



# Western Brackenfern

*Pteridium aquilinum* L. Kuhn Var. *pubescens* Undw.

J.P. Fitzsimmons and L.C. Burrill

**B**rackenfern (*Pteridium aquilinum*) is a native plant common throughout the Pacific Northwest under a variety of growing conditions. It survives in the sun or partial shade, in deep, rich soils, heavy clay, or hard packed gravelly soil.

Preferred conditions are in hill land and mountain canyons with deep, rich soils and low humidity. Under these conditions, the plants may reach their maximum height. Brackenfern is one of the first plants to colonize logged or burned sites and is not classified as noxious in Idaho, Oregon, or Washington.

The inrolled leaves or fronds of young brackenfern are often found on lists of edible wild plants. Now, however, the young plants are suspected of having the potential to cause cancer when eaten. As the plants mature, they become poisonous to livestock and humans.

## IDENTIFICATION

Brackenfern is a perennial plant, growing from hairy, creeping rhizomes. Leaves (fronds) are broadly triangular in outline, reaching 6 feet in height. The leaves are doubly compound at the bottom,

becoming rounded at the tips. Leaf stalks are shiny yellow with a brown, velvety base.

Plants spread by rhizomes and spores that are produced on the underside of the leaf margins. Spores are brown and protected by inrolled leaf margins and are produced late in the growing season. Plants turn brown and die back in the autumn. Brackenfern is a member of the fern family, *Polypodiaceae*, or more recently, *Dennstaedtiaceae*.

## TOXICITY

Brackenfern affects most types of livestock. Symptoms develop long after the animal first ingests the plants. Thiaminase is present in either fresh or dried plants and in the rhizomes. Thiaminase (an



Figure 2.—Mature Western brackenfern plant.

enzyme that breaks down thiamine, a B complex vitamin) is toxic to horses and pigs. Feeding experiments have established repeatedly that a large amount of bracken is required to produce symptoms. Typically, a diet of hay containing more than 20 percent brackenfern produces symptoms in about 1 month.

Cattle and sheep are resistant to thiaminase toxicity because bacteria in the rumen usually produce sufficient amounts of



Figure 1.—This young frond has just started to unroll.

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thiamine. Brackenfern poisoning in cattle from unknown toxins can follow ingestion of large amounts of green or dried fronds over an extended period. The symptoms are sudden, brief, and usually fatal. Sheep poisoning with bracken has not been reported.

If ample forage is available, livestock usually avoid eating brackenfern. Animals accustomed to grazing among these plants usually avoid them or may develop an immunity to the toxin. If livestock are introduced into an area with brackenfern, high amounts may be eaten, especially if other forage is not available.

## CONTROL

Clean cultivation prevents establishment or eventually kills the rootstock.

Brackenfern rarely is a problem in fields receiving periodic cultivation. In recently cleared or burned areas, deep plowing, followed by harrowing, and seeding to a perennial

grass is recommended. Pile and burn the rootstock removed by harrowing to eliminate sprouting. Mowing reduces spore production, helping prevent their spread, and allows more light to reach the grass. Brackenfern is less aggressive in established vegetation. Manage pastures infested with brackenfern for maximum growth and survival of desirable forage species to compete with brackenfern.

Herbicide registrations change frequently; therefore, this publication does not contain specific herbicide use instructions. Registered uses are summarized each year in the *Pacific Northwest Weed Control Handbook*.

In addition, detailed instructions for herbicide use are provided on herbicide container labels and in other literature provided by herbicide manufacturers.

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## USE PESTICIDES SAFELY!

- **Wear** protective clothing and safety devices as recommended on the label. **Bathe or shower** after each use.
  - **Read** the pesticide label—even if you've used the pesticide before. **Follow closely** the instructions on the label (and any other directions you have).
  - **Be cautious** when you apply pesticides. **Know** your legal responsibility as a pesticide applicator. You may be liable for injury or damage resulting from pesticide use.
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