Wheat

Hard red winter wheat is Oklahoma's number one crop and is very important to the Oklahoma economy. In 2015, 98.8 million bushels of wheat were harvested at a value of $489 million. Oklahoma ranks number three in the nation in the production of winter wheat. Hard red winter wheat is the kind of wheat used for making bread.

Most Oklahoma wheat producers grow winter wheat. Late in the summer, they prepare the soil for planting. They drive a tractor that pulls the plow through the fields. The plow turns the soil over and kills all the weeds. Then the farmer connects the tractor to a disk harrow and drives it over the field. The disk harrow breaks the soil down into smaller pieces. When the soil is ready for planting, the farmer uses a grain drill to plant the seed.

The wheat plant will grow about six inches before the frost comes. Each plant grows by producing more leaves and new stalks from the base of the plant. The new stalks are called "tillers." When the weather gets cold the tiller will stop growing. This is called the dormant period. On most farms in the Southern Plains, cattle feed, or graze, on the young wheat plants while they are in their dormant period. The plants grow back. They are not damaged by proper grazing.

In the spring, the warm moist days make the wheat plants grow quickly. As the wheat comes out of its dormant period, more tillers of wheat emerge. Each tiller can form another head of wheat.

Some varieties of wheat grow as tall as seven feet, but most are only between two and four feet tall. During the early summer, the plants begin to fade from dark green to tan and then to a golden brown. Then the wheat is ripe and nearly ready for harvest. Now the wheat producer must race with the weather to get the wheat out of the fields.

Some years the wind and rain keep the plants from ripening, and they cannot be harvested. Other years hail may break all the heads, or a lightening storm may start a range fire. When the weather cooperates, and the wheat is ripe, the farmer must move fast. He checks the wheat by rubbing a wheat head between his hands, blowing the chaff away and then chewing some of the grain. If the kernels crack easily and get soft as they are chewed, the wheat is ready to harvest.

The farmer drives a combine across the fields to harvest the grain. When the storage bin of the combine is full, he empties it into a truck. Someone else drives the truck to the grain elevator in town. Workers at the grain elevator help empty the wheat into a very deep pit. Machinery in the grain elevator raises, or elevates, the wheat into a tall bin. In many small towns in Oklahoma, the grain elevator is the tallest building in the town.

The wheat stays in the grain elevator until the farmer is ready to sell it. Workers keep an eye on the wheat kernels to make sure they stay cool and dry. If the wheat kernels get wet or too hot they will spoil. Some of the wheat is sold to people who use it to make food for people and animals. The rest is cleaned and saved until it is time to plant again. One kernel of wheat can grow several hundred new kernels next harvest.

The wheat that is sold for food is taken to a mill. At the mill, huge machines grind the wheat kernels into flour. First the wheat must be cleaned several times. A series of disks separate the wheat kernels from weed seeds, dirt and small stones. A giant magnet removes any metal pieces, like nuts or rivets that might have shaken loose from the farm machinery and fallen in with the wheat.

Finally the kernels go into a giant water bath where any remaining stones or other heavy materials drop to the bottom. Light materials float to the top and are washed away. Now the wheat is cleaned and ready to be milled.

Rollers crack the kernels into smaller pieces. Huge machines shake the wheat pieces through several screens to make the pieces even smaller. If the wheat is to be made into white flour, air currents blow the bran—the outer layer of the kernel — away from the rest of the wheat. The wheat bran and germ that have been

removed are used in animal feeds. The pieces are now ready for grinding. Smooth rollers grind the wheat finer and finer. After grinding, the wheat is sifted through more screens, sometimes as many as 25 times. Each screen has smaller openings than the one before. Special ingredients are added to age the flour and whiten it. Vitamins and iron are also added to replace those that have been removed with the wheat germ and bran. Now the flour is ready for baking.

Vocabulary

bin— a box, frame, crib, or enclosed place for storage
blade— the cutting part of a tool
bran— the edible broken coat of the seed of a cereal grain left after the grain has been ground and the flour or meal sifted out
dormant— having growth or other biological activity much reduced or suspended
combine— a machine that harvests, threshes, and cleans grain while moving over a field
disc— a tilling implement (as a plow) with sharpedged circular cutting
elevator— a building for elevating, storing, unloading, and sometimes grinding grain
germ— the embryo in the seed of a cereal (as corn or wheat) together with its cotyledon that is usually separated from the starchy part of the seed during milling
grain— the edible seed or seedlike fruit of grasses that are cereals
kernel— the inner softer part of a seed, fruit stone, or nut b : a whole grain or seed of a cereal (as wheat or corn)
mill— a building with machinery for grinding grain into flour
tiller— a stalk or sprout from the base of a plant or from the axils of its lower leaves