



Distaff Thistle

Carthamus lanatus

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Distaff thistle is sometimes called wooly distaff thistle, and in Australia it is Saffron thistle. It is native to the Mediterranean region of Europe and central Europe. It is a serious problem in parts of California and is a major weed problem throughout Australia. In the Pacific Northwest, it is known to occur only in scattered locations in Douglas County in southwest Oregon. It likely arrived there on livestock from California. Distaff thistle is a Class A noxious weed in Oregon, which means that plants must be controlled.

Distaff thistle may be a greater threat to pastures, rangeland, and winter crops than other annual thistles found in the Pacific Northwest. It remains upright and more rigid after maturity and throughout the winter than most other thistles. In Australia, distaff thistle is one of the most widespread and troublesome weeds in cereal-growing areas, which indicates that it could invade winter wheat fields in the Pacific Northwest.

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Identification

Distaff thistle is an erect plant that grows up to 4 feet tall. The stem is unbranched on the lower third and extensively branched on the upper two-thirds. Stems are rigid, ribbed, white or pale green, usually with minute hairs, but some plants are wooly. Stems do not have the wings that are prominent on Italian and slender flower thistles. Rosette leaves are deeply divided with each lobe ending in a short spine. Stem leaves are rigid, also deeply divided, with lobes



Figure 1. —Distaff thistle seedlings are most sensitive to herbicides and to competition from more desirable plants.



Figure 2. —Yellow flower petals with thin, red veins distinguish distaff from other thistles.



Figure 3. —The mature distaff thistle plant loses some of its green color late in the summer but remains upright and stiff through the winter.

ending in short spines, prominently veined, with bases that clasp the stem.

Flower heads are solitary, 1 to 2 inches in diameter, surrounded by rigid bracts with sharp spines. Flower petals are yellow with red veins, which separates distaff thistle from all thistles common to the Pacific Northwest.

Flowers bloom from late spring through the summer. Seeds are $\frac{1}{4}$ inch long, prominently smooth-ribbed and grey-brown. They have terminal bristles varying in length from insignificant scales to more than $\frac{1}{4}$ inch. Roots are simple, unbranched taproots with numerous fibrous secondary roots.

Biology and Ecology

Distaff thistle is a winter annual with seeds that germinate when moisture becomes available in autumn and early winter. Compared with other annuals, there is little germination of distaff thistle after midwinter. Flat rosettes are formed during winter and stay in this stage until late spring when a flowering stem develops, and the rosette leaves die.

By the time it produces flowers, the whole plant is so rigid and spiny that grazing animals and wildlife avoid it. Distaff thistle with spiny leaves and flower bracts can injure grazing animals. Particularly vulnerable are the eyes and mouths of animals forced to graze dense patches of the plant.

Because the seeds are heavy, most fall near the parent plant and form dense patches that compete with other plants and are not easily penetrated by animals. Some seeds remain on the plant all year, making them

available to be spread by animals and equipment. Most seeds germinate in the first 2 years, but some survive up to 8 years. Distaff thistle grows best in areas with 16- to 24-inch rainfall and does equally well on heavy or light soils.

Control

Production and spread of seeds must be halted. Isolated plants should be killed with a herbicide or cut just below the soil and removed from the field. Mowing is effective if done just prior to flower-bud formation. If mowed too early, the plants regrow from the base and produce new flower stems. If left until flowering, there may be enough food material in the cut stems to allow the seeds to mature.

Heavy grazing of a pasture encourages distaff thistle because the leaves of the flat and spiny rosettes are difficult to graze. Most other plants are grazed first, leaving distaff thistle with little competition.

Invasion by distaff thistle is most likely in areas where the

soil has been disturbed or the pasture weakened by overgrazing. Distaff thistle does not readily invade well-managed perennial pastures but quickly becomes established in any cropping system that leaves small sites between plants unoccupied in fall and early winters.

Several common broadleaf herbicides control distaff thistle when applied to seedlings or rosettes. Control is more difficult as plants mature. Any control programs must include the establishment and care of a vigorous crop to resist further invasion by distaff thistle.

Since herbicide registrations change frequently, resulting in more or fewer available herbicides and changes in permissible herbicide practices, this publication doesn't make specific herbicide recommendations.

For current recommendations, refer to the *Pacific Northwest Weed Control Handbook*, published and revised annually by the Extension Services of Oregon State University, Washington State University, and the University of Idaho.

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