

PROJECT TITLE: Spring Cereal Forage Trial

PROJECT COOPERATORS: Dave Wichman, MSU - CARC  
Duane Johnson, MSU – NWARC  
Louise Strang, MSU - NWARC

OBJECTIVE: To compare the yield and feeding quality of different species and cultivars of spring cereal crops as to their suitability as annual forage crops.

METHODS: Fertilizer was applied preplant at the following rates: 22 lbs/acre N, 104 lbs/a P<sub>2</sub>O<sub>5</sub>. 2,4-D and Banvel were applied post emergence for broadleaf weed control. Eighteen small grain selections were seeded 4/18/05 in a randomized complete block design with 3 replicates. Seeding rate was 21 seeds/ft<sup>2</sup>. Plots were 5' wide x 15' long with 6" row spacing.

Crop year precipitation was 21.88 inches. Average monthly temperatures were 43.9, 51.8, 55.3, 62.6, and 62.8 degrees F from April to August, respectively. No irrigation was applied.

The forage was harvested when the heads had reached anthesis, 74 to 87 days after seeding, depending on species. Data collected included dry matter production, % nitrate, protein, ADF, and NDF.

Analysis of variance was calculated by the ANOVA procedure of XLSTAT Ver.7.5 (2004). Critical value for a significant F-test was tested at P=0.05. Treatment effects were compared by protected LSD when the F test for treatment was significant.

RESULTS: There were no significant yield differences among species and varieties in 2005. 'Red 1' triticale produced the most forage, followed by 'Bestford' barley and 'MT981384' barley, 'MT981427' and 'Horsford' barley. 'Mondak' triticale yielded the least. Although quality data is not yet available, past studies have shown barley to have the most stable nitrate concentrations, an important safety factor for livestock forage.

Please refer to the table on the next page.

## 2005 SPRING CEREAL FORAGE TRIAL

Kalispell Montana

<u>Cultivar</u>	<u>Species</u>	<u>Stand</u> <i>%plot</i>	<u>Heading</u> <i>day</i>	<u>Anthesis</u> <i>day</i>	<u>Harvest</u> <i>date</i>	<u>Yield</u> <i>t/a</i>
Hays	barley	<b>88</b>	<b>74</b>	82	7/13	3.01
Haybet	barley	<b>88</b>	69	80	7/14	2.93
MT981397	barley	<b>92</b>	<b>74</b>	<b>87</b>	7/18	3.04
Stockford (277)	barley	<b>90</b>	<b>74</b>	81	7/11	2.83
Westford	barley	87	<b>71</b>	78	7/11	2.79
Horsford	barley	<b>90</b>	63	74	7/14	3.23
Lucile	emmer	85	<b>74</b>	80	7/11	2.55
Mondak	triticale	78	<b>74</b>	80	7/11	1.85
SK3P	triticale	85	<b>74</b>	76	7/7	2.35
Kntz1094	spelt	<b>95</b>	63	81	7/15	2.92
Red 1	triticale	85	65	74	7/7	3.51
MTCF 304	triticale	85	69	75	7/7	2.67
92L012020	triticale	85	<b>71</b>	75	7/7	2.36
Awnless Trit	triticale	<b>88</b>	<b>71</b>	75	7/7	2.77
Bestford	barley	87	<b>74</b>	<b>84</b>	7/15	3.48
MT981427	barley	<b>92</b>	<b>74</b>	<b>85</b>	7/18	3.25
MT981384	barley	<b>93</b>	<b>74</b>	<b>87</b>	7/18	3.27
MT981377	triticale	83	<b>71</b>	75	7/7	2.87
mean		88	71	79		2.87
LSD(0.05)		8	4	4		NS
Pr>F		0.028	< 0.0001	< 0.0001		0.2286
CV(%mean)		5.4	3.8	2.9		22.0

Seeded 4/18/05 in R8.

Pesticides: 2,4-D + Banvel - 5/10/05

Fertilizer: 22 lbs/a N + 104 lbs/a P<sub>2</sub>O<sub>5</sub> - 4/15/15