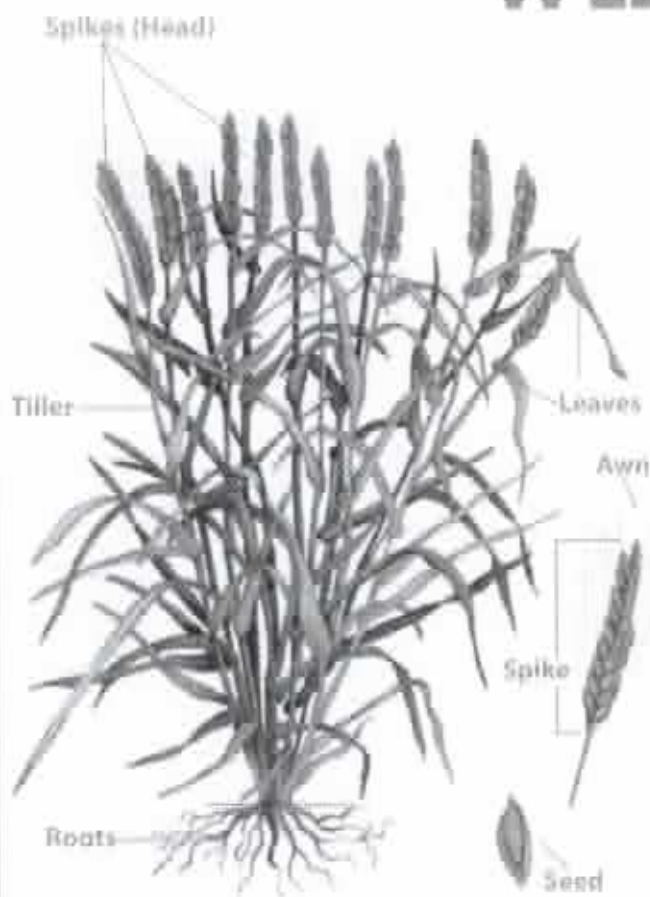




# WHEAT

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# WHEAT



**Top 10 Minnesota Counties Producing Wheat in 2007:**  
Polk, Marshall, Kittson, Norman, Clay, Roseau,  
Wilkin, Pennington, Red Lake and Becker

## On The Front

### A. Wheat Plant

Wheat is an annual grass plant that grows 2 to 3 feet tall. The plants have long and narrow green leaves that turn golden as harvest nears.

### B. Wheat Head (Spike)

The wheat head contains kernels or seeds and is located at the top of the plant. Kernels are the only part of the wheat plant used for human food. Each wheat head averages 30-35 kernels for a 45-50 bushel per acre yield.

### C. Wheat Kernels (Seed)

Wheat kernels are very small. A bushel of wheat weighs about 60 pounds and contains about one million kernels. If wheat averages 45 bushels per acre, a baker can make 2,700 loaves of bread. An acre is about the size of a football field.

## Wheat

Wheat is used mostly for human food. History shows that the first people to eat wheat probably did so 17,000 years ago by chewing kernels of the wild grain. Wheat is the largest acreage crop in the world and is the staple of 35% of the world's population.

There are two major types of wheat planted in the United States - winter wheat and spring wheat. Winter wheat is planted in the fall and harvested the following summer in the states from Nebraska south. Spring wheat is planted in April or May and is harvested in August or September in the Northern Great Plains.

Minnesota wheat producers grow mostly hard red spring wheat, which is used primarily to make breads and hard rolls. Some durum is produced and used in pasta.

## Planting

Wheat is a cool season crop requiring a frost-free period of about 100 days. Spring wheat is typically planted when soil conditions permit tillage. First, a disk is used to turn and loosen the soil and to destroy any young weed plants. Pulled behind a tractor, a disk has a set of metal "plates" that dig deep into the soil. An implement called a harrow is used to smooth out the soil for planting.

Wheat is planted by a machine called a grain drill. First, a shovel cuts a trench into the soil so the seeds can fall into the ground. A "notched wheel" feeds the seeds into a tube and drops the seeds one at a time into the trench. Loose soil is pressed over the seeds. Now the seeds are ready to grow.

## Growing Cycle

The seed begins to grow when there is enough moisture in the soil. The first signs of growth are tiny root hairs that stretch down into the soil. Eventually, a small shoot pushes upward through the soil.

Tissue within the wheat seed provides the plant with its first nourishment. As the plant grows, it uses the sun to make food in its leaves. Its roots get food from the soil.

In the spring, the wheat plant grows six to eight leaves per stem and sends up three to ten stalks of golden flowers called spikes or "heads." Kernels within the head grow and turn golden before harvest.

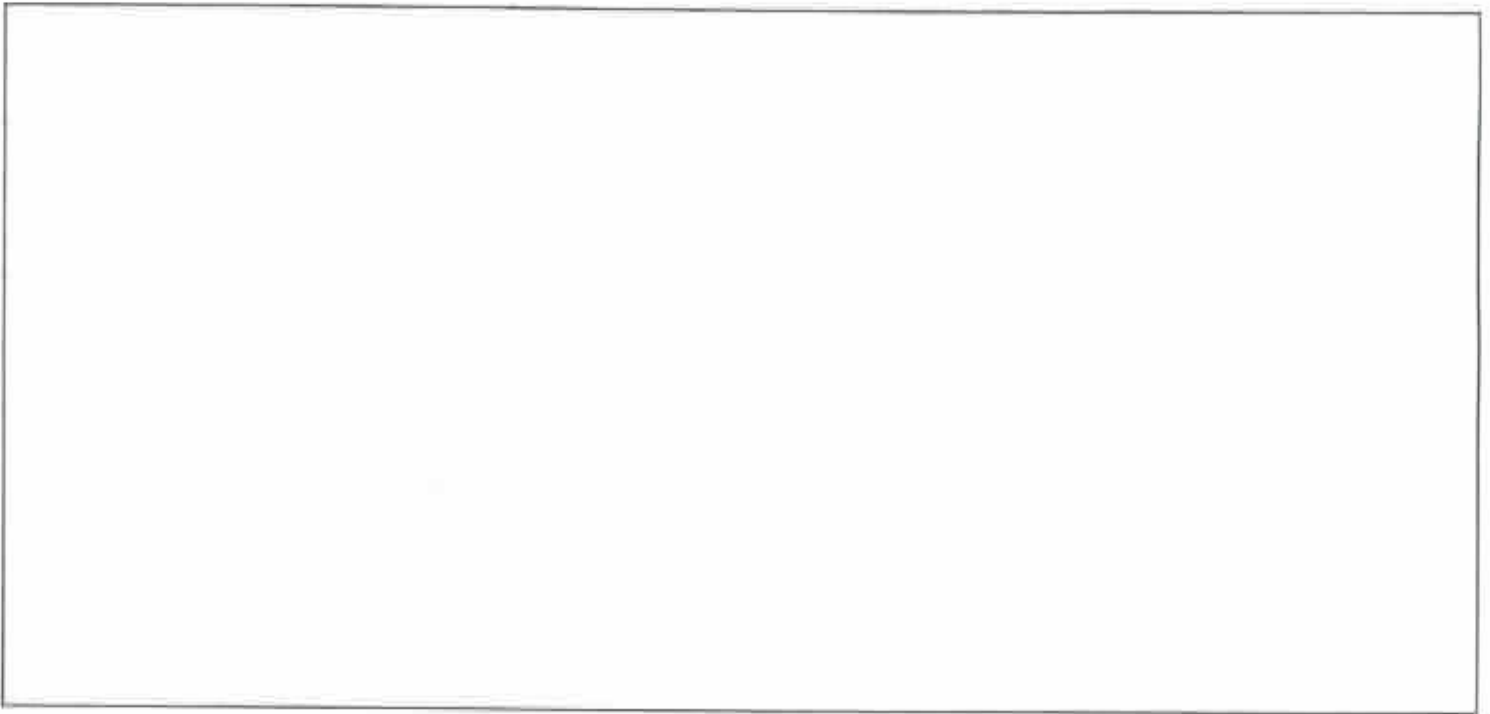
## Harvest

The wheat must be dry before it can be harvested. A machine called a combine is used to cut, separate and clean the grain with one pass through the wheat field. The producer takes the grain to the nearby elevator. From the elevator, the wheat will be sold to be processed into food for humans or livestock feed.

Wheat is ground into flour at a mill. Most products such as bread, rolls, cookies, pastries and bagels are made from wheat flour. Bran from wheat is added to breakfast cereals for fiber. Other products made from wheat include spaghetti, muffins, crackers, tortillas and macaroni. Wheat products have carbohydrates, protein, minerals and vitamins.

## WHEAT

1. In the box provided, draw a picture of wheat.



2. What is wheat mostly used for?
3. What are the two major types of wheat planted in the United States?
4. Using your map of Minnesota counties, create a symbol for wheat and mark the top 10 counties where they were produced in 2007.