



Small Grain Forage Variety Testing, 2014

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Introduction

A forage production trial of commercial barley, oats, rye, triticale, and wheat cultivars has been conducted yearly from 1994-2014 at the Northern Piedmont AREC, Orange. Results from the 2013-14 crop season are presented in this report.

Management and Weather

Preplant fertilizer of 30-60-20 was applied on October 1, 2013. Plots were planted on Oct. 09, 2013 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 11, 2014. All plots were harvested for forage yield at the boot (GS 45) 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.

Temperatures in October were below the long-term average and, combined with rain showers, wheat and barley planted acres were 10% behind the 5-yr average by the third week of October. Overall, temperatures in November were colder than normal as well and while topsoil moisture was mostly reported to be adequate fall growth was slowed. In mid-November 95% of the intended barley crop and 78% of wheat was seeded. Wheat was rated 85% good or excellent, but only 62% of barley was rated in these categories due to slow growth and reduced tillering. Most of the state received adequate rainfall in December but also experienced wide swings in temperatures. Many areas of the Commonwealth received significant snow in January and nighttime lows below zero degrees. February conditions were much the same and small grain was rated as 68% in good or excellent condition with 24% fair. Continued wet and cool to cold weather hampered small grain progress and the portion of the crop rated as good or excellent was reduced to 61%. Crop condition for both wheat and barley improved in April. Major storm events delivered significant rainfall to many areas of Virginia in early May. By May 12, 66% of the wheat crop was headed, compared with 74% on the same date in 2013. High temperatures in the high 80's and 90's resulted in a rapid increase in wheat heading to 84% by May 19.

Figure 1. 2013-14 and 72-yr mean monthly growing season precipitation measured at the Northern Piedmont Center, Orange, VA

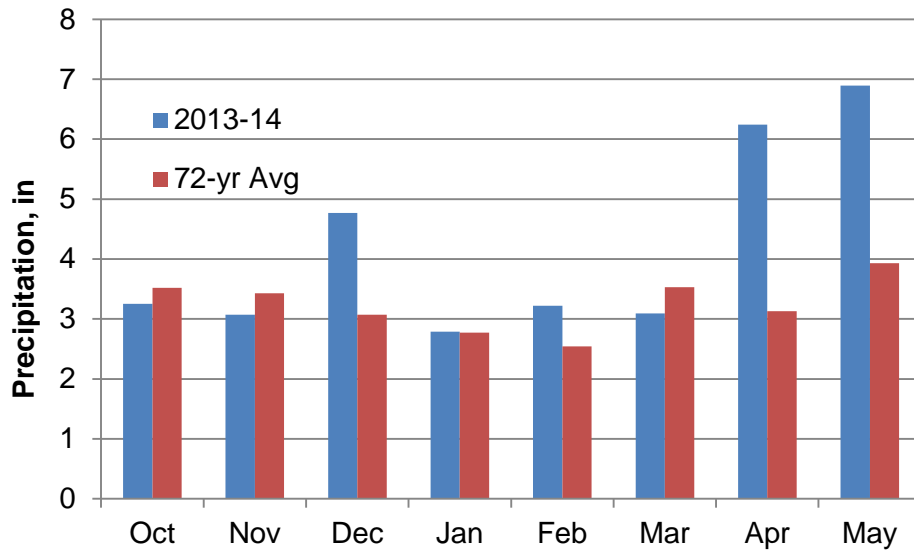
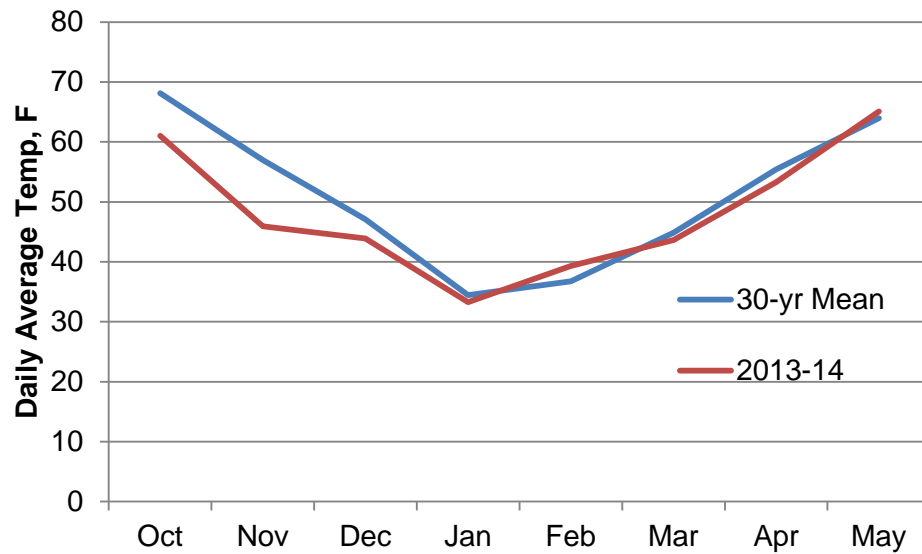


Figure 2. Monthly average growing season temperatures, 2013-14 and 30-yr mean, Orange, VA.



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 2013-2014, Boot Stage Harvest

Northern Piedmont Center, Orange, Va 2013-14											
Boot Stage											
		Harvest	Zadoks	Height	Lodging	% Crude	ADF	NDF	TDN	35% DM	DM Yield
Cultivar	Species [†]	Date	Maturity	(inches)	%	Protein	%	%	%	Yield (tons/ac)	(tons/ac)
Thoroughbred	B	5-May	62	30	0	13.68	32.31	59.03	61	3.89	1.36
Nomini	B	28-Apr	57	27	0	14.97	28.24	49.59	65	2.02	0.71
VA08B-85	B	28-Apr	59	21	0	14.45	28.08	50.64	65	2.01	0.70
Atlantic	B	28-Apr	60	22	0	12.97	28.87	51.42	64	1.81	0.63
VA07H-31WS	HB	5-May	59	26	0	14.65	28.78	51.75	64	2.56	0.90
Wintergrazer 70	R	28-Apr	58	31	0	17.17	29.60	53.95	64	2.09	0.73
Trical 336	T	13-May	61	34	0	13.87	33.84	61.59	60	4.92	1.72
Trical 815	T	13-May	60	35	0	13.21	35.39	61.92	59	4.07	1.43
Trical 342	T	13-May	63	39	0	12.30	35.29	64.42	58	3.83	1.34
Monarch	T	13-May	62	34	0	11.71	34.97	62.18	58	3.42	1.20
154	T	5-May	60	29	0	16.10	30.39	56.29	63	2.88	1.01
Featherstone 258	W	13-May	59	31	0	11.28	32.43	58.70	60	3.82	1.34
Merl	W	13-May	59	29	0	11.55	31.00	56.53	61	3.52	1.23
Jamestown	W	13-May	60	29	0	12.18	32.55	58.76	60	3.30	1.16
LSD 0.05						2.39	2.06	2.86	2	0.60	0.21

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

Compared to 2013, forage yield over all entries was 2.7 tons/ac lower in 2014. Crude protein was, over all entries, 1.5 % higher than 2013 while TDN was 2% higher. These values are above the 5-yr average in this study, but similar to what was measured in 2012. Overall, the triticale and wheat entries produced the highest for a yield, 3.8 and 3.6 ton/ac, respectively. Rye and all the hulled barley entries except Thoroughbred 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, Thoroughbred barley, Jamestown wheat, Merl wheat, and all line prefixed by VA.

Syngenta, 8416 Nwy 903 North, Ayden, NC 28513 –Trical 335 triticale, Trical 342 triticale, Trical 815 triticale, Monarch triticale, 154 triticale

Pennington Seed, 1280 Atlanta Hwy, Madison, GA 30650 – Wintergrazer rye