

Organic Wheat Variety Evaluation, Fertile—Polk County

Cooperator: Jim and Pat Todahl
Nearest Town: Fertile
Soil Type: Flaming sandy loam
Tillage: Fall chiseled, spring cultivated
Previous Crop: Soybean
Planting Date: 5-6-05
Row Width: 6 inches
Fertilizer: 3 ton/a turkey manure, fall 2004
Weed Control: Harrowing 2 times
Herbicide: None, field is certified organic
Harvest Date: 8-12-05
Experimental Design: Randomized complete block with 4 replications

Purpose of Study:

To evaluate spring wheat varieties for yield, protein, test weight, plant height, population, heads, canopy cover and disease, when grown under a certified organic production system.

Results:

Granger out-yielded all varieties but was not significantly different from Alsen. In 2004 Alsen was the top yielding variety at Fertile, out-yielding many of the other tested varieties. Percent heads with scab was significantly different between varieties. In organic production protein premiums can be a major part of the income. Dapps provided the highest protein percentage but was not significantly different from Glenn and Alsen. We observed significant differences in test weight, plant height, population, wheat heads per acre and canopy closure.



	2005 Yield ¹ (bu/a)	Protein (%)	Test weight (lb/bu)	Plant Height 7-20-05 (inches)	Plants Population ² (million/a)	Wheat heads (million/a)	Canopy Cover 6-9-05 (%)	Heads With scab (%)	Scab In head (spikelets)
Granger	42.4	15.0	59.7	32.5	1.46	1.48	86.3	16.8	3.8
Alsen	38.6	15.5	58.2	31.8	1.59	2.03	78.8	20.9	4.0
Knudson	37.7	14.0	58.9	30.3	1.37	1.60	63.8	13.0	2.5
Steele-ND	36.2	15.2	59.7	31.8	1.74	1.66	85.0	20.3	5.6
Freyr	35.5	14.9	58.8	31.0	1.52	1.55	70.0	15.5	2.0
Ulen	35.1	15.1	58.4	31.5	1.56	1.58	82.5	26.3	5.5
Oklee	35.0	15.1	59.8	30.5	1.57	1.66	76.3	16.2	2.5
Walworth	34.2	15.1	60.2	30.3	1.62	1.70	82.5	10.6	1.8
Glenn	33.6	15.9	61.6	32.0	1.69	1.58	78.8	21.1	3.3
Granite	33.6	15.2	60.1	29.5	1.49	1.38	62.5	12.5	4.1
Hanna	32.1	13.9	59.1	33.0	1.74	1.98	71.3	9.4	2.8
Dapps	30.0	16.0	57.4	33.0	1.57	1.66	72.5	24.2	5.5
Banton	29.8	14.5	59.9	31.3	1.63	1.95	68.8	17.6	3.9
LSD 0.05	4.5	0.6	0.7	1.5	0.26	0.3	6.8	6.7	1.3

¹ Corrected to 13.5% moisture.

² Stand counts were taken after the second harrowing on 6-2-02.

³ Wheat heads were counted on 7-20-05.