Forage Yield From Wheat Variety Trials 2000-2001
Production Technology – Crops

PT 2001-1 February 2001 Vol. 13, No. 1

Gene Krenzer, Rick Kochenower, Richard Austin and Charles Luper

Department of Plant and Soil Sciences
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

The 2000-2001 wheat crop in Oklahoma started very slowly. Soils remained exceedingly dry through September and as late as October 14 in many areas. The first rains occurred on September 23 in a narrow band from Altus to Chickasha to Tulsa. Temperatures remained above normal until mid-October. On September 24, 12% of the wheat was planted compared to a five-year average of 21%. None had emerged. Much of the wheat that had been planted was dusted in. By October 15, only 9% of the wheat was up to stand, compared to 36% for the five-year average.

After gentle rains began in October they wouldn't quit long enough to allow planting. The wheat that had been dusted in (perhaps as much as 30% of the 5.4 million acres planted) emerged to a great stand in most instances. There were some areas where the rains were very heavy and replanting was required.

Low temperatures during November and December (2nd lowest in recorded history for both months) resulted in little growth and delayed development of the wheat crop. As much as 25% of the planted acreage had not even emerged by January. Only 14% of the wheat was being grazed on December 31, compared to a 5-year average of 30%.

Pest Problems

The primary pest problems during the fall of 2000 were weeds. Ryegrass and cheat emerged at the same time as the dusted in wheat. Many fields had cheat and ryegrass stands so thick it was difficult to see the wheat. Volunteer wheat was also very thick in many of the dusted in wheat fields. Many producers who placed orders to have fields sprayed with Maverick were unable to get it accomplished before January because of rain and/or low temperatures. Broadleaf weed populations were also high in many fields.

Location of Trials

Forage trials were planted at Chickasha and Perkins. Chickasha was dusted in on September 19 and received sufficient rain on September 24 to initiate germination. Perkins was pre-irrigated and planted on October 2. Temperatures were above 90°F the day Perkins was planted and the next two days. See later comments on post-harvest dormancy (page 8) for the significance of the temperatures at planting. Both trials were

planted at 120 lb/a. One of the trials intended for grain only, Haskell, was planted on September 29, 2000 at 60 lb/a. It had so much forage by mid-December that it was harvested for forage. Plans were to have a forage trial at Eakly, but the trial was never planted because the drought extended well into October.

New Varieties for 2000-2001
Varieties included in the trials for the first time were AgriPro 234, AGSECO Onaga, several varieties from Goertzen (G1878, Kalvesta, Vernango, and Enhancer), and Hardeman HG-9.

Gaucho Treatment
Gaucho is a seed treatment that controls aphids early in the season. By controlling aphids, it may reduce or eliminate early infections of barley yellow dwarf virus that can strongly reduce wheat yield. We wanted to continue our investigation of the benefits of Gaucho over many locations and have included a 2174+Gaucho treatment to compare with untreated 2174 at all locations. Last year Gaucho did not improve forage or grain yield. **Experimental Lines Included** For the third year, we have included in the trials several candidate cultivars that have potential for release in the next year or two. OK95571 was tested for forage the last two years and a decision on whether this line will be released or not will be made in the next two months. Four additional hard red winter wheat lines called OK93P656-RMH3299, OK96705-99-6745, OK97508, and OK98680 are included. These are included to evaluate forage capability and collect grain yield data from sites not normally used as test locations in the wheat breeding program.

NEW FEATURES

1. Planting Date – Seeding Rate Trial
A new feature this year is a forage-plus-grain trial under irrigated conditions at Goodwell (see Goodwell Irrigated Forage Plus Grain Trial). The trial features three seeding rates (60, 120, and 180 lb/a), three planting dates (Sept. 1, Oct. 1, and Oct. 20) and four varieties (Custer, Intrada, Jagger, and TAM 107). The purpose was to determine the effects of each of these factors on fall forage yield and grain yield following forage removal under irrigated conditions. The planting dates were designed to represent management systems where wheat followed irrigated corn silage, corn for grain and a later date for wheat grain harvest only.

2. Post-Harvest Dormancy Evaluations
Post-harvest dormancy refers to the inability of seed to germinate after harvest. Delayed germination caused by high levels of post-harvest dormancy could reduce fall forage production (see Post-Harvest Dormancy).

3. Fall Forage Comparison Among Small Grains
The final new feature this year is a comparison of wheat, oat, barley, rye and triticale for fall and full-season forage.

Additional Information on Web

For information on disease resistance and other characteristics of all wheat varieties grown in Oklahoma, see the "Wheat Variety Characteristic Chart" under Variety Information on the web at http://clay.agr.okstate.edu/wheat/wit.html. The variety information is updated regularly to give the latest in disease ratings for these varieties and incorporate new varieties. From the above address you can also connect to the latest grain and full-season forage data.

How Data Were Collected

Wheat forage data were collected by hand clipping at the soil surface. Because differences between varieties in fall forage production are so small, our focus in a forage-plus-grain system should be on which varieties to avoid due to significantly reduced forage production potential.

Cooperation Acknowledged

These data result from a cooperative effort between the Oklahoma Agricultural Experiment Station, the Oklahoma Cooperative Extension Service, and the Oklahoma Wheat Commission.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Sam E. Curl, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Dean of the Division of Agricultural Sciences and Natural Resources.