

Triticale

General Information

Triticale is a relatively new cross between wheat and rye (its name is derived from the Latin terms for wheat, *triticum*, and rye, *secale*). Breeders had been attempting to utilize rye's vigor and achieve wheat's high yields and quality for decades and finally developed triticale in the 1960's, bringing lots of immediate attention to the grain. It is often grown as fodder



for grazing cows or other livestock, but its grain can be harvested and used for animal feed, seed, or human consumption. Triticale grain is high in protein and relatively drought-resistant; however, wheat is a more consistent crop in comparison. In the northeast, triticale can suffer from low fertility, with marginal flowering rates during the season and disappointing overall yields. The grain is grown almost exactly like wheat, with both spring and winter varieties available.

Preparation & Planting

Seedbed preparation for triticale is very similar to wheat. Choose a field with well-drained soil and practice crop rotation so that small grains are not planted in succession. The pH level should be close to 5.5-6.0, and soils should have adequate phosphorus and nitrogen levels, based on the results of a soil test. Excessive nitrogen applications can cause lodging, as is the case with most cereal grains. If planting spring triticale, sow in April or when soil temperatures have warmed to 55°F and the ground is workable. Planting as early as the ground conditions allow will result in the highest yields by utilizing spring moisture, encouraging early growth and development, and maximizing the growing season. Winter triticale is seeded in September so that it grows a few inches before the first killing frost and then regrows the following season. Leave plant residue on the soil surface to help trap snow and protect the overwintering crop, as triticale takes slightly longer than wheat to harden for winter and early fall frosts can be detrimental.

Plant triticale at a rate of about 100 lbs per acre, using a grain drill that has been maintained and adjusted properly. Because triticale does not tiller quite as prolifically as wheat, use a slightly higher seeding rate for triticale than you would for wheat. Plant seeds about 1 inch deep for uniform seedling emergence and early weed competition.

Cultural Practices

Most triticale varieties grow to a height of 30-40" before harvest, but because the plant grows a bit more slowly than spring wheat, annual grasses and other weeds can be problematic. To

minimize weeds, prepare the seedbed so it is as clean as possible before planting, and be sure to practice crop rotation. Planting early will help with the quick establishment of a triticale stand and may stave off early weed pressure. Triticale can also be interseeded with another crop (including forage grasses or legumes) to aid in weed competition and nutrient management.

Triticale, like rye, is susceptible to ergot, a fungal disease that can ruin a year's crop. Careful crop rotation, the use of a clean seedbed, and diligent maintenance of field edges will minimize this chance, but triticale intended for human or animal consumption should be tested for toxins. Ergot can make grain less palatable for livestock as well as causing serious health problems. Triticale is, on the other hand, largely resistant to rust, mildew, and other minor diseases.

Harvesting & Storing

A good triticale harvest may yield 2500-3000 lbs per acre, with a variable test weight of about 45-55 lbs per bushel (the official test weight is 50 lbs per bushel). Harvesting generally occurs about one week later than wheat (in the northeast, this is generally late July or August for winter wheat and late August or September for spring wheat). Harvest triticale as you would wheat, with a combine. The combine speed should be slightly slower than for harvesting wheat. It is possible to swath triticale before combining, but it is likely to begin sprouting in the swath, so growers are advised to direct-combine if possible. Clean the grain after harvesting and dry it to 13% moisture for long-term storage.



Triticale contains little gluten and is often mixed with other flours for baking. The quality of triticale can be tested before marketing or home use (contact UVM Extension for more information on testing grains). Most baking tests have shown that triticale is inferior to wheat for making yeast breads, but adds a unique nutty flavor and typically ranks higher in baking quality than rye. One Northeast grower insists that triticale flour tastes better than wheat in quick-breads, chiffon cakes, and pastries. Because it contains about 10-20% protein (dry weight), triticale makes a good grain for animal feed (either fed alone or mixed with another grain), as long as the crop has not been infected with ergot. It can also be chopped at the very beginning of the boot stage (just before seed heads form) and baled as silage.

References:

- Briggs, Dr. Keith G. 2005. "Spring and Winter Triticale for Grain, Forage, and Value-Added." *Triticale Production and Utilization Manual*. Alberta Agriculture, Food and Rural Development. Retrieved April 4, 2011. ([http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/fcd5464/\\$FILE/2005triticalemanual.pdf](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/fcd5464/$FILE/2005triticalemanual.pdf))
- Logsdon, Gene. 2009. *Small-scale grain raising*. White River Junction, VT: Chelsea Green Publishing.
- Oelke, E.A., E.S. Oplinger, and M.A. Brinkman. November 1989. "Triticale." *Alternative Field Crops Manual*. Retrieved April 4, 2011. (<http://www.hort.purdue.edu/newcrop/afcm/triticale.html>)