

WHEAT FACTS

2011-12

presented by Washington Grain Commission

Wheat for good health, good life

In every corner of the world, wheat is good food and a delicious part of healthy eating, low in fat and high in complex carbohydrates that fuel our bodies with long-lasting energy. Besides dietary fiber, wheat is packed with four B vitamins, calcium, iron, and minerals, antioxidants and phytonutrients.

Lasagne to licorice, crispy flatbreads to flaky pastries, versatile wheat lends texture and flavor to most of the world's favorite foods. All parts of the wheat kernel, from the outer bran to the inner germ, supply nutritious ingredients in a diverse variety of breads, cakes, cereals and pasta.

Washington wheat helps feed the US and the world

About half of the US wheat crop is exported, with 85 to 90 percent of Washington's wheat crop purchased by overseas buyers. The US ranks fifth among the world's wheat producing countries.

Top Ten Wheat-Producing Countries 2010/11

Rank	MMT
1	EU 137.5
2	China 117.0
3	India 85.9
4	Russia 56.0
5	US 54.4
6	Australia 26.0
7	Canada 24.2
8	Pakistan 24.0
9	Ukraine 22.0
10	Kazakhstan 21.0

Top Ten US Wheat Export Markets

Rank	MMT
1	Egypt 4.02
2	Nigeria 3.64
3	Japan 3.27
4	Mexico 2.60
5	Philippines 1.80
6	South Korea 1.64
7	Iraq 1.07
8	Peru 0.92
9	Taiwan 0.91
10	Colombia 0.78



Wheat has a long history

Wheat has been a food staple for over 12,000 years, originating in the Fertile Crescent of ancient Mesopotamia—lands encompassing modern-day Turkey, Lebanon, Israel, Syria, Jordan and Iraq. Wheat was first grown in the US in 1602 as a hobby crop.



The first Northwest wheat crop was planted in 1825 at Fort Vancouver, Washington. Today, the Northwest produces 91 percent of US white wheat. Washington's Whitman County has been the nation's top wheat producer every year since 1978.



Washington Wheat Has Class

Winter and Spring **Winter wheat** (74% of total wheat acres grown in 2011) is planted in the fall and harvested the following summer. **Spring wheat** (26% of total) is planted in the spring and harvested in mid-summer to early fall. Winter varieties of all wheat usually yield more grain than spring varieties.

Red and White The **color of the bran coat** is an indication of the wheat class and gives milled flour its flavor and tint. White wheat tends to be slightly sweeter than red wheat.

Hard and Soft The terms “**hard**” and “**soft**” refer to the density of the wheat kernel. High protein is desirable in hard wheat, while lower protein is ideal in soft wheat.



Hard Red
Uses: Yeast breads, hard rolls, bagels

Hard red wheat is available in both winter and spring varieties. Red wheats are typically purchased based on protein levels.

2011 Red Wheat Acres—519,950
 Hard Red Spring (HRS)..... 306,150
 Hard Red Winter (HRW)..... 213,200



Hard White
Uses: Blended flours, Asian noodles, steambreads, panbreads
 Hard white wheat is the newest class of wheat grown in the US. Approximately 23,150 acres were planted in Washington in 2011.

Hard white wheat has medium to high protein content, and characteristics like a hard endosperm and white bran.



Durum
Uses: Pasta
 Durum is the hardest of all wheats. It has a yellow endosperm, high protein and high gluten strength, making it the wheat of choice for pasta products.

2010/11 Top Ten HRW Markets

Rank	Country	MMT
1	Nigeria	2.90
2	Egypt	2.60
3	Mexico	1.50
4	Iraq	0.93
5	Japan	0.82
6	Peru	0.82
7	Turkey	0.52
8	South Africa	0.51
9	Israel	0.44
10	Jordan	0.40

2010/11 Top Ten HRS Markets

Rank	Country	MMT
1	Japan	1.61
2	Philippines	0.94
3	Taiwan	0.68
4	Canada	0.57
5	South Korea	0.44
6	Turkey	0.38
7	Mexico	0.37
8	Italy	0.28
9	Colombia	0.26
10	Spain	0.25

Hard Red Wheat Aid

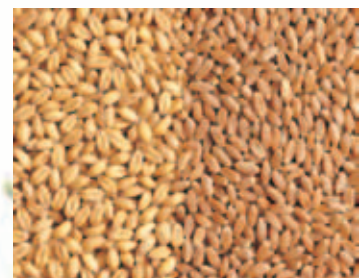
The US donated 527,600 tons of wheat to 82 countries in the marketing year 2010/11 for food and humanitarian assistance.

Hard red winter wheat comprised the majority of donations at 69 percent, with white wheat coming in second at 21 percent.

Washington Wheat by Class 2011

Class	Percent by Acres Planted
Common White	67.5%
Hard Red Spring	12.7%
White Club	10.0%
Hard Red Winter	8.8%
Hard White	1.0%

Soft White Hard Red



Sweet Wheat



Soft White

Uses: Pastries, pancakes, cakes, cookies, crackers, flatbreads, cereals

The Northwest is the principal white wheat-producing area in the United States, and a major supplier for both national and international markets. In 2011, **soft white wheat accounted for 77 percent**



Common

Common white wheat made up 68% of total planted acres in 2011.



Club

84% of US club wheat is grown in Washington, and comprised 10% of total planted acres in 2011.

of total wheat production in Washington state. **More than 41 percent of all US white wheat comes from Washington.** Winter and spring varieties of both common and club wheat are grown.

Pacific Northwest Soft White—contains soft white wheat from Washington, Oregon and Idaho. **The three states together produced 91 percent of total US soft white wheat in 2011.**

Western White—contains common white and not less than 10 percent club wheat, blended into a unique marketing class **available only from the Pacific Northwest.** Asia is the largest importer of Western White wheat.

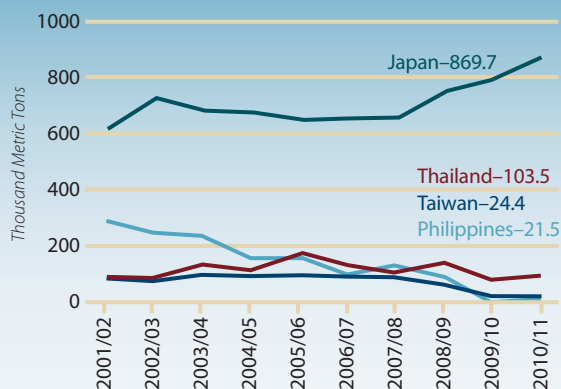
US White Wheat Exports 2010/11

	2007/08	2008/09	2009/10	2010/11
Asia.....	77%	85%	76%	70%
Egypt.....	1%	0%	0%	11%
Yemen.....	17%	12%	13%	10%
W Hemisphere.....	4%	2%	8%	7%
Other.....	1%	1%	3%	2%

US White Wheat Top Markets 2010/11

	Thousand Metric Tons
Philippines.....	841.6
Japan.....	826.8
South Korea.....	818.5
Egypt.....	515.4
Yemen.....	500.4
Indonesia.....	234.2
Thailand.....	147.4
Chile.....	124.3
Taiwan.....	108.4
Nigeria.....	103.7

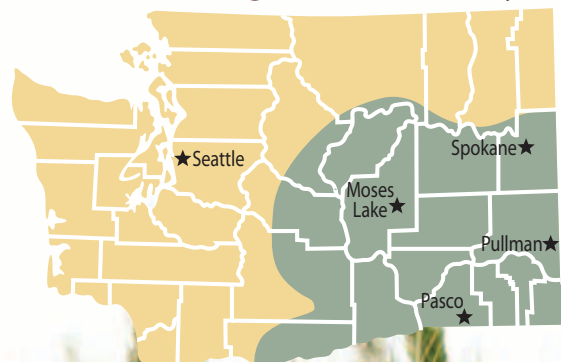
Western White Exports



Pacific Northwest All Wheat Production

	Million Bushels
Total.....	358.3
Washington.....	167.8
Idaho.....	115.9
Oregon.....	74.5

Washington Wheat Country



Wheat With Global Appeal

Field to Market

Washington is one of the nation's leading wheat-exporting states, with 85 to 90 percent of its production exported each year. In 2011, over 58 percent of total US wheat was exported. Wheat is one of America's largest agricultural exports, and provides a positive contribution to the agricultural trade balance.

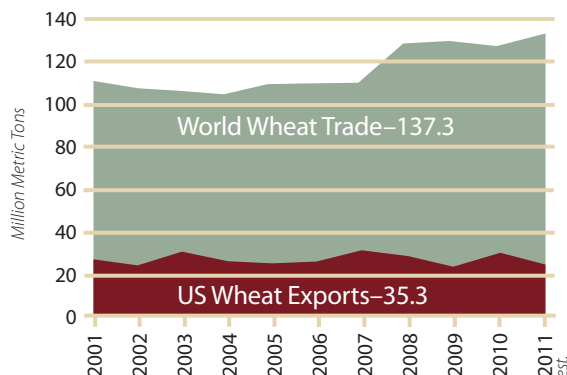
Harvested wheat is taken by farmers' grain trucks to on-farm storage or nearby commercial grain elevators. After the wheat is sold, it is transferred by truck to regional rail- or barge-loading facilities. Over 60 percent of Washington's wheat exports ultimately travel by barge from ports along the 400-mile Snake-Columbia river system to Portland. About 36 percent of the wheat is transported by rail to coastal grain terminals. From these seaport terminals, grain is loaded onto ocean freighters and exported to nations around the world.

2011 Top Ten Wheat Producing States

Rank		Production (million bu)	Avg. Yield/Acre (bu)	Acre Harvested (million ac)
1	Kansas	276.5	35.0	7.9
2	N Dakota	205.8	31.2	6.5
3	Montana	178.2	35.8	4.9
4	Washington	167.8	71.3	2.3
5	Idaho	115.9	82.8	1.4
6	South Dakota	104.7	37.2	2.8
7	Colorado	81.8	40.0	2.0
8	Oregon	74.5	75.9	.9
9	Minnesota	70.4	46.2	1.5
10	Oklahoma	70.4	22.0	3.2



World Wheat Trade & US Wheat Exports



Washington Wheat Transportation Modes

	Percent of Crop by Mode
Truck/Barge	55%
Rail/Barge	5%
Rail	22%
Truck to final market	1%
Truck to other elevators	15%
Other	2%



FAST FACTS



Depending on the class, one bushel of wheat:

- Weighs about 60 pounds and yields about 42 pounds of white flour, and around 60 pounds of whole-wheat flour
- Makes 90 one-pound loaves of whole-wheat bread
- Fills 53 boxes of cereal
- Makes 72 pounds of flour tortillas
- Bakes into 800 sponge cakes
- Rolls into 420 three-ounce cinnamon buns
- Makes 5,000 four-inch cookies

The average price received by US farmers in 2011 was \$5.70 per bushel.

Washington Top Ten Farm Products 2011

Rank		Million Dollars
1	Apples.....	\$1,440
2	Milk	\$ 950
3	Wheat.....	\$ 925
4	Potatoes.....	\$ 654
5	Cattle & Calves	\$ 568
6	Hay.....	\$ 509
7	Cherries.....	\$ 367
8	Nursery/Greenhouse.....	\$ 300
9	Grapes	\$ 214
10	Pears.....	\$ 189



Over three billion pizzas
are sold in the US
every year!

That's about
100 acres of
average-size pizzas
consumed each day!

The gift of rain

Most wheat farms in Washington rely completely on rainfall for crop moisture. They are called **dry-land farms**. In low rainfall areas, wheat producers use a **summer fallow rotation**—allowing half their wheat ground to rest and store moisture for a season to enhance the soil and ensure consistent yields. **Annual cropping** is employed in regions with higher rainfall and on irrigated farms. Most of the state's wheat is produced in 15 central and eastern Washington counties.



Wheat Goes To Market



COMMERCIAL TRUCK
910 bushel capacity
—Gets 155 MPG per ton*



RAIL HOPPER CAR
3,600 bushel capacity
—Gets 413 MPG per ton*



RIVER BARGE
122,500 bushel capacity
—Gets 576 MPG per ton*



100-CAR TRAIN
350,000 bushel capacity



4-BARGE TOW
490,000 bushel capacity

*Amounts are miles per gallon carrying one ton of cargo.

Source: Texas Transportation Institute, Texas A&M University, for the US Maritime Administration

Important Wheat Organizations



Washington Grain Commission (WGC)

WGC is an official state agency created by producers in 2009 to merge the Washington Wheat Commission (created in 1958) and the Washington Barley Commission (created in 1985), increasing efficiencies and working for the benefit of producers growing these commodities. By voting to pay a small assessment on the sales of these crops, producers fund industry self-help programs with each bushel sold. The eleven members of the WGC (seven producers, three representatives of allied industries and one state government representative) allocate these funds to research, market development and education information programs designed to enhance the production and marketing of Washington wheat and barley.

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Website: www.washingtongrainalliance.com



Washington State University (WSU)

As Washington's land-grant university, WSU is responsible for most of the state's wheat research. Comprehensive research programs funded by the WGC, the Washington State Legislature and the US Department of Agriculture are conducted at facilities in Pullman, Lind and other parts of the state. WSU also provides a broad range of agricultural information programs to state residents.

Pullman, WA 99164
Website: www.wsu.edu



Wheat Marketing Center, Inc. (WMC)

Located in Portland, the WMC facilitates the sale of US wheat to foreign buyers. On-site research is conducted on the potential utilization of US wheat in foods consumed worldwide. In addition, international food technicians work with US wheats at the WMC to develop quality protocols and experiment with wheat blends for their products.

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Portland, OR 97209-2831
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E-mail: info@wmcinc.org
Website: www.wmcinc.org



US Wheat Associates (USW)

An international market development organization, USW promotes the overseas interests of US wheat producers. Funded in part by its member states, including Washington, USW conducts market promotion programs in more than 130 countries worldwide.

3103 10th Street, Suite 300
Arlington, VA 22201
(202) 463-0999
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National Association of Wheat Growers (NAWG)

NAWG is a national producer organization representing 22 wheat-growing states, including Washington. Based in Washington, DC, NAWG is particularly active in lobbying for strong US wheat and agricultural policies.

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Washington, DC 20002-4993
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Washington Association of Wheat Growers (WAWG)

WAWG is an association of wheat producers working together to improve Washington's wheat industry. WAWG is active in legislative matters at the state and national levels. Working with producer volunteers, WAWG also helps to administer wheat industry programs funded by the WGC. Wheat growers are kept informed on industry issues through a newsletter and a monthly magazine, *Wheat Life*.

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Wheat Foods Council (WFC)

The WFC is an industry-wide partnership dedicated to increasing the domestic consumption of wheat-based foods. Members from all segments of the industry, including producers, millers, bakers and end-use product manufacturers, work to build demand for wheat foods through information, education and promotion programs.

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Website: www.wheatfoods.org

ABBREVIATIONS

bu/ac = bushels per acre
mt = metric ton(s)
mb = million bushels
tmt = thousand metric tons
mmt = million metric tons

WHEAT MEASURES

Bushel = 60 pounds
Metric Ton = 36.74 bushels (2,204.6 lbs.)
Short Ton = 33.33 bushels (2,000 lbs.)
Acre = 43,560 square feet
Hectare = 2.47 acres