Bull thistle
Cirsium vulgare

Life cycle. Biennial, sometimes annual.

Flowers. Purple, 1½ to 2 inches in diameter, often clustered at the ends of branches. Flowers July through September.

Description. Bull thistle forms a spiny rosette the first year; the many-branched stem is formed the second year. The leaves are deeply lobed, hairy above and cottony below. Spiny wings are formed on the stem of the prickly leaf base.

How it spreads. Seeds often are blown a long distance by wind.

The problem. Bull thistle has been present in Oregon since before 1900. It occurs along roadsides, in waste areas, meadows, and forest clearcuts. It can form dense stands in pastures that are in poor condition. Promoting the health and vigor of grasses and forage through fertilization and rotational grazing can make pastures much less susceptible to bull thistle invasion.

Distribution. Bull thistle occurs in every county in Oregon.

Canada thistle
Cirsium arvense

Life cycle. Creeping perennial.

Flowers. Light purple to white, ½ to ¾ inch in diameter, borne at the tips of the branches, often in clusters. Flowers July through August.

Description. The smooth stems are from 1 to 4 feet tall, erect and ridged. The leaves are edged with stiff, yellowish spines.

How it spreads. Mostly by extensive, branching root systems. Also by seeds.

The problem. Canada thistle differs from other true thistles in that the flowers are unisexual, with male and female flowers on separate plants. Its colony-forming nature, coupled with its deep and extensive horizontal root system, can lead to infestations of same-sex plants that do not produce seed but still are extremely invasive and persistent. It grows in a wide range of environments. Cultivation breaks up roots, which can form new plants and subsequent colonies.

Distribution. Prefers deeper, richer soils than many thistles. Canada thistle occurs in every county in Oregon.

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PROBLEM THISTLES OF OREGON

Oregon State University | Extension Service

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These thistles are native to Europe and the Middle East. Some are not true thistles; for example, purple/Iberian and yellow starthistle actually are knapweeds. All of these plants, however, share a spiny, thorny, invasive nature and long-lasting, hard seed. These traits make people who use or manage land for recreation, wildlife, or livestock very concerned. We need to act now to protect Oregon's precious agricultural and natural areas.

Bull and Canada thistles have been established in Oregon for many years. Consequently, they're widespread in the state. Others have been established long enough to become severe problems, but in limited areas. Distaff thistle has been identified in Oregon only since 1987, purple/Iberian starthistle since 1993.

Most of these thistles have a particular niche in the environment that they exploit to their advantage and at the expense of other vegetation. In North America, they don't have the great complex of insects and diseases that evolved with them overseas. Free from such pests, they are much more competitive in this country than in their native range.

Oregon is extremely vulnerable to further invasion by thistles. Several thistles are so well established in particular areas that eradication is not possible. However, much suitable habitat in Oregon is open to invasion and needs to be protected.

Thistle identification is key to planning and implementing an effective control program. **Know your enemy.** Effective control of a *perennial* thistle, such as Canada thistle, differs greatly from control of the similar-looking, but *annual*, Italian thistle. Key characteristics to look for are flower color and size and time of bloom.

Early detection and control of new infestations is essential to keep Oregon from being overrun by these and other noxious weeds.

Life cycles

The plants we discuss in this publication are classified as annuals, winter annuals, biennials, or perennials. These terms describe the normal growth habits of these weeds, but exceptions are common.

When a biennial is clipped in its second year, for example, the plant may function as a short-term perennial. Winter annuals may germinate in the spring instead of fall and act as biennials. Soil disturbance and availability of moisture and sunlight usually are the determining factors.

For assistance in identifying or controlling these or other noxious weeds, contact:

- Oregon Department of Agriculture,
  Noxious Weed Control Program
  635 Capitol St. N.E., Salem, OR 97301
  Phone: 503-986-4621
  Web: oregon.gov/ODA/PLANT/WEEDS
- Your local Oregon State University Extension Service office
- Your county weed program supervisor

Report new suspect invasions by calling the Invasive Species Hotline: **1-866-INVADER.**

Yellow starthistle *Centaurea solstitialis*

Life cycle. Annual that germinates in fall, winter, or spring, depending on soil disturbances and moisture availability.

Flowers. Bright yellow, ½ to ¾ inch in diameter, usually occurring singly at the top of each branch. Blooms July through October.

Description. Actually a knapweed; the spines on yellow starthistle are straw-colored, about ¾ inch long, and are around the blooms. The rest of the plant is covered with short, cottonlike hairs that give the foliage a characteristic grayish-green appearance. Leaves sometimes extend down the stem, giving a "winged" or flattened appearance.

How it spreads. Rapidly by seeds, as many as 150,000 from a single large plant.

The problem. Yellow starthistle grows in a wide range of environments. It favors dry range and pastures, where its sharp spines discourage livestock grazing. Feeding on this plant can cause susceptible horses to develop a nervous system disorder called "chewing disease," which usually results in death because the horse is unable to eat or drink.

Distribution. Major infestations occur in Jackson, Josephine, Douglas, Baker, and Wheeler counties, with sizable infestations present in Umatilla County. Smaller infestations occur in Wasco, Sherman, Morrow, and Gilliam counties. Major infestations also occur in California.

PROBLEM THISTLES OF OREGON

Italian thistle
Carduus pycnocephalus

Slenderflower thistle
Carduus tenuiflorus

Life cycle. Winter annual or sometimes biennial.

Flowers. Purple, numerous, ½ to ¾ inch in diameter, usually clustered at the ends of the branches. The earliest flowering thistle, it blooms from April through June, dying by July.

Description. Two similar species, growing from 1 to 6 feet tall at maturity. Italian thistle has white spots on the leaves and fewer blooms per cluster than slenderflower thistle. Leaves are deeply lobed, often woolly on the underside; the leaf margin continues down the stem to form winged stems.

How they spread. Rapidly by seeds, which remain viable in the soil for as long as 7 years.

The problem. These thistles are extremely competitive in a hillside pasture environment. In spring, they form dense stands, which severely limit grazing and restrict sighting and gathering of sheep and cattle. They also infest roadsides, natural clearings, clearcuts, industrial sites, and waste areas.

Distribution. Major infestations occur in Douglas County and to a lesser extent in Coos and Curry counties. Linn, Lane, Yamhill, and Marion counties have limited infestations.

Milk thistle
Silybum marianum

Life cycle. Winter annual or sometimes biennial.

Flowers. Red to purple (occasionally white), 1½ to 3 inches in diameter. Single blooms are surrounded by inch-long spines at the top of each branch. Blooms April to June, dying by July.

Description. Milk thistle germinates in the fall; during the winter it produces rosettes up to 5 feet in diameter. The leaves are shiny green with distinct white marbling along the veins. Mature plants grow 7 to 10 feet tall.

How it spreads. Rapidly by seeds.

The problem. Milk thistle infests roadsides, waste areas, and grazing lands. It commonly occurs in association with Italian thistle in hillside pastures. Once established, it spreads rapidly. Individual plants are so large that forage displacement is high; in dense stands, livestock can be excluded entirely.

Distribution. Douglas, Coos, and Curry counties have extensive infestations. Scattered smaller infestations are found in Jackson County and the Willamette Valley.

Purple starthistle
Centaurea calcitrapa

Iberian starthistle
Centaurea iberica

Life cycle. Biennial. Also can act as an annual or short-lived perennial. Seeds germinate in both spring and fall. At a control site in Clackamas County, Oregon, it has been behaving as an annual, germinating in the fall and/or spring and setting flower during the course of the season.

Flowers. Numerous, ¾ to 1 inch long. Flower color varies from lavender to deep purple. Marginal flowers are not enlarged. The bracts of the flower head are tipped with a stout, rigid, straw-colored spine about 1 inch long with one to three pairs of lateral prickles near its base. Blooms June through September.

Description. Purple and Iberian starthistle are very similar in appearance. The seeds are the distinguishing feature; purple starthistle seeds are plumeless, while those of Iberian starthistle are plumed. Rosettes of the plant are deeply lobed with light-colored midribs. Light straw-colored spines develop in the center of the rosette. Mature plants are from 1 to 4 feet tall with a stout taproot.

How it spreads. Rapidly by seeds.

The problem. Purple and Iberian starthistle seem to have the ability to adapt to a variety of climatic conditions. They are extremely competitive along roadsides and in low-rainfall range situations as well as in higher rainfall pastures,

where they displace valuable forage species. The sharp spines also deter animals and people and can cause problems in recreational areas.

Distribution. The only documented site of purple and Iberian starthistle in Oregon is in Clackamas County and is under intensive management. Small infestations in Sherman and Jackson counties are believed to have been eradicated. Infestations in northern California continue to threaten Oregon.

Scotch thistle
Onopordum acanthium

Life cycle. Biennial.

Flowers. Red to purple, numerous, 1 to 2 inches in diameter. Short spines are on the tips of each bract at the base of the head. Blooms mid-July through August.

Description. The plant forms a rosette the first year and a single main stem up to 12 feet tall in the second year. The stems have broad, spiny wings. The leaves have sharp, yellow spines on the edges.

How it spreads. By seeds.

The problem. Scotch thistle is competitive with desirable plants and forms dense stands that limit grazing by livestock. It's common along roadsides, in waste areas, and on rangeland.

Distribution. Extensive infestations occur in Malheur County. It also is common in Gilliam, Umatilla, Grant, Morrow, and Klamath counties. Scattered small infestations occur in Douglas, Jackson, Jefferson, and Wasco counties.

Distaff thistle
Carthamus lanatus

Life cycle. Winter annual or sometimes biennial.

Flowers. Yellow, 1 to 2 inches in diameter, at the end of each branch. Blooms late June through September.

Description. Distaff thistle germinates in the fall to form rosettes with dark green leaves. In the spring, the stem emerges from the rosette to form a rigid, spiny plant covered with hairs on stems and especially on flowers, giving a woolly appearance. Stems reach a height of 2 to 4 feet. Stems are unbranched on the lower one-third of the plant and very branched on the upper two-thirds.

How it spreads. By seeds.

The problem. Distaff thistle is adapted to a wide variety of range and pasture conditions. Its rigid and spiny nature can exclude livestock or wildlife foraging even after the plants mature and die.

Oregon is attempting to contain and control all infestations of distaff thistle. If you see this plant, take a small sample in a sealed container to your local weed control representative or Extension agent for identification.

Distribution. First detected in Oregon in 1987, distaff thistle is established in a few areas in Douglas County and on one site each in Curry and Josephine counties. Major infestations occur in California.

Musk thistle
Carduus nutans

Life cycle. Biennial.

Flowers. Purple, 1½ to 3 inches in diameter, one per stem, and usually nodding. Blooms June through August.

Description. Forms a spiny rosette the first year and upright stems, usually 3 to 6 feet tall, in the second year. Spiny wings are formed on stems by a continuation down the stem of the prickly leaf base.

How it spreads. By seeds.

The problem. Musk thistle is an aggressive plant that spreads rapidly to form dense stands, often displacing desirable plants. It infests pasture, range, and timber lands as well as roadsides, waste areas, and ditch banks.

Distribution. Sizable infestations occur in Klamath, Lake, Malheur, and Umatilla counties.

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Prepared by *Ken French,* IWM specialist, Oregon Department of Agriculture, Noxious Weed Control Program; *Larry C. Burrill,* Extension weed specialist emeritus, Oregon State University; and *Tim V. Butler,* field operations manager, Oregon Department of Agriculture, Noxious Weed Control Program.