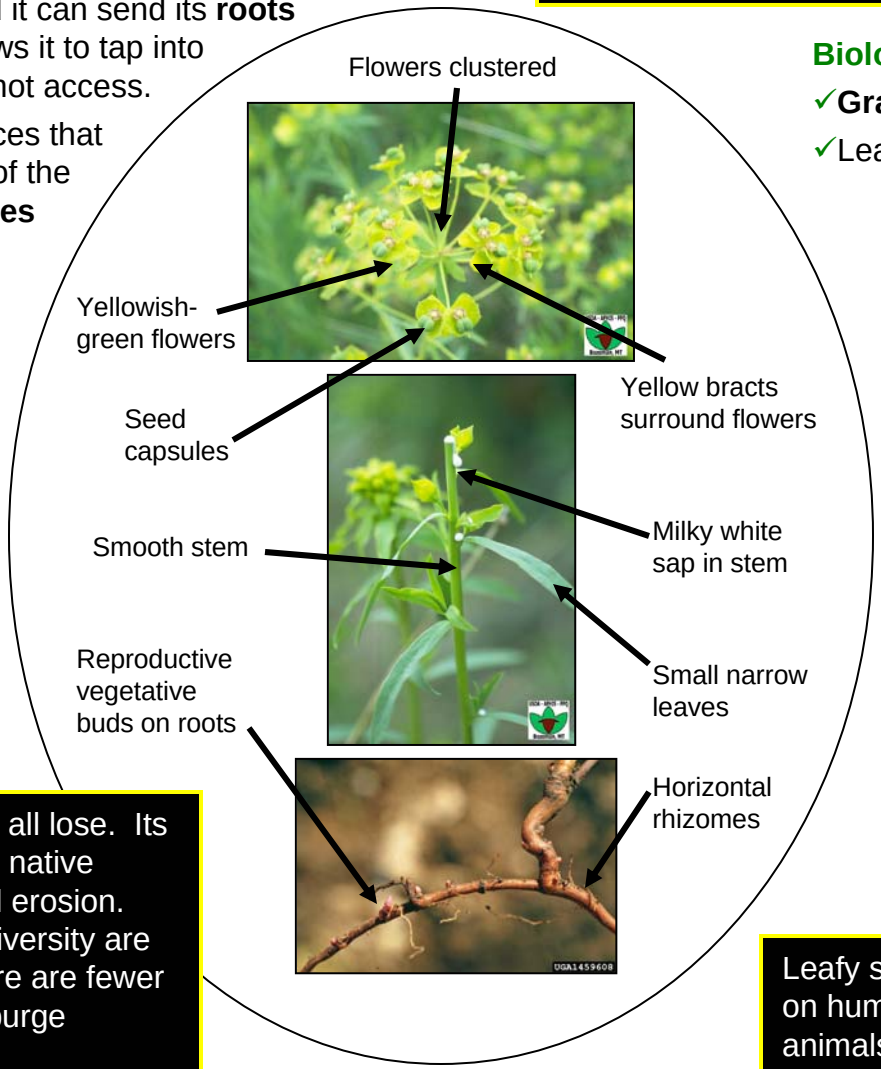
Because of its extensive root system, ability to out-compete native plants, prolific seed production, and ability to regenerate from root pieces, leafy spurge can be difficult to control, and nearly impossible to eradicate. The following are some methods that can be used to stop the expansion of leafy spurge communities and eradicate small numbers of plants. The key to the success in the battle against leafy spurge is to monitor the effects of your management techniques, adjust as necessary, plan long-term management and **NEVER** give up the fight!

## Environmental and Economic Impacts

This plant is very difficult to control and eradicate because it can regenerate from small pieces of root, and it can send its **roots down 8 m (26 ft) into the soil**! This allows it to tap into nutrients and water that other plants cannot access.

This also allows it to store a lot of resources that it can draw from to regrow when the top of the plant is stressed or removed. **Its rhizomes can also extend laterally 15 ft per year from the parent plant!**

Leafy spurge plants also reproduce by seed production. Each flowering stem can produce on average **140 seeds**, which can stay viable in the soil for up to **8 years**. When a spurge plant goes to seed the results are explosive! The seed capsules can **shoot seeds 5 m (16 ft)** from the parent plant! The seeds can also float on water, and are easily spread by humans, whether it is via mud on tires, agricultural implements, or in grain or hay transport.




## Biological Control

✓**Grazing** (sheep and possibly cattle?)

✓Leafy spurge **beetles**

Black dot beetle

Sheep grazing

## Cultural Control

✓**Mowing** reduces seed production, but also affects desirable vegetation

✓Burning only effective if done in fall prior to spring spurge beetle release to promote beetle establishment, and to make plants easier to see for selective chemical application

✓**Selective clipping** prior to seed set, but is time-consuming

✓**Frequent** tillage in cropland

When leafy spurge invades an area, we all lose. Its root system is less fibrous than those of native plants, so its presence can increase soil erosion. Rangeland productivity and overall biodiversity are reduced, and it has been found that there are fewer nests of ground-nesting birds in leafy spurge infestations than in native grasslands.

Leafy spurge's milky sap can cause rashes on human skin, and can be toxic to various animals.