

Wheat Background Information

Source: Minnesota Agriculture in the Classroom

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

There are two major types of wheat grown 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 harvested in August or September in states north of Nebraska. Minnesota wheat producers grow primarily hard red spring wheat, which is used primarily to make breads and hard rolls. Some durum wheat, used for certain kinds of pasta, is also grown in Minnesota.

Environment

Wheat is a cool season crop. Growth begins at temperatures of about 37 to 39 degrees. Its optimal growing temperature is 77 degrees. Wheat prefers a frost-free period of about 100 days. Compared to corn, wheat can tolerate a shorter growing season and drier conditions (less precipitation).

Planting

Spring wheat is typically planted when soil conditions permit tillage. A disk is used to turn and loosen the soil, and to kill any young weed plants. Pulled behind a tractor, the disk has a set of metal "plates" that dig deep into the soil. A disk shovel cuts a trench into the soil so the seeds can drop one at a time into the trench. Then, loose soil is pressed over the newly planted seeds. Wheat is planted in rows five to sixteen inches apart by a machine called a grain drill.

Growing Cycle

The seed begins to grow when there is enough moisture in the soil. Growth begins when tiny root hairs 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 also gets food (minerals and water) 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 "heads". If the plant is fortunate enough to avoid diseases, kernels within the wheat head will grow healthy and plump for harvesting.

Harvest and Processing

Wheat must be dry before it can be harvested. In Minnesota, most harvesting occurs in August. With each pass through the wheat field, a "combine" machine is used to cut, separate, and clean the wheat. Minnesota averages about forty-five bushels of wheat per acre. The producer stores the grain in bins on the farm or at storage structures called "elevators" prior to shipment and processing. During processing, wheat is ground into flour at a mill. Bran, the outer layer of the wheat kernel, is often added to breakfast cereals and breads for nutritious fiber. Wheat products have carbohydrates, protein, minerals, and vitamins.