

Kentucky Small Grain Variety Test Results Include Forage Evaluation



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Kentucky Small Grain Variety Performance Test Results are available at www.uky.edu/Ag/wheatvarietytest/. During the 2010-11 growing season, one-hundred wheat entries from seed companies/breeders were evaluated across Kentucky at 7 test

locations. In addition to evaluating wheat varieties for differences in grain yield potential, the UK wheat variety tests also evaluate characteristics, such as test weight, heading date, plant height, winter hardiness, lodging and disease reaction. Additional specialized single location tests were conducted to measure wheat and oat varietal differences in forage biomass yields and post-grain harvest straw yields. Barley & oat variety grain production performance was also tested.

Wheat is an important source of forage for many producers. Approximately 25 percent of Kentucky's annual wheat acreage is not harvested for grain, but utilized for other purposes, primarily forage production. An advantage of utilizing wheat for silage/hay production is that forage production can be double-cropped with corn or full season soybeans.

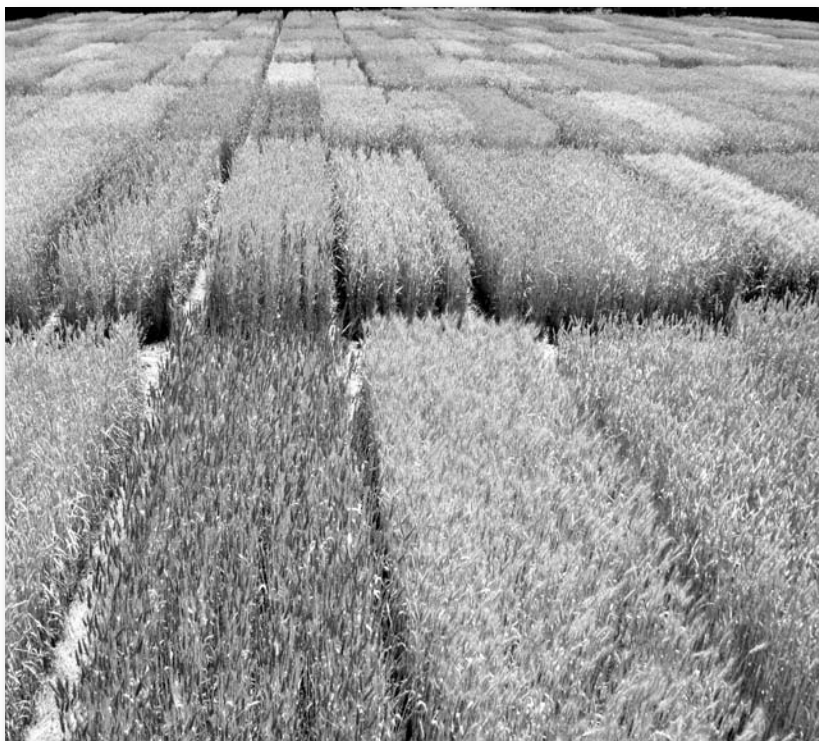
Additionally, wheat provides a reliable source of quality forage in the spring when other fall/summer sources are low in quantity and have deteriorated in quality. Wheat's good forage potential, also allows growers some flexibility in crop utilization. Many acres are planted specifically for forage or grain production, but factors such as commodity grain prices, forage supply/prices and/or current wheat crop condition may affect end-use decisions based on potential profitability.

Wheat forage production management practices are variable among producers. Typically wheat is seeded in mid-October for silage/hay production at a seeding rate of about 1.5 times the rate for grain production. Fertilizer and lime application should be based on soil test data using standard recommendations. Typical recommended N rates are 20-30 lbs N per acre in the fall and 40-60 lbs N per acre in late winter/early spring. Phosphorus and potassium (K) should be applied at or before seeding. Note that wheat harvested for silage/hay removes a large quantity of K from the soil (approx. 50 lb K₂O per acre). Therefore, fall-applied K should be based on the needs of the wheat crop, as well as the following summer double-crop.

The time to harvest wheat forage is an important decision. Harvest timing is often dependent on if the crop is part of a double-crop system, weather conditions, labor/equipment issues, and the end use requirements of the crop (high quality forage or greater yields of lower quality). Wheat silage for dairy cows should be cut at the late boot stage. At this stage the levels of energy, protein (12-20 percent) and digestibility are high (similar to corn silage or alfalfa haylage). It is possible to double-crop with corn when harvested at this stage.

In Kentucky, it is more common to harvest at later stages of development (up to the dough stage). Biomass yields increase throughout the reproductive growth period, but the quality declines throughout this period. Wheat cut at mid-dough stage produces what is considered average quality hay. Fiber content is higher and digestibility and protein (6-8 percent) are lower, but dry matter tonnage will be 30-60 percent greater than silage cut at the boot stage. Awnless (smooth) head type varieties are considered more palatable and are more suitable if harvesting at the dough stage.

In a wheat forage double-crop system with corn or soybeans, re-growth will occur from wheat stubble and the utilization of glyphosate resistant grain crops provides the simplest system for timely planting and controlling re-



growth.

Wheat silage cut prior to soft-dough stage will be high in moisture and should be wilted to 35 percent dry matter. Direct-cutting immature plants will cause excessive seepage, nutrient loss and will produce an acidic, less palatable silage. Silage chopper knives should be sharp and adjusted for 1/2-inch cut to allow good packing of ensiled material and spoilage minimization. If it is not possible (equipment, weather) to readily cut, wilt, and pick up, then cutting should be postponed until dough stage and direct-chopped.

When feeding wheat forage, mineral supplementation is required and the need for supplementation increases as the crop develops beyond the mid-heading stage. Contact your county extension office for rationing/ supplementation recommendations.

Forage yields vary widely among wheat varieties. In the 2011 KY wheat forage test, dry matter yields at the milk stage ranged from 2.4 to 3.9 tons per acre. Forage yields and production profitability can be dramatically affected by simple variety selection decisions. Multi-year data on varietal differences in forage yield potential and a head type listing (bearded /awnless) are presented. It is always best to use multi-year data for variety selection decisions. For additional information, see AGR-160 Managing Small Grains for Livestock Forage, also available at the fore mentioned website. Δ

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