Small Grain Forage Variety Testing, 2009.

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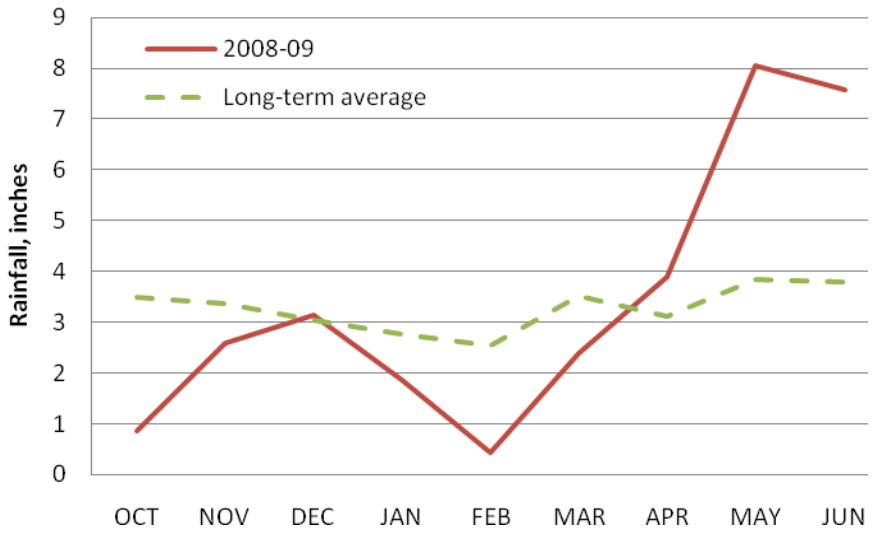
A forage production trial of commercial barley, oat, rye, triticale, and wheat cultivars has been conducted yearly from 1994-2009 at the Northern Piedmont AREC, Orange. Long-term results were published in 2004 and are available on the web at http://pubs.ext.vt.edu/418/418-019/418-019.html

This report presents the weather and results from this trial in the 2008-09 growing season.

Management and Weather

Preplant fertilizer of 25-64-0 was applied on October 7, 2008. Plots were planted on Oct. 8, 2008 and were seven, seven inch rows wide by 16 feet long, trimmed to 12 feet for harvest. Plots were 75% or more emerged by October 26. Tillers were counted and ground cover was estimated on March 31, 2009. Nitrogen as UAN at a rate of 60 lb of N per acre was applied on March 23, 2009. The plots were harvested for forage yield at the boot (GS 45) and soft dough (GS 85) stages for barley, triticale, and wheat and at the boot and flowering stages for rye and oats. Two rows, the entire length of the plots (12 feet) were harvested with a 12-inch Jari sickle-bar mower and weighed with an electronic hanging scale.

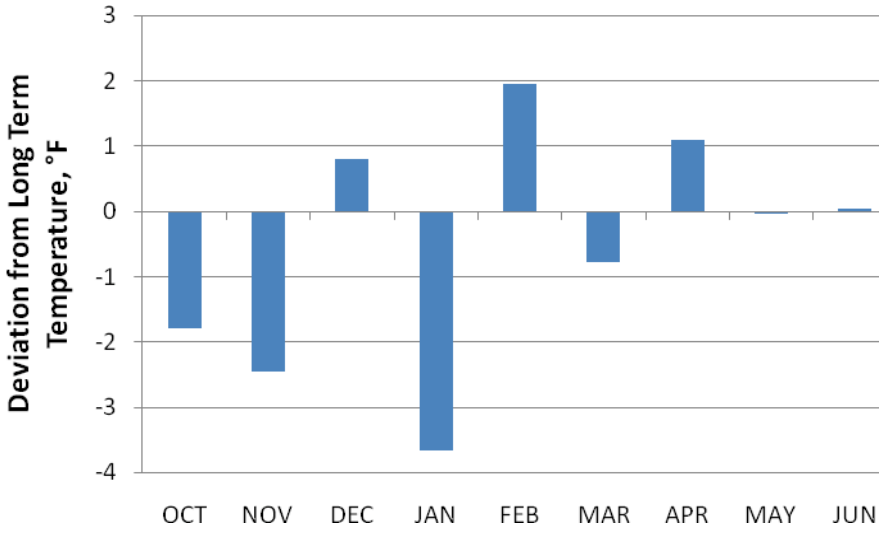
Figure 1. Long term average (1944-2009) and 2008-09 growing season rainfall at NPAREC, Orange, Va.



Planting conditions in Fall 2008 were favorable for early planting with over 20% of the state's intended acreage seeded by October 20. The high cost of inputs influenced some growers to plant later than normal in hopes that prices would fall or fields were seeded

with the intention of applying fertilizer at a later date. By November 1, 49% of the crop was estimated as planted which matched the 5-yr average of 50% planted by this date. Widespread rain in November provided moisture in many areas (Figure 1). While most small grain fields looked good, cool weather in October and November slowed crop development (Figure 2). Mid-winter was cooler than normal and dry, with significantly less precipitation than the long term average in January, February, and March (Figure 1). By February this deficit was more than 4 inches and results in only 26% of the small grain crop rated as good or excellent. Over 50% of the crop was rated good or better in mid-April. In May, cool, wet weather had many producers scouting fields for disease and making pesticide applications in response to threats. The month of May was the second wettest on record for the Northern Piedmont AREC, resulting in harvest delays for some species.

Figure 2. Deviation of 2009 monthly average temperatures from long term average (1944-2009) at NPAREC, Orange, Va.



Results

Results are reported for 35 percent dry matter (DM) yield, DM yield, and nutritive value for oats, 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 that the LSD to be believed to truly exist.

Table 1. Small Grain Forage Variety Test, Northern Piedmont AREC, Orange, Va 2008-2009, Boot Stage Harvest

Small Grain Forage Variety Test
Northern Piedmont AREC, Orange, Va 2008-2009
Boot Stage

Cultivar	Species†	Harvest Date	Zadoks Maturity	Height (inches)	% Ground Cover	Lodging %	% Crude Protein	ADF %	NDF %	TDN %	35% DM Yield (tons/ac)	DM Yield (tons/ac)
Thoroughbred	B	4/27	44	33	93	0	24.23	26.88	51.30	69	8.63	3.11
Nomini	B	4/24	45	31	88	0	22.90	26.25	48.10	71	5.72	2.06
SS 76-30	O	5/12	56	36	68	0	17.48	33.63	59.45	67	7.17	2.58
Wheeler	R	4/29	43	47	95	99	23.48	27.18	52.28	70	8.64	3.11
Early Grazer	R	4/17	42	31	94	0	24.43	23.63	44.08	73	5.55	2.00
RSI 202718	T	5/12	56	51	95	20	16.78	36.20	64.80	64	14.24	5.13
RSI 202765	T	5/12	57	50	98	71	18.48	34.20	62.25	65	13.47	4.85
Trical 2700	T	5/12	58	50	94	38	19.13	33.48	61.70	66	13.30	4.79
RSI 05TF124	T	5/12	56	38	96	0	18.28	33.93	62.93	67	11.51	4.14
Trical 336	T	5/8	54	42	95	0	20.03	31.88	60.50	66	10.63	3.83
RSI 05TF125	T	5/12	53	36	94	0	21.68	29.30	56.68	67	10.48	3.77
Trical 815	T	5/8	53	35	95	0	20.48	31.68	60.65	67	10.31	3.71
RSI 05 TG 106	T	4/29	45	33	96	0	23.35	28.18	53.53	69	8.69	3.13
RSI XK 039 bcd	T	4/29	45	33	95	0	23.40	27.90	54.93	68	8.65	3.12
RSI XA956	T	4/27	45	34	95	0	22.05	27.50	51.08	71	7.47	2.69
Trical 308	T	4/27	2/14	35	93	0	22.48	28.45	52.50	70	7.38	2.66
SS MPV 57	W	5/12	62	41	88	8	19.33	32.60	59.73	66	12.39	4.46
McCormick	W	5/8	56	30	88	0	20.70	30.23	57.85	67	8.53	3.07
Sisson	W	5/8	56	30	88	0	19.40	31.15	59.20	67	8.12	2.92
Featherstone 176	W	4/27	42	29	90	0	22.73	27.83	52.80	70	7.36	2.65
Jamestown	W	4/29	45	27	86	0	22.38	27.63	53.20	69	7.01	2.52
LSD 0.05							**1.89**	**1.83**	**2.80**	**2**	**1.50**	**0.54**

† B - Barley, HB - Hulless Barley, O - Oat, R - Rye, T - Triticale, W- Wheat

Compared to 2008, overall forage yield at the boot state was approximately 0.6 ton/ac less and crude protein 4% higher in 2009. The highest yielding entry at the boot stage harvest was 'RSI 202718' and the triticale entries as a group produced the greatest tonnage.

Table 2. Small Grain Forage Variety Test, Northern Piedmont AREC, Orange, Va 2008-2009, Soft Dough Stage Harvest.

Small Grain Forage Variety Test
Northern Piedmont AREC, Orange, Va 2008-2009
Soft Dough 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	6/2	87	42	8	11.68	37.98	63.85	63	19.11	6.88
Thoroughbred	B	6/2	86	38	10	11.18	38.65	65.40	62	17.90	6.45
SS 76-30	O	5/19	71	44	0	14.05	34.45	58.00	68	9.98	3.59
Early Grazer	R	5/19	71	64	15	12.40	37.33	60.38	66	14.22	5.12
Wheeler	R	5/19	65	58	97	15.65	35.13	62.95	66	13.70	4.93
Trical 336	T	6/19	85	51	18	10.35	43.35	69.33	55	22.79	8.21
RSI XK 039 bcd	T	6/19	89	44	0	10.55	41.15	66.03	56	21.45	7.72
RSI XA956	T	6/16	85	50	0	9.65	40.30	67.18	57	20.67	7.44
RSI 202718	T	6/19	87	60	89	10.65	43.33	69.35	54	20.12	7.24
RSI 05 TG 106	T	6/19	87	47	3	11.25	39.73	65.93	57	19.63	7.07
Trical 308	T	6/16	89	41	0	9.63	39.60	66.45	57	19.60	7.06
Trical 2700	T	6/19	88	58	85	9.70	41.80	67.60	56	19.16	6.90
Trical 815	T	6/19	85	50	45	11.18	41.65	69.03	56	19.05	6.86
RSI 202765	T	6/19	87	58	93	11.08	43.70	69.15	56	18.19	6.55
RSI 05TF125	T	6/19	86	46	3	11.53	43.68	71.03	55	18.04	6.50
RSI 05TF124	T	6/19	89	47	70	10.28	43.35	69.78	56	17.30	6.23
Featherstone 176	W	6/8	85	38	10	10.60	35.98	62.23	65	20.75	7.47
Jamestown	W	6/16	88	38	8	8.48	41.73	65.83	56	19.95	7.18
SS MPV 57	W	6/16	89	40	45	10.80	38.00	63.58	59	19.34	6.96
Sisson	W	6/8	85	36	0	12.10	37.70	64.83	63	18.16	6.54
McCormick	W	6/8	86	36	0	12.28	39.18	66.18	60	17.94	6.46
LSD 0.05						**1.04**	**2.94**	**3.33**	**2**	**2.56**	**0.92**

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

At the soft dough stage harvest, overall yields in 2009 were 1.6 tons/acre less than in 2008 while crude protein was higher by over 2.2%. At this harvest, oats had the lowest dry matter yield, but high crude protein. Trical 336 ultimately produced the highest average yield at the soft dough stage.