

Background

Leafy spurge's homeland is the steppes of Europe and Asia. But it has lived in North America for at least 180 years. When leafy spurge invades a field or range land, it quickly crowds out native plants. Roots can grow like a huge spider web just below the surface of the ground, leaving little room for the roots of other plants. Or it can send a thick taproot deep into the earth.

Scientists have found leafy spurge taproots 20 feet long! Such roots find water in the soil that other plants can't reach. The roots store extra food for the plant. When the plant is sprayed with herbicide, pulled, mowed, or eaten by grazing animals, lots of buds that grow along the vast root system use the food to form shoots and grow new plants.

If you're standing in a patch of leafy spurge in late summer, you might hear a popping or a crackling sound. This is the plant's secret artillery. The seeds grow inside little capsules in the flowers. When they open, these capsules explode, scattering seeds up to 15 feet away from the parent plant. Inside the stems and leaves is white, milky sap. When it oozes out of a broken stem or leaf and air touches it, the sap turns sticky and thickens. Scientists aren't sure exactly how the plant uses the sap--***is it a resource of food, or how the plant gets rid of waste? Or is it a defense against animals that try to eat the plant?*** Maybe the sap serves all of those purposes.

One thing we know is that the sap can cause a rash or blisters on your skin, so it's best to wear gloves when handling leafy spurge. And be sure to wash any sap off your skin with water and soap. In fact, the sap is poisonous when eaten. Deer, elk and other wildlife won't eat leafy spurge. It can make cattle very sick or even kill them when eaten in large amounts. It doesn't seem to bother sheep and goats. Some innovative ranchers have trained sheep and goats to eat noxious weeds including leafy spurge. Leafy spurge has high nutritional value. Once sheep and goats are introduced to it, they prefer it to other forage.

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Can the spurge be contained? Students will participate in the Leafy Spurge Bonanza to answer these questions.

Levels

Grades 4-8

Subjects

Science, Art, Language Arts, Mathematics

Skills

Discussing, Analyzing, Investigating, Active Participating

Concepts

Structures, functions, behaviors, and energy needs of living things;
inquiry process; diversity of life;
interactions of living things and environments

Objectives

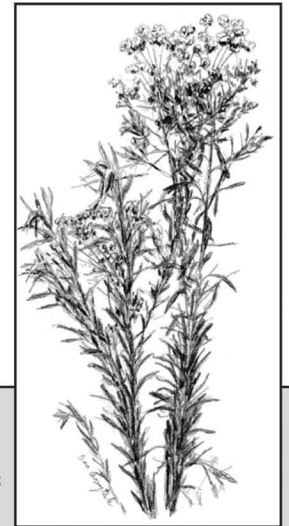
Students will understand the special seed dispersal adaptation of leafy spurge.

Students will explore the special adaptations of noxious weeds.

Students will demonstrate how the fast rate in which noxious weeds out-compete native plants compared to the slower rate of controlling the spread of noxious weeds through integrated weed management.

Leafy Spurge

This activity is directly tied to the sixth spread, pages 11 and 12, in the *What's In Your World?* publication located inside the back pocket of the activity tool kit.



Materials

(20 student class-size)

What's in Your World? booklets
(pp. 11-12) - 1 per student
flagging for boundaries
tape measure
construction paper, scissors,
glue, coloring utensils

Time Considerations

Preparation - 20 minutes
Activity - 80 minutes

Lesson Overview

- Leafy Spurge Bonanza (50 minutes)
- Create a Fantasy Plant (30 minutes)