

SPECIES FACT SHEET

Poaceae (Grass family)

Quackgrass

Elymus repens

At a Glance

- Perennial, rhizomatous, grass
- Stems are green to whitish, erect or decumbent (lying on the ground), and up to 3 ft (90 cm) tall
- Leaf blades 0.2-0.5 inches (0.5-1.3 cm) wide, flat, and pointed
- Leaf blades have sparse hairs above
- Spikelets occur in two long rows, flat-wise to the stem
- Distinguished by rhizomes that are pale yellow or straw-colored, with a tough brownish sheath at each joint
- Exotic

Habitat and Ecology

Quackgrass is native to Europe, northern Africa, and temperate Asia to India, and was introduced to the U.S. as a contaminant in hay or straw (U.S. Forest Service 2005). The plant is now widely distributed across North America and the U.S. (see Figure 1), with some authors reporting its occurrence in every state (Batcher 2002). Quackgrass is found mainly in areas with moderate to high levels of nutrients, such as agricultural fields, lightly grazed pastures,



Quackgrass

PHOTO: ELIZABETH BELLA, BUGWOOD

and waste places. It is early successional and invades areas such as gardens and yards, roadsides, and ditches. It is also found in mixed-grass prairies and open woodlands. Quackgrass grows best in soils with a pH of 6.5-8.0, but it tolerates a variety of soil types. It does not tolerate shading (Batcher 2002). The plant is highly competitive due to its ability to maintain high growth rates during cool times of the year, its vigorous vegetative reproduction, and its production of allelopathic toxins (Werner and Rioux 1977).

Description

Quackgrass is a cool-season, perennial grass that spreads by both seeds and rhizomes, with vegetative reproduction being more important. The species can be distinguished by its rhizomes, which are pale yellow or straw-colored and have a tough brownish sheath at each joint (giving it a scaly appearance). Rhizomes can extend more than 2 feet (60 cm) horizontally from the main shoot before producing aerial stems, and they may grow down into the soil 8 inches (20 cm). Erect stems may be as tall as 12-40 inches (~30-100 cm), while the more common decumbent stems are typically only 0.2 to 0.8 inches (0.5 to 2.0 cm) tall. Stems are green to whitish in color, and leaf blades are green.

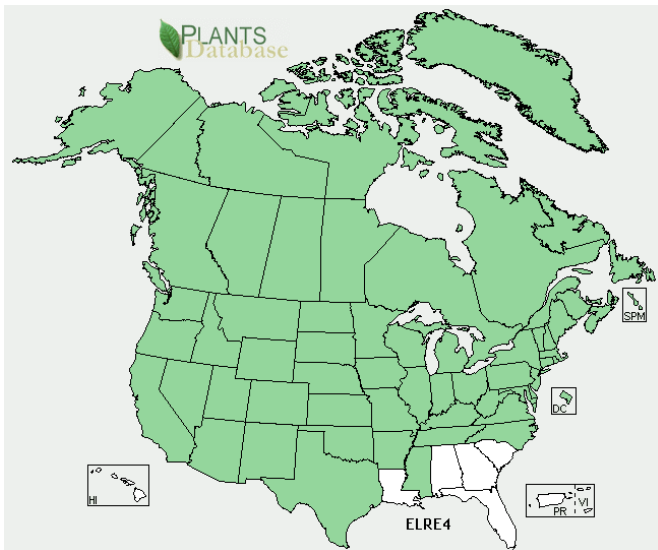


Figure 1. Distribution map courtesy of USDA Plants Database
<http://plants.usda.gov/index.html>.

Leaves

Leaves are 6 to 15.7 inches (15-40 cm) long and most often have a pair of auricles (ear-like lobes) at the base (U.S. Forest Service 2005). Leaf blades 0.2-0.5 inches (0.5-1.3 cm) wide, flat, and pointed. They have sparse hairs above and no hairs below. Blades are green in color and occasionally slightly glaucous (having a whitish or bluish waxy coating) (Batcher 2002).

Flowers and Seeds

Quackgrass flowers from June through August, depending on local conditions. The erect spikes are 3.1 to 6.6 inches (8-17 cm) long. [Spikes are unbranched inflorescences with stalkless flowers along a long axis]. Spikelets (units of structure of the inflorescence) are 0.4 to 1.1 inches (10-28 mm) long and have 3 to 8 flowers that separate below the glumes (bracts or leaf-like structures at the bases of spikelets). Glumes are half as long as the spikelet, have 5 to 7 veins, and are lanceolate (Batcher 2002).

About 25 to 40 seeds are produced per plant, but up to 400 seeds per stem are possible (Batcher 2002). Seeds are elliptical in shape and pale yellow to brown in color. They may remain dormant in the soil for 2 to 3 years.

Similar Species

Quackgrass's rhizomes, being pale yellow or straw-colored and having a tough brownish sheath at each joint, distinguish it from many other grasses (Batcher 2002).



Flowers



Fruits

Ethnobotany and Historic Use

Hybrid crosses of Quackgrass and other species have been planted for livestock, and the plant has been used to stabilize steep slopes and sandy soil areas (Batcher 2002). It has also been used to reclaim nutrients from sewage effluent sprayed on fields (Werner and Rioux 1977).

Etymology

The term “repens” means creeping, and refers to the plant’s rhizomes.