

# Alfalfa

*Medicago sativa* (Leguminosae)

## Fast Facts:

Acres in WA: entire crop irrigated: 320,250 part of crop irrigated: 13,755 irrigated 17,045 not irrigated none of crop irrigated: 97,538
Average yield per acre: entire crop irrigated: 6.1 tons part of crop irrigated: 2.5 tons none of crop irrigated: 1.7 tons
Number of Growers in WA: entire crop irrigated: 2,576 part of crop irrigated: 246 none of crop irrigated: 1,472
Per Acre Value for WA: \$148 per ton of hay baled in 2008 \$799,000 per harvested acres
Value of Production in WA: \$351,648,000
WA Percent of U.S. Production: 3% (Est.)
U.S. acre percentage: 2.1%
*Statistics Provided by the Washington Agriculture Statistics Service (NASS).

*Hay is the 5<sup>th</sup> most valuable commodity in the state*

## Description of crop:

Alfalfa is a perennial, leguminous plant that is a significant source of roughage and protein for ruminants. Alfalfa is a cross-pollinated species that relies mainly on bees for pollination. Wind pollination does not occur due to the flower structure of the plant. Alfalfa grows best on well-drained loam or sandy loam soils with a pH of 6.5-8.5. Since it does not tolerate extended periods of flooding, proper irrigation is essential to establishing a healthy stand of alfalfa. The forage quality for alfalfa differs for dairy, feeder and export alfalfa. Harvest usually depends on the nutritional quality desired in the hay. High quality dairy hay brings the highest price in Washington and is defined by its feeding value. High quality hay is harvested during the late bud stage of growth before there is any sign of bloom. It can generally be harvested around every 30 days starting in May and continuing thru September and October. Alfalfa for the horse market tolerates a lower protein and fiber content so harvest can be delayed to 35-37 day intervals. In the southern areas, 4-5 harvests are possible while in the north 3-4 harvests are the norm. Most of the alfalfa grown is harvested as dry hay and baled however a small portion is green-chopped and ensiled. When the hay is cut it is placed in windrows to dry and eventually baled. Baling occurs when the appropriate moisture levels for specific sized bales are achieved. Drying to the appropriate

moisture level will keep both the leaves and stems attached during the pressure of baling. Here in Washington, the principle market for alfalfa is dairy cows but about 20 percent is shipped overseas to Asian markets. In export hay, the aesthetic characteristic of the hay is its most important feature.

Alfalfa is an important rotation crop for potatoes and other crops in the Washington. A very common rotation is to plant alfalfa for 3 years, then plant potatoes, followed by a grain crop such as field corn, sweet corn or wheat. This rotation provides growers with management options for soil diseases such as verticillium and weeds, prevents the buildup of nematodes and disrupts lifecycles of insects and insect vectored diseases such as viruses.

**Key pests:**

Weeds are the primary pests in alfalfa since they can serve as hosts for insects, disease and nematode pests. Quackgrass, cheatgrass, groundsel, lambsquarter, and dodder will often compete with alfalfa for nutrients and can damage the marketability of the hay. If not controlled, weeds can reduce a crop value by up to 50 percent. If noxious weeds are present in export hay it will not be exported. Weeds are primarily a pest in alfalfa during establishment and in fields older than 3 years. Many weeds can be controlled by repeated field mowing. Other pests in alfalfa are insects that can reduce harvests either directly through feeding or indirectly by creating opportunities for secondary pests. Most insect pests are worse after a mild winter. The major insect pests are the alfalfa weevil and aphids. Alfalfa weevil overwinters as an adult next to alfalfa fields and becomes active in the spring when temperatures are 60 degrees or above. In Washington, there are four aphids that are key pests: the pea aphid, blue alfalfa seed aphid, spotted aphid, and cowpea aphid. They damage the alfalfa by sucking the juices from the plant, eventually creating stunting and yield loss. Aphids can also inject varying levels of toxins while they feed. Alfalfa can also be susceptible to a range of bacterial, fungal and viral diseases. The most common and damaging diseases are root and crown rot. It is usually caused by Phytophthora and is at its worst under flood irrigation on poorly drained soil. It affects mainly the root but other plant parts will show symptoms. Damping off (Pythium) is another disease that affects alfalfa causing wilting and the death of seedlings.

**Key pesticides:**

Most weeds can be controlled with Buctril or Raptor. The alfalfa weevil can be controlled with pyrethroid insecticides and malathion. Both the pea and blue alfalfa aphid can be controlled with dimethoate. The spotted aphid can be controlled using permethrin (Ambush or Pounce). There are no chemical controls or resistant varieties for root and crown rot. It is best to avoid over-irrigation. Damping off can be treated with Apron XL. A small amount of Roundup Ready alfalfa has been planted in Washington. For these acres, Roundup (glyphosate) is the only herbicide used.

**Critical pest  
control issues:**

Ninety percent of commercial alfalfa seed is treated with a fungicide. Growers can control weeds by pre-germinating weeds and then using tillage during the final stage of seedbed preparation. Most Washington growers also practice crop rotation to help in the control of weeds. Managing weeds, brush and other vegetation near alfalfa fields will help reduce overwintering habitats. Using resistant cultivars can help keep disease under control. Also soil and water management are key tools growers can utilize to maintain healthy plants. There are numerous pesticides registered for alfalfa and most pests of alfalfa are easily controlled.

**Expert contacts:** John Kugler (retired)  
WSU Cooperative Extension  
PO box 37, 35 C ST NW  
Ephrata, WA 98823  
509 754 2011

Doug Walsh  
WSU Cooperative Extension  
24106 N Bunn Rd  
Prosser, WA 99350  
509 786 9287

**Location**

**of production:** alfalfa is grown in every county in Washington.

**Pictures:**





Alfalfa

## Alfalfa Production in Washington State



■ Area of Alfalfa Production