



Volume 26 Issue 1 2026/2027

Ag@School

Published by Washington Agriculture in the Classroom
www.waic.net



AGRICULTURE Is Your Food and Much More!



Food comes from farms. Farmers and ranchers grow crops and animals to feed you and many others around the world. In the USA we enjoy the safest, most abundant, least expensive food supply in the world. Washington state is second only to California in the diversity of agricultural commodities produced.



Today's Children... Tomorrow's Leaders

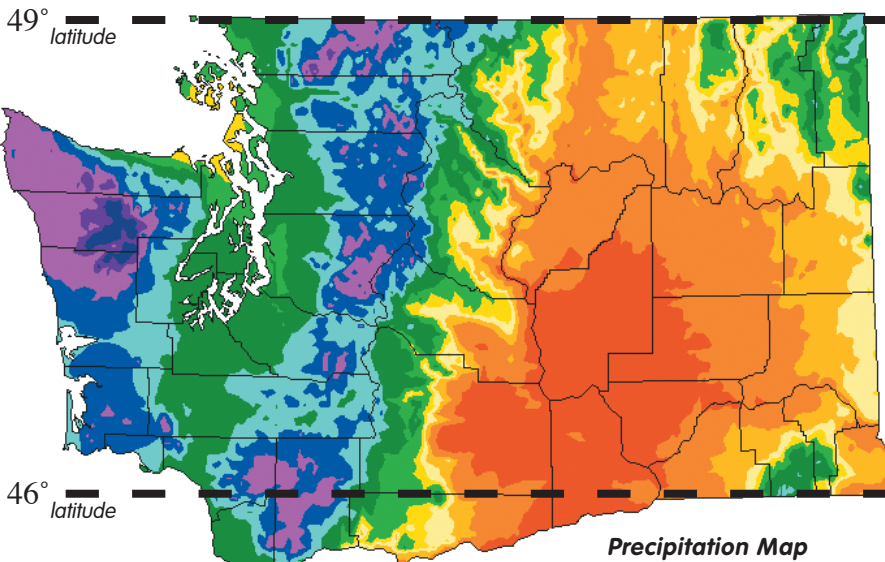
ag•ri•cul•ture (ag´rɪˈkulˈtʃər), n. growing plants and animals for food and other uses



AG DEPENDS ON CLIMATE

Climate depends mainly on **latitude**. Latitude governs the angle of the sun's rays, length of day, and even prevailing winds. Washington lies between 45° North and 49° North. That puts it in the temperate climate zones (between 30° and 60° latitude). Our basic zones are Maritime and Steppe. Maritime is generally along coasts and has large amounts of rainfall and moderate temperatures. The Steppe Zone is located inland with an average rainfall of 10 - 20 inches. It has hot summers and cold winters. Within the Steppe Zone, Washington has two other zones: Desert, which has less than 10

inches of rainfall, and the Highlands. The Highlands Zone is found in any mountainous area and temperature and precipitation vary with elevation, not latitude. **Our different climate areas are a main reason our state produces such a wide variety of crops.** Use the **precipitation** map to help answer the questions.



1. Outline Washington's wettest area. It is really a rain forest!
2. Which side of the Cascade Mountains gets the most rain? West or East?
3. Where is the Maritime Zone? Where is the Steppe Zone?
4. Most of the wheat is grown in Eastern Washington. Does that crop need a lot of rain?
5. Draw a circle around the desert. Why is this area our most productive agricultural region in the state? Hint: take a peek at page 4
6. Does this precipitation map give clues about where the Highland Zones are located?

Legend (inches of rain per year)

Less than 10	25 to 30	80 to 100
10 to 15	30 to 40	100 to 140
15 to 20	40 to 60	140 to 180
20 to 25	60 to 80	more than 180

Kids Korner

Carter and Logan Hull are fourth generation cattlemen, raising primarily registered Hereford Cattle. Carter is a 4th grader and Logan is in 1st grade in the Tenino School District. They both are



members of the Washington State Junior Hereford Association and the Napavine Go-Getters 4H club. When it comes to farm chores, they are responsible for feeding, training, washing, clipping and anything else that involves getting their projects ready for fair. Carter is very patient and is great at training cattle, while Logan is mechanically gifted and loves to take apart, fix and rebuild anything we need. When they are not helping on the farm they both play football, basketball and baseball.



PUGET SOUND LOWLANDS

Most of our urban population is concentrated in this region. There is rich soil in these lowlands that stretch from the Puget Sound to the base of the Cascades. This area is perfect for that fabulous milk maker, the dairy cow, as well as for raspberries, vegetable seed, produce, tulips, nursery products, and shellfish.



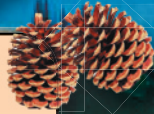
OLYMPIC PENINSULA

The Olympic Mountains provide timber and recreation. Forest products like an evergreen shrub named salal, are collected and shipped nationwide to florists. Lavender is a favorite floral crop from this region.



CASCADE MOUNTAINS

The Cascades have spectacular peaks and lots of timber and recreation areas. The lower elevations provide grazing areas for cattle as well as land that grows timothy hay and apples.



WILLAPA HILLS

The coastal hills are ideal for growing Christmas Trees. Trees are harvested in the fall and bundled in large stacks. This region also produces cranberries, oysters, and is home to many farmers markets and **community supported agriculture (CSA)** operations.



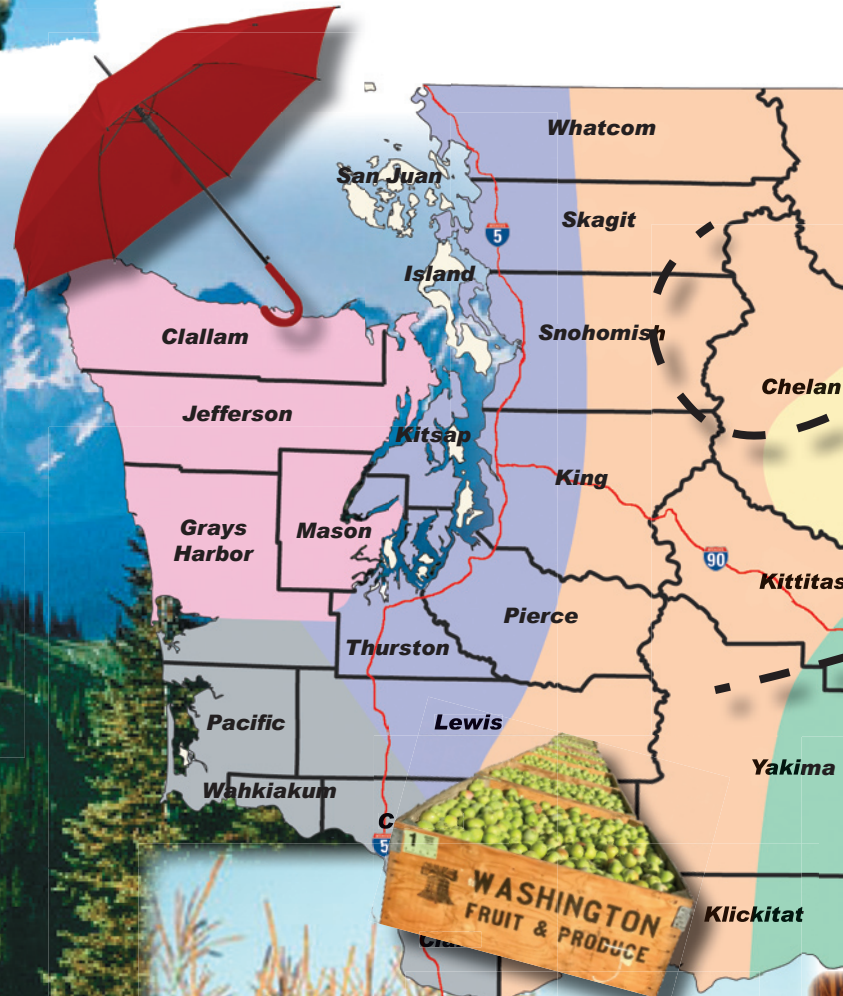
Grown In W

The climate, physical features, and geography change as you cross Washington, dividing our state into distinct regions.

How many regions are there?

How many counties does our state have?

We also have deep-water ports. Place the ports of Seattle, Tacoma, Vancouver, Longview, Grays Harbor, and Port Angeles on the map below.



COLUMBIA BASIN

The dry region east of the Cascades is a huge lava plateau with rich soils. The heart of the basin receives less than 10 inches of precipitation yet this region is our most productive agricultural region. The reason is **irrigation**. The Columbia River and its tributaries provide water for a region that has ideal conditions for alfalfa, potatoes, corn, mint, grapes, apples, cherries, and many other crops.



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OKANOGAN HIGHLANDS

The Okanogan Highlands are rugged foothills between the Cascades on the west, and the Rocky Mountains to the east. Here beef cattle graze among another valuable renewable resource, trees. Trees provide paper, pencils, furniture, and houses. This region also grows a variety of fruit trees.



BLUE MOUNTAINS

The Snake River skirts around the Blue Mountain Range in the southeast corner of our state before it feeds into the Columbia River. Cattle graze among sagebrush and timber. Wheat, barley, asparagus, onions, green peas, and grapes are grown here. This region also boasts the most inland seaport serving the **Pacific Rim** at Lewiston-Clarkston.

~ Hooray! Washington is #1~

Washington leads the nation in the production of several crops (2024 crop data). Identify the counties or regions that are named below.

- ① **Hops**—73.7% — Hops are used to flavor beer. The Yakima valley produces three-fourths of the state's hops. The dry climate along with lots of irrigation water from the Yakima River create ideal conditions for this crop. www.usahops.org
- ② **Spearmint Oil** — 72.2% — Grant and Adams Counties lead the state in production of mint. Every pound of oil will flavor 30,000 sticks of gum or 1000 tubes of toothpaste.
- ③ **Apples**—68.9% — Apples are the crop that consumers most often link with Washington State. Five areas all share ideal growing conditions -- weather, soil, and water. These areas can be seen at www.bestapples.com/growers/regions/index.shtml (Okanogan, Lake Chelan, Wenatchee Valley, Columbia Basin, and Yakima Valley)
- ④ **Sweet Cherries** — 55% — Cherries are one of the fastest maturing fruits. In just 60 days blossoms mature into sweet and tasty fruit. They are picked, packed, and shipped to markets in the U.S. and more than 42 countries around the world. Leading cherry counties are Yakima, Grant, Chelan, Benton, and Okanogan. www.nwcherries.com
- ⑤ **Blueberries** — 26%, — Washington blueberry acreage has increased steadily in the last 10 years. We now grow 6 times more than 10 years ago. About 70% of the crop that is processed is picked by machine. The 30% fresh crop is picked by hand.
- ⑥ **Clams** — 56.6% — Washington leads the country in production of clams. Farmers use the tidal flats as their fields of production.
- ⑦ **Dry Onions** —27.6% — Most onions in Washington are grown in the eastern part of the state. Benton and Adams and Walla Walla counties. Grown in the fertile soils of Walla Walla Valley, the Walla Walla sweet onion has a unique sweetness that sets them apart. Unlike other onions, they contain less sulfur, which means fewer tears when chopping

* Percentages represent Washington's production in the United States

AND Washington Agriculture is:

Number 2 U.S. Producer of:

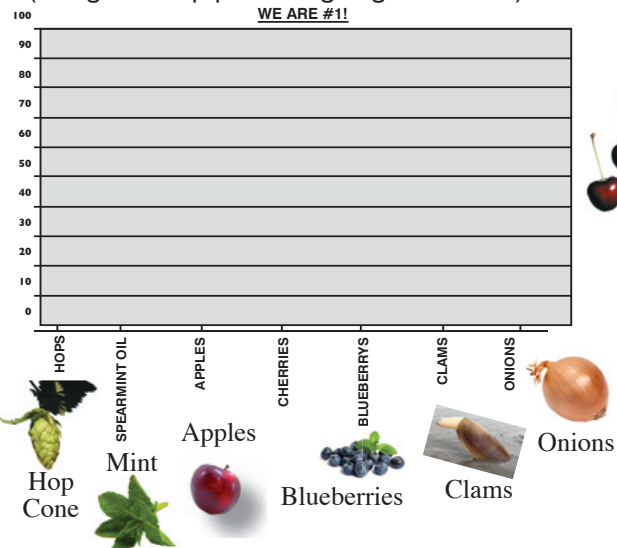
APRICOTS
GRAPES
POTATOES
RASPBERRIES
WINTER WHEAT
PEARS
PEPPERMINT OIL

Number 3 U.S. Producer of:

DRIED PEAS
LENTILS

Make Your Own Bar Graph:

(using the crop percentages given above)



Did you know?

- Washington's 32,076+ farms power a diverse agricultural economy!
- 94% of Washington farms are family owned!

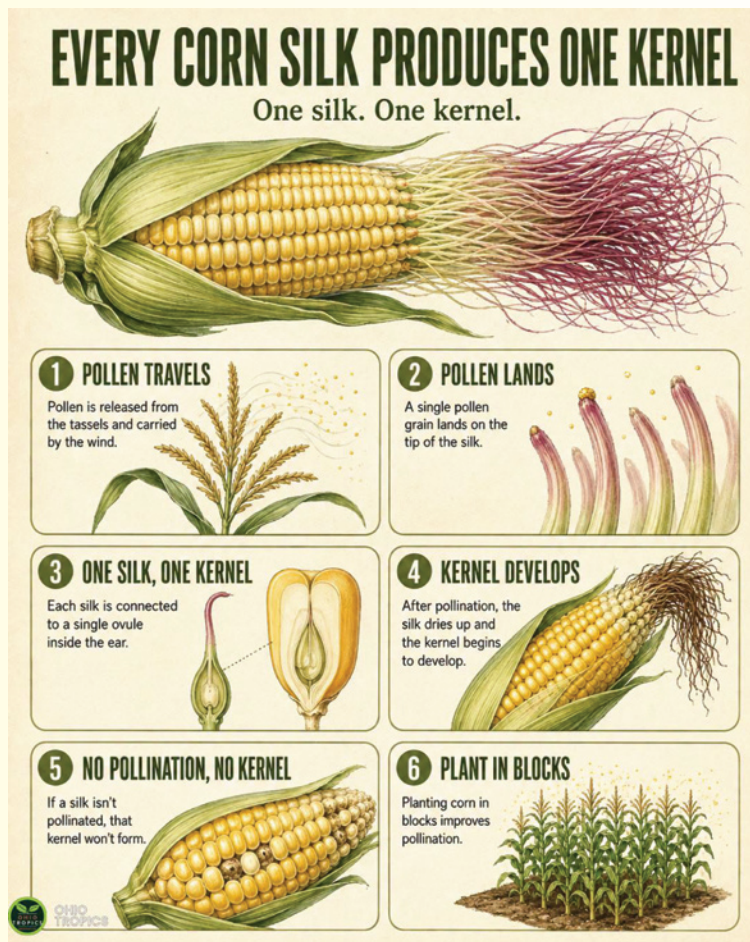
Do you think all corn is the same?

Lend an ear and learn the different between field corn and sweet corn.

When most people think of corn, sweet corn comes to mind—the fresh corn on the cob we like to boil or grill and slather with butter. However, of the over 90 million acres of corn planted in the US, sweet corn makes up less than 1% of the total crop. The rest is starchy and dry field corn, which is mostly used to feed cows.

Indigenous peoples originally cultivated corn's wild ancestor, teosinte, over 9,000 years ago in what is now Mexico. That corn, called maize, was more similar to field corn, as sweet corn wasn't cultivated until the mid-1700s.

Corn is often referred to as “yellow gold” because it has many uses, including making products and byproducts daily. From grocery store items (sweeteners, cereals, taco shells) to industrial products (pharmaceuticals, fuel ethanol, recyclable plastics) to animal feed (grain and feed corn for cattle, swine, poultry, and fish), corn has a multitude of uses.



The main difference between sweet corn and field corn is what they are grown for and when they are harvested.

Feature	Sweet Corn	Field Corn
Main Use	Human Food	Animal feed, ethanol, corn products
Harvested	When kernels are young and sweet	When kernels are mature and dry
Sugar	High in sugar	Much lower in sugar
Kernel Texture	Tender and juicy	Hard and starchy
Examples of use	Corn on the cob, canned corn, frozen corn	Silage, livestock feed, cornmeal, starch,, ethanol
Appearance when mature	Kernels remain relatively soft	Kernels become hard and often dented

Sweet Corn

Sweet corn is bred to have more sugar in the kernels. It is picked while the kernels are still immature, usually during the milk stage. That's why it tastes sweet and can be eaten fresh.

Field Corn (also referred to as dent corn)

Field corn is usually allowed to mature much longer. The kernels become hard and full of starch. It can be harvested as grain or harvested while the plant is still green and made into silage for livestock.

Easy way to remember:

Sweet Corn = people eat the kernels fresh.

Field Corn = usually harvested for livestock, fuel or processing.

History of Washington Apples

What started as an orchard in the 1820s is now over 175,000 acres of family-run apple farms throughout the state.



Washington's apple orchards are nestled in the eastern foothills of the Cascade Mountains at elevations from 500 to 3,000 feet above sea level. At the turn of the 19th century, American settlers came to the area, the traditional gathering grounds and reservation lands of the Colville Tribes and Yakama Nation tribal people. By 1826, early settlers learned that the area's rich lava-ash soil and plentiful sunshine created ideal conditions for growing apples.

The arid climate also meant fewer insect and disease problems, thereby increasing the overall pristine quality of the apples through to harvest. Noting the health and vigor of apple trees planted along stream banks, pioneers developed irrigation systems. By 1889, commercial orchards were established.



These days, the average size of a Washington apple orchard is about 100 acres — but some cover as many as 5,000 acres and employ 300 or more farm workers year-round. During peak harvest seasons, it takes an estimated 40,000 pickers to harvest all of Washington's apples.

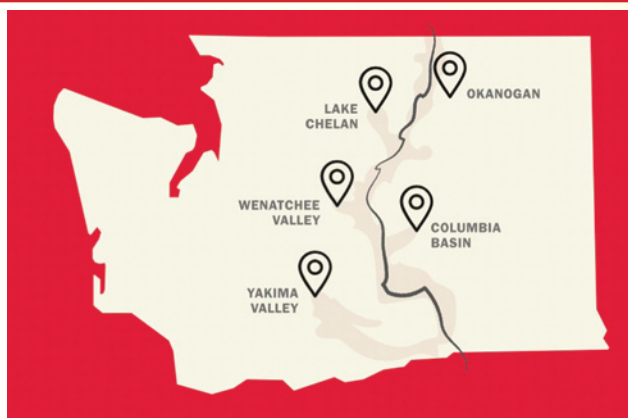


Did you know?

How do you keep sliced apples from turning brown? Apples naturally oxidize after they're sliced. While apples that turn brown are safe to eat, they don't look and taste their freshest. An easy way to prevent or slow oxidation is by dipping sliced apples into a solution that is one part citrus juice and three parts water.

Apple facts!

- Johnny Appleseed was a real guy!
- Washington farmers grow more than 35 varieties for all kinds of apple fans!
- The average American eats 16 pounds of fresh apples per year
- The science of growing apples is **pomology**
- Apples float because they are 85% water.



Apple Growing Regions

Washington has five main growing regions that follow the cool, rushing waters of the Columbia River and its tributaries.

Source:
Washington Apple Commission
waapple.org



Varieties developed IN Washington!



CRIMSON DELIGHT
A new variety not widely available yet



COSMIC CRISP®
Juicy, tangy, sweet and crunchy



HUMMYZ®
A crunchy dessert apple with balanced sweetness and tang



JUICI®
Thinner skinned and crunchy with a balance of sweet and tart



LADY ALICE®
Rich, flavorful and complex they never turn brown



OPAL®
Crispy, sweet and naturally never browning



ROSALYNN
Sweet, tart flavor with cherry notes and a crisp clean mouthfeel



SUNRISE MAGIC®
Crisp and sweet with moderate acidity

Apples are not only Washington's top crop, they represent

15%
of the total value
of ag production
in the state.



Top 10 Commodities in Washington*

(2024)

1 
APPLES

2 
CATTLE

3 
MILK

4 
POTATOES

5 
WHEAT

6 
ONIONS

7 
HAY

8 
EGGS

9 
CHERRIES

10 
HOPS

Career Corner

Crop Insurance Agent

What would happen if a hailstorm damaged an apple orchard or a wildfire swept through a wheat field? Farmers can't control the weather, but they can prepare for the unexpected. That's where Crop Insurance Agents come in to help!

What is insurance? Insurance is protection people can buy in case something bad happens. The insurance company may help cover some of the cost when something is damaged or lost. For example, car insurance may help pay to repair a car after an accident.

Crop insurance is a type of protection farmers can buy for their crops. Farmers pay for this protection before trouble happens. If bad weather or another event, such as drought or wildfire, damages a crop, the insurance company may give the farmer money to help cover the loss.

At AgWest Farm Credit, Crop Insurance Agents learn about each farm and help farmers choose insurance that fits their needs.

This job is a good fit for someone who enjoys farming, working with others and solving problems. Crop Insurance Agents play an important role in helping farmers protect their farms so they can continue growing food for our communities. Could a career in crop insurance be part of your future?



Company Highlight

Have you ever wondered where your food comes from? Before food reaches your table or the grocery store, many people work hard to grow, raise and harvest the food we eat every day.

Agriculture is the work of growing crops, raising animals and producing many of the things people use every day. Farming also provides jobs and helps towns and communities grow.

AgWest Farm Credit helps farmers, ranchers and other agricultural producers across the West. We provide loans and other support to help them reach their goals. We also enjoy helping people learn where food comes from and why agriculture matters.

We believe the future of agriculture is bright. That's why we support programs that help young people learn new skills, explore agriculture and discover how they can help. Who knows? Maybe you could help shape the future of agriculture one day!

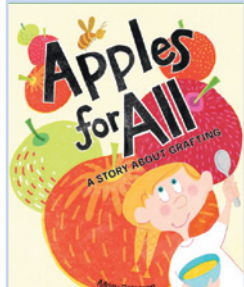


Ag Library Corner

Visit the Washington Ag in the Classroom web site at:
<http://www.waic.net/>

My Family's Corn Farm

Meet Presley – a farm girl who narrates the busy life of a modern, working corn farm in this fun and informative picture book about a family growing one of the top crops of American agriculture



Apples For All

Bobbi's family loves apples! The only problem? They can't agree on which type to grow! Gala? Granny Smith? McIntosh? When Bobbi discovers the solution – grafting – her family comes together to care for one very special tree. The result? Apples for all!

Find these and many more accurate agriculture books at agfoundation.org

Visit: www.myamericanfarm.org

to play on-line games and explore fun family activities.

