

## Not All Wheat Is Created Equal

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

When many people hear the word wheat, they probably think of some food item in conjunction with that. What many people don't realize though is that wheat isn't just wheat. There are several different classes of wheat and they have very different uses. The United States Department of Agriculture defines six specific classes of wheat: durum wheat, hard red spring wheat, hard red winter wheat, soft red winter wheat, hard white wheat, soft white wheat, as well as "unclassified" wheat, and mixed wheat. What we grow in our part of Kansas is hard red winter wheat and it is the type of wheat that is used to make bread.

Wheat was domesticated in the Near East from wild wheat relatives and has many closely related cereal grasses like einkorn, emmer and spelt. Even today wheat breeders are routinely mixing genes across these relatives and even more ancient wild grassy relatives looking for new traits, disease resistance and improved yields using traditional plant breeding methods. I should point out that at this time there are no GMO wheats approved for production or sale in the USA or any other countries around the world.

In general hard wheats have the highest protein and are used to make traditional breads as they make the best formed and longest lasting breads. Soft wheats are generally starchier and tend to be used for pastries and quickly consumed breads like French bread. Durum wheat is a type of hard wheat that is in high demand for making pastas like macaroni and spaghetti. You may often hear about semolina flour. It is made from durum wheat and is not only used to make traditional pastas but couscous as well.

Within those wheat classes you likely noticed that there were winter and spring designations as well. Winter wheats are planted in the fall, start growing, go dormant over winter, and complete their life cycle the following spring and early summer. Spring wheats are treated like corn and soybeans. They are planted in the spring and harvested in the late summer or early fall. Which of these you plant depends on where you are farming. Wheat is a cool weather loving grass. It doesn't really like hot weather. At temperatures above about 85 degrees it just pretty well shuts down. At temperatures over 90 degrees it starts to die. We have been able to increase yields in the Kansas wheat crop by using wheat varieties that mature earlier. Occasionally we have a year where the wheat crop can truly mature, but most years it just dies from the heat in June!

Because of wheat's aversion to high temperature, spring wheat is pretty well doomed in Kansas. Several times there have been spring wheat trials in northwest Kansas examining it as a possible alternative in a part of the state that is somewhat cooler. Invariably, the end result is that the spring wheat cultivars average about half of what the winter wheat varieties yield. But from northern Nebraska and areas north, where winter wheat runs the risk of freezing out over winter, spring wheat seems to thrive just fine.

When you go to the grocery store to buy flour you'll see things like all purpose flour, bread flour, rye or whole wheat flour, maybe even self rising flour. But you may be hard pressed to know what kind of wheat, or other grain, it was exactly made from. Specialty baking stores and supply houses will have more choices. But just understand that different wheats make different flours and if you want your baked goods, be it bread, cookies, pasta or bagels to be successful, pay attention to what kind of flour the recipe calls for and know that it is likely a blend of flour from several different types of wheat!