

## OAT FORAGE YIELDS AT OVERTON FOR 2002-2003 AND THREE-YEAR MEANS

L. R. Nelson and Jim Crowder

**Background.** The oat forage crop is an important winter annual in east and south Texas. Oats have advantages over other small grains in that they will produce more forage in warm weather than wheat and rye. Oats will normally produce a greater total season forage yield than wheat or rye. Oats will also grow-off rapidly after seeding in a prepared seedbed and produce forage early in the fall with moisture and warm temperatures. A disadvantage of oats is that they often are susceptible to winter kill during periods of extreme cold. Oats are of high forage quality and cattle and deer often prefer oats to other small grains species. There are significant differences between varieties and over years. Some varieties produce more forage in the fall while others produce higher yields in the winter or spring.

**Research Findings.** An oat forage variety test is conducted annually at the TAMU Agricultural Research and Extension Center at Overton. Commercial and experimental oat varieties were evaluated during the past three years. Fertilizer application rates and dates are noted in Table 1. Planting date in 2002 was on 13 September. Seed were drilled into a prepared seedbed at a 1 inch depth at 110 lb/ac. Seed were planted in seven rows spaced 6 inches apart. Plot size was 4 x 12 ft with four replications. The plots were harvested with a Hege plot harvester at a cutting height of 2 inches on 6 November, 11 February, 17 March, 13 April, and 13 May. Moisture and environmental conditions were favorable in the fall and winter for good forage production. Dry growing conditions in March, April and early May resulted in low forage production in April and May. Later maturing varieties were limited in reaching their full genetic potential during this period. In the first harvest on 6 November, good yields were measured for all entries; however, higher producing varieties were '811', 'Horizon 474', 'Chapman' and 'TAM 397'. In the second harvest on 11 February, yields were only average due the cold growing conditions. Higher yielding entries were 'Secretariat 495', Horizon 474, and 'Horizon 314' which were closely followed by several other varieties. In the 17 March harvest, all entries produced good yields and little significant differences were apparent between lines, however, TAMO 397 and experimental TX96D093 produced higher yields. In the 4<sup>th</sup> harvest on 13 April, experimental TX96D093 and 'Heavy Grazer 76-30' produced higher yields closely followed by other entries. In the last harvest on 13 May, all yields were very low and dry matter was composed of stems and seed heads. For the total season yields, good forage production was evident with highest yielding varieties being Secretariat 494, TAMO 397, Horizon 474, and Chapman. Forage production over three years is the best indication of high forage production of

lines tested over that period. In these trials, higher yielding varieties over 3 years were 'Dallas', followed by Heavy Grazer 76-30. We did experience some winter freeze damage in 2000-01. Dallas was very winter hardy, while TAMO 397, Heavy Grazer 76-30, and 'Chapman' had a greater degree of freeze damage.

**Application.** Data presented from these trials should be useful in selecting oat varieties for your ranch. Depending on varieties available, compare forage yields to determine which variety you want to plant. Oats will produce good forage yields during the early fall, early spring, and late spring but during cold weather little forage will be produced.

Table 1. Oat forage variety test at Overton, Texas for 2002-2003 and 3 year mean.

Variety	Harvest 1	Harvest 2	Harvest 3	Harvest 4	Harvest 5	Total DMY	3 Yr Mean
	Nov. 6	Feb. 11	Mar. 17	Apr. 13	May 13		
	-----pounds of dry matter per acre-----						
Secretariat 495	1934	1549	1215	1538	463	6699	--
TAMO 397	2195	980	1501	1529	327	6532	5167
TX96D093*	1826	987	1506	1795	261	6374	--
Horizon 474	2237	1302	1139	1460	221	6358	--
Chapman	2190	1097	1146	1401	275	6109	5166
TX01CSRH Sell*	2056	881	1414	1511	217	6078	--
811	2392	743	1108	1567	128	5937	--
Dallas	1847	1035	1164	1476	361	5882	5881
Horizon 314	1992	1270	1306	1182	125	5875	5107
FL9708-P37*	1955	969	1024	1332	416	5697	--
Heavy Grazer 76-30	1847	743	1162	1746	190	5687	5319
Harrison	1732	812	1248	1401	231	5424	--
Mean	2017	1031	1244	1495	268	6054	5393
CV	14	23	19	15	81	9	
LSD (10%)	259	216	216	206	200	495	

Planted on 13 September 2002. Fertilization: Preplant 91 lb/ac of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O 9 September 2002. Topdressed with 40 lb N on 12 November, 33 lb N/ac on 21 January, 40 lb/ac of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O on 6 March and 40 lb N/ac on 15 April 2003.

\*Experimental line, seed presently not commercially available.