



Small Grain Forage Variety Testing, 2015

Wade Thomason, Extension Grains Specialist, Steve Gulick, Farm Manager, Northern Piedmont Center, Elizabeth Hokanson, Research Associate, Grains Crops Testing

Introduction

A forage production trial of commercial barley, oats, rye, triticale, and wheat cultivars has been conducted yearly from 1994-2015 at the Northern Piedmont AREC, Orange. Results from the 2014-15 crop season are presented in this report.

Management and Weather

Pre-plant fertilizer of 30-80-80 was applied on October 2, 2014. Plots were planted on Oct. 09, 2014 and were seven, seven inch rows wide by 13 feet long, trimmed to 9 feet for harvest. Nitrogen as UAN at a rate of 60 lb of N per acre was applied on March 17, 2015. All plots were harvested for forage yield at the boot (GS 45-50) stage as each entry reached that stage. Two rows, the entire length of the plots, were harvested with a 12-inch Jari sickle-bar mower and weighed with an electronic hanging scale.

Statewide temperatures and rainfall were generally near the 30-year means and mostly conducive for wheat seeding, though some areas were delayed due to excess moisture. By November 10, 57 and 93% of wheat and barley acres were seeded compared with the 5-yr average of 68 and 95%. In late November soil moisture was mostly adequate and wheat was rated 76% good and 21% fair, while barley was 66% good and 27% fair. December was mild for most areas of the commonwealth and rainfall of 2-3 inches was widespread. Temperatures in early January and much of February and early March were colder than the long term average which definitely reduced winter growth and tillering in many fields. Mostly due to this delayed development only 64 and 52% of wheat and barley acres, respectively, were rated good or excellent. By early April, conditions and crop ratings improved statewide, however development was 5-10 days behind most years. Widespread rains and cool weather persisted in most of the state through mid-April. Freeze damage from earlier cold nights was observed in some fields, especially in the southern counties, but little yield loss was experienced. Early May brought much warmer weather and less rainfall. While fusarium head blight was reported in some areas, the overall occurrence was low to moderate due to the general absence of rain during flowering. By May 24, wheat heading was reported in 85% of fields, compared to the 5-year average of 95% by this date.

Figure 1. 2014-15 and 74-yr mean monthly growing season precipitation measured at the Northern Piedmont Center, Orange, VA

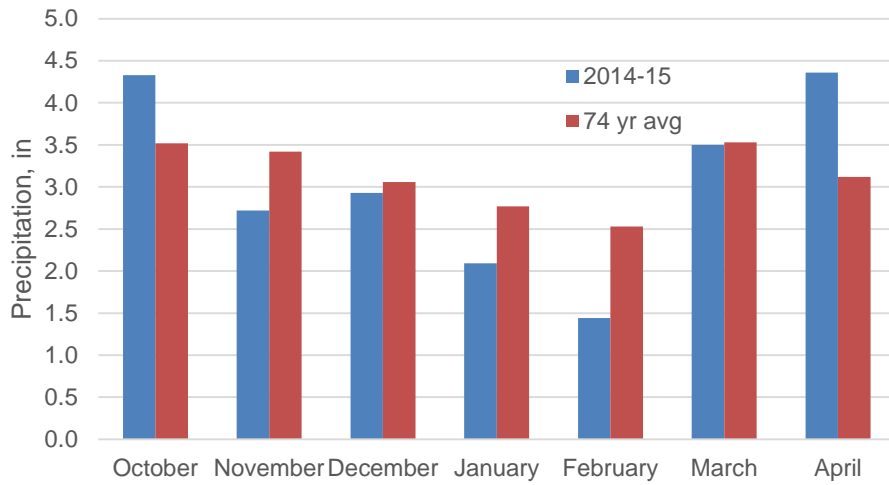
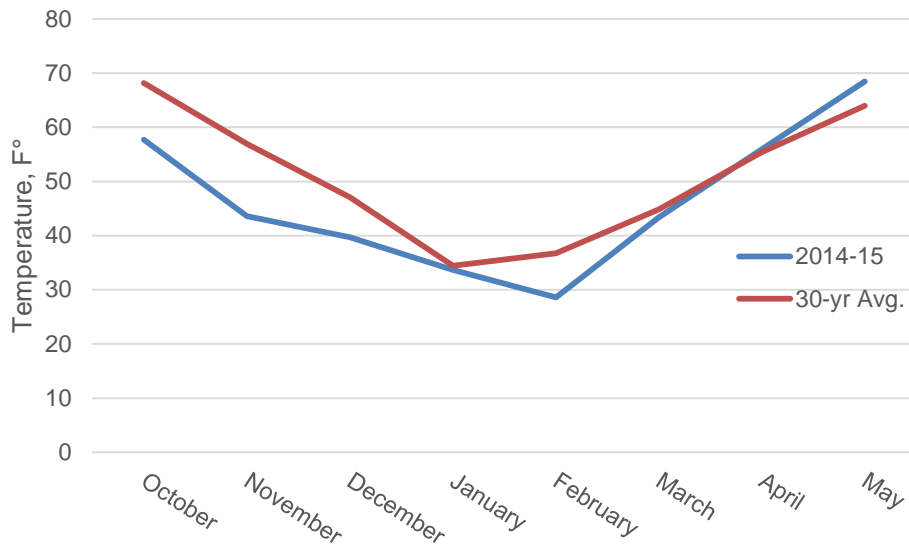


Figure 2. Monthly average growing season temperatures, 2014-15 and 30-yr mean, Northern Piedmont Center, Orange, VA.



Results

Results are reported for 35 percent dry matter (DM) yield, DM yield, and nutritive value for wheat, barley, rye, and triticale crops.

Experimental plots vary in yield and other measurements due to their location in the field and other factors which cannot be controlled. The statistics given in the tables are intended to help the reader make valid comparisons between cultivars. The magnitude of differences which may have been due to experimental error has been computed for the data and listed at the bottom of columns as the LSD (.05) (least significant difference with 95 percent confidence). Differences must be greater than the LSD to be believed to truly exist.

Table 1. Small Grain Forage Variety Test, Northern Piedmont AREC, Orange, Va 2014-2015, Boot Stage Harvest

Northern Piedmont Center, Orange, Va 2014-15											
Boot Stage											
Cultivar	Species [†]	Harvest Date	Zadoks Maturity	Height (inches)	Lodging %	% Crude Protein	ADF %	NDF %	TDN %	35% DM Yield (tons/ac)	DM Yield (tons/ac)
Nomini	B	21-Apr	51	28	0	14.69	34.70	60.13	60	3.11	1.09
Thoroughbred	B	21-Apr	49	25	0	14.73	32.56	57.55	61	3.11	1.09
Atlantic	B	21-Apr	52	26	0	14.10	33.99	61.94	60	3.06	1.07
Secretariat	B	21-Apr	51	23	0	14.41	33.54	60.95	60	2.97	1.04
EXP 3H	T	6-May	52	35	0	9.65	37.79	63.28	55	6.71	2.35
Trical 336	T	4-May	51	32	0	10.69	36.27	61.41	57	5.97	2.09
Trical 815	T	4-May	50	30	0	10.56	35.70	59.44	57	4.68	1.64
Featherstone 258	W	6-May	49	32	0	10.92	32.12	55.23	60	5.30	1.85
Merl	W	6-May	50	30	0	10.19	32.95	56.84	59	4.75	1.66
Jamestown	W	4-May	51	25	0	10.92	32.31	55.08	60	4.19	1.47
LSD 0.05						1.46	1.35	1.63	1	0.89	0.31

[†] B - Barley, HB - Hulless Barley, R - Rye, T - Triticale, W- Wheat

Compared to 2014, forage yield over all entries was 1.4 tons/ac higher in 2015. Crude protein was, over all entries, 10 % lower than 2014 while TDN was 5% lower. These values for 2014-15 are near the 5-yr averages in this study. Overall, the triticale and wheat entries produced the highest yield, 5.8 and 4.7 ton/ac, respectively. Hulled barley entries reached the boot stage of maturity much earlier than the triticale or wheat. This difference in maturity should be considered when evaluating the performance among species.

Entries

Featherstone Seed Company, 13941 Genito Road, Amelia, VA 23002 – Featherstone 258 wheat

Virginia Crop Improvement Association, 9142 Atlee Station Road, Mechanicsville, VA 23111 – Atlantic barley, Nomini barley, Secretariat barley, Thoroughbred barley, Jamestown wheat, Merl wheat, and all line prefixed by VA.

Seedway LLC, 5901 Vera Cruz Rd, Emmaus, PA 18049 – Exp 3H triticale.

Syngenta, 8416 Hwy 903 North, Ayden, NC 28513 –Trical 336 triticale, Trical 815 triticale.