

# AGRONOMY NEWS

Grasslands For Tomorrow



Volume 2, Issue 4

Fall 2002

## Pat Freeberg Variety Trial Results

Pat Freeberg planted 6 varieties of winter wheat into hayed millet stubble on September 17, 2001. The seeding rate was 1.5 bu/A, seeding depth was 1 to 2 inches, starter fertilizer was 10-50-0 at 100 lbs/A, and the millet stubble was 4 to 6 inches tall. Urea was broadcast on April 28, 2002 at a rate of 300 lbs/A. No herbicide or fungicide was applied. The plot area received no significant rain from May 10 until early July.

The following are yield data gathered by Pat using a weigh wagon. (non-replicated data)

Variety	Yield	Protein	Test Weight
Wesley	34.9	14.6	56.8
Jerry (1.5 bu/A)	34.9	14.7	57.3
Jerry (3.0 bu/A)	39.4	14.7	57.3
UM 5089	35.4	13.9	58.8
Austrian Exp.	32.3	15.1	54.0
CDC Falcon	39.4	14.1	56.9
Crimson	40.4	14.7	59.0

The yield data seem to support an observation regarding the tillering ability of the variety CDC Falcon. If you compare the yield of the Jerry seeded at 3 bu/A and the CDC Falcon, they are the same. Field observations have indicated that CDC Falcon has the ability to establish a greater number of tillers and maintain them for seed production.

### Yield Data

Winter wheat variety yield data from 2002 crop performance testing (CPT) trails are attached.

A big thank you is extended to Dr. Amir M. Ibrahim (SDSU) and his staff, Dr. Duane Berglund and Scott Meyer (NDSU) and the Research Extension Centers for expediting the winter wheat data preparation.

Additional yield information can be obtained on the internet at University and Research Extension Center web sites. NDSU and SDSU have web pages where the state wide information will be posted. Each ND Research Extension Center also has a web site with the individual variety trial information listed.

NDSU Small Grains:

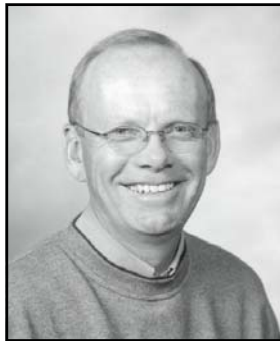
[www.ag.ndsu.nodak.edu/aginfo/smgrains/yield.htm](http://www.ag.ndsu.nodak.edu/aginfo/smgrains/yield.htm)

The Research Extension Centers:

[www.ag.ndsu.nodak.edu/recenthp.htm](http://www.ag.ndsu.nodak.edu/recenthp.htm)

SDSU Winter Wheat trails:

<http://plantsci.sdstate.edu/varietytrials/vartrial.html>



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## Tople Farms Variety Trial Results

David and Greg Tople planted 6 varieties of winter wheat into heavy spring wheat stubble on September 19, 2001. The field was located about five-miles northwest of Pierpont, SD. The area received minimal rainfall from seeding to wheat maturity. The trial was seeded at 2-bushel per acre and 1-inch in depth with a JD 750 drill with 75 lbs/A of 12-32-18 starter fertilizer. Urea was broadcast on October 20, 2001 at a rate of 280 lbs/A. Bronate Advance at 0.8 pint/A plus Tilt fungicide at 2 oz/A was applied on May 25, 2002.

The following are yield data gathered by the Tople using a yield monitor on one strip of each variety. (non-replicated data)

Variety	Yield	Protein	Test Weight
Wesley	28	13.9	56
Harding	25	13.9	56
Crimson	20	14.0	55.7
CDC Falcon	30.5	14.1	53.5
Austrian Exp.	15	14.3	53.5
Jerry	26	14.2	54

## CDC Falcon Seed Available at UAP

United Ag Products (UAP) at Valley City is marketing CDC Falcon winter wheat seed in conjunction with Western Plant Breeders (WPB), Bozeman, MT. Ron Gienger at the Valley City plant has increased CDC Falcon with three ND growers in 2002. Ron can be contacted at 800-728-6958. CDC Falcon is a release of the University of Saskatchewan.

### Agronomy News

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Extension Service*

**\$ 4.38**

That was the price of winter wheat at Ipswich, SD on September 5, 2002. Wheat prices have risen substantially in the past year. In fact, winter wheat prices have exceeded spring wheat prices on a couple of occasions.

Winter wheat has become very attractive with the increased prices and the reduced input costs. Spreading the seed, spray and harvest workloads is one of the primary benefits that attract farmers to plant winter wheat.

## **SDSU Releases "Expedition"**

Expedition Hard Red Winter Wheat (SD97457) was released in August by the South Dakota Experiment Station. Expedition is an early line targeted to replace 2137, Nekota and Alliance and become a companion to Wesley across traditional winter wheat growing areas. Foundation seed will be available for the first time this fall.

Expedition is the result of a Tomahawk by Bennett cross. In the first year of testing in the SD Crop Performance Trials (CPT) in 2000, Expedition ranked seventh in yield of 45 entries, behind four hybrids and equivalent to Wesley and Alliance. Test weight was 1 and 1.6 pounds higher than Alliance and Wesley, respectively. Protein content was 0.6% lower than Wesley but 0.9% higher than Alliance. It is rated medium in maturity.

Expedition has good straw strength. It ranked equal to Alliance and Wesley in lodging scores according to 2001 CPT data. Height is an inch taller than Nekota and two inches higher than Wesley. Coleoptile length is somewhat short, equal to Arapahoe. Expedition is moderately susceptible to both leaf rust, susceptible to tan spot and resistant to stripe rust. Expedition has winter hardiness similar to Arapahoe and superior to Wesley.

Over three years of CPT at all SD locations (2000-2002), Expedition ranked second of nineteen varieties in yield, only 0.5 bushels behind Wesley. Test weight was 0.9 pounds higher than Wesley.

<b>2000-2002 CPT Winter Wheat Trials</b>					
<b>All SD Locations</b>					
Variety	2002 Maturity	2000 Height "	2002 Protein %	2000-2002 Test Weight	2000-2002 Yield
<b>Expedition</b>	<b>0</b>	<b>30.9</b>	<b>14.1</b>	<b>58.6</b>	<b>58.1</b>
<b>Alliance</b>	<b>2</b>	<b>30.6</b>	<b>13.6</b>	<b>57.3</b>	<b>57.0</b>
<b>Arapahoe</b>	<b>3</b>	<b>32.9</b>	<b>15.0</b>	<b>57.8</b>	<b>55.3</b>

## ***Delayed Planting To Control Grasshoppers and Greenbugs on Winter Wheat*** by Michael Catangui, SDSU Ext. Entomologist

**W**inter wheat growers in areas currently with high grasshopper numbers should consider delayed planting to avoid damage to the seedlings.

Grasshoppers are very hard to control with insecticides but are quite susceptible to freezing temperatures in the fall. Most grasshoppers right now are winged adults that have attained their maximum size and mobility.

Delayed planting winter wheat uses freezing temperatures in the fall as a no-cost means of insect control. Historical dates (1961-1990) of first autumn freeze in SD indicate that 28 degree temperatures may occur in most of the winter wheat growing areas of central SD from October 5 to 12.

Long-term studies on planting dates in New Underwood and Scenic (Pennington County) by SDSU West River Ag Center agronomists Clair Stymiest, John Rickertsen, and Bruce Swan have indicated that winter wheat planted on October 1 will yield the same as winter wheat planted on September 15. However, yields were significantly lower in winter wheat planted on October 15 and November 1. The studies were conducted from 1997-2000 under no-till conditions.

Winter wheat growers must consult with their local SDSU Agronomy Educators to determine how late they could plant winter wheat in the fall and still get an optimum yield the following summer.

Delayed planting may also control aphids or greenbugs on winter wheat. While grasshoppers chew on the leaves directly, aphids have syringe-like mouthparts and feed on the sap of plants. They also inject toxins that can cause the wheat seedlings to turn yellow, wither and die. Other symptoms of aphid infestation include curled leaves, stunted growth, and purplish or white streaks on the leaves.

If late planting were not possible, then there are several insecticides available for use at-planting or as foliar sprays once the seedlings emerge from the ground.

Granular insecticides that may be applied at planting to control grasshoppers are Di-Syston 15G (1.67 ounces per 1,000 feet), Thimet 20G (1.2 ounces per 1,000 feet), and Phorate 20G (1.2 ounces per 1,000 feet). An appropriate metering device that can accurately dispense the granules with the planting implement is needed.

Another insecticide that may be considered at-planting would be Furadan 4F (0.25-0.50 fluid ounce per 1,000 feet). Application is made using microtubes or it could be mixed with liquid fertilizer. At-planting Furadan 4F is labeled for use against both grasshoppers and aphids.

Seed treatments that are labeled for use against aphids (but not labeled for grasshoppers) are Gaucho 480 (1.0-3.0 fluid ounces per 100 pounds seed) and Cruiser 5FS (0.75-1.33 fluid ounces per 100 pounds seed). These chemicals must be coated on the seeds before planting by the manufacturer. Farmers cannot treat their own seeds on the farm.

A drawback of at-planting or seed-coated treatments is the fact that investment on the control tactic is made early but the target insects may or may not be around when the seedlings emerge.

A more flexible control tactic is to scout the fields at emergence then spray the field if necessary. Grasshopper populations of 15 or more grasshoppers per square yard within the wheat field, or 41 or more grasshoppers per square yard along the field margins are the economic thresholds.

Insecticide sprays labeled for use against grasshoppers on winter wheat are Dimethoate 400 (0.75 pint per acre), Furadan 4F (0.25-0.50 pint per acre), Lorsban 4E-SG (0.5-1.0 pint per acre), Malathion 5 (1.5-2.0 pints per acre), methyl parathion (0.75-1.00 pint per acre), Mustang (3.4-4.3 fluid ounces per acre), Nufos 4E (0.5-1.0 pint per acre), PennCap-M (2-3 pints per acre), Sevin XLR Plus (1.0-1.5 quarts per acre), and Warrior (2.56-3.84 fluid ounces per acre).

For aphids or greenbugs, insecticide treatments may be justified if an average of 10 to 15 aphids per tiller were observed on the field. Insecticides labeled for use as a foliar spray against aphids on winter wheat are Dimethoate 400 (0.50-0.75 pint per acre), Di-Syston (4-12 fluid ounces per acre), Lorsban 4E-SG (0.5-1 pint per acre), Malathion 5 (1.5 pints per acre), methyl parathion (0.5-1.5 pints per acre), and Mustang (3.4-4.3 fluid ounces per acre).

Daytime air temperatures will influence the performance of certain insecticides, so growers must read and follow label directions carefully. Utmost care must be taken when applying insecticides, as these chemicals are also toxic to humans. Only licensed applicators may apply insecticides on the field in South Dakota.

**NDSU Winter Wheat  
2002 Crop Performance Testing  
Variety Trial**

Variety	Willi	Dick	Hett	Minot	Carr	Lang	Cass	Lisb	State Ave	Test Wt	Protein <sup>1</sup>
Agassiz	38.1	40.8	27.6	38.8	41.7	57.5	44.0	37.7	40.8	56.6	13.9
Alliance	34.0	46.9	34.2	23.3	41.6	51.4	39.7	40.1	38.9	55.3	12.7
Arapahoe	34.7	46.9	34.9	30.5	37.7	72.6	45.5	37.4	42.5	56.4	14.0
CDC Falcon	38.9	55.4	40.3	35.6	44.4	67.2	54.8	40.3	47.1	55.9	13.5
CDC Kestrel	33.2	39.4	30.1	42.8	45.2	65.6	50.8	42.4	43.7	54.6	12.6
CDC Raptor	38.3	41.3	34.0	40.9	45.7	61.6	49.0	38.2	43.6	55.1	13.3
Crimson	33.7	46.8	33.0	39.3	36.3	54.5	34.0	39.4	39.6	54.7	13.7
Culver	35.6	43.6	33.2	38.6	38.3	56.8	43.3	37.1	40.8	55.1	13.2
Elkhorn	33.4	37.3	28.4	41.6	44.3	66.7	37.9	36.8	40.8	54.7	13.8
Erhardt	34.0	35.9	27.2	40.7	35.2	42.6	33.6	34.7	35.5	56.6	14.5
Expedition		50.3		38.3	37.5	61.2	37.0	42.0	44.4		
Harding	35.5	52.5	34.5	39.8	44.9	67.3	34.9	40.2	43.7	56.2	14.0
Jerry	39.4	43.2	35.7	42.4	47.8	66.6	43.2	32.7	43.9	56.3	13.7
Millennium	38.5	49.3	38.2	36.6	38.8	67.1	37.1	37.0	42.8	56.9	13.5
Morgan	38.3	40.4	32.4	43.0	41.0	60.9	46.6	38.0	42.6	55.3	13.5
Nekota	37.4	47.4	37.6	30.7	35.4	50.4	30.6	39.3	38.6	56.9	13.4
Norstar	31.2	32.9	28.6	46.1	45.0	41.1	44.4	38.2	38.4	56.2	13.2
Nuplains	34.0	48.5	30.5	31.2	36.5	40.4	49.3	32.1	37.8	57.3	13.9
Ransom	32.7	44.6	32.2	43.8	48.0	62.5	47.9	30.1	42.7	54.7	13.4

<sup>1</sup> Protein is average of Hettinger (Hett), Minot, Carrington (Carr), Langdon (Lang), Casselton (Cass), and Lisbon (Lisb).  
ID locations: Williston (Willi), Dickinson (Dick)

**SDSU Winter Wheat  
2002 Crop Performance Testing  
Variety Trial**

	HAY	MAR	OEL	STU	HIG	SEL	WIN	WAL	WAT	PLA	BRO	BRI	AVE	AVE
	GY	GY	GY	GY	GY	GY	GY	GY	GY	GY	GY	GY	GY	TW
QUANTUM7406	39.9	75.6	50.0	45.6	33.2	28.0	36.3	36.0	46.9	62.6	55.1	35.7	48.0	57.9
JAGALENE	36.7	68.2	49.0	55.1	31.6	34.8	43.1	30.6	33.7	57.8	55.0	39.2	45.4	59.5
MILLENNIUM	33.6	54.1	50.3	44.1	30.4	32.2	27.0	32.1	48.7	54.1	52.3	30.6	45.0	58.0
WAHOO	33.5	55.1	48.0	43.3	32.7	29.4	20.3	35.3	43.4	56.9	54.2	28.6	44.9	55.5
WESLEY	34.0	68.4	45.6	47.0	28.6	25.3	34.0	32.2	38.8	60.2	51.5	33.0	44.2	56.9
EXPEDITION	30.7	59.6	45.4	47.0	24.7	28.0	40.1	32.0	42.2	57.9	53.9	33.5	44.1	58.0
ARAPAHOE	28.8	60.3	43.5	46.8	28.5	32.0	24.3	31.5	44.8	57.7	52.4	27.7	43.6	56.7
TANDEM	32.9	57.6	44.9	43.7	33.5	27.8	37.2	32.9	41.1	56.8	49.3	32.6	43.1	58.7
NUFRONTIER	34.7	52.4	45.9	44.7	29.8	23.1	33.3	31.6	32.6	56.8	51.6	33.8	42.6	57.6
NEKOTA	35.3	66.4	45.8	42.4	25.2	26.3	34.6	29.5	38.9	55.0	48.9	36.3	42.2	58.2
TREGO	31.2	52.0	43.6	43.0	24.4	25.3	42.1	28.5	41.7	54.9	52.8	30.8	42.2	58.9
FALCON	28.7	64.1	40.1	43.1	35.6	32.3	40.2	31.3	41.2	56.3	54.5	27.9	42.1	55.2
ALLIANCE	32.6	50.8	44.2	39.0	25.0	26.7	38.7	32.5	38.3	56.6	50.7	30.9	42.0	56.2
HARDING	29.7	56.0	41.4	44.3	28.8	24.8	27.0	28.1	44.9	53.4	50.7	29.4	41.8	56.9
STANTON	30.3	57.8	46.2	45.2	26.4	27.1	34.3	31.0	36.5	53.7	48.9	27.8	41.7	58.1
2137	26.7	50.2	43.9	45.6	21.7	29.0	36.4	31.3	37.7	56.7	49.9	31.0	41.7	56.8
NUPLAINS	27.1	50.4	40.1	40.9	29.9	25.8	32.7	28.8	36.3	51.8	65.1	24.1	41.4	59.2
JERRY	30.8	48.5	38.1	38.6	32.7	21.6	26.9	26.1	44.4	53.3	53.3	31.8	40.6	55.7
RANSOM	28.4	44.1	40.5	40.5	26.7	21.6	30.6	24.1	39.0	47.1	53.0	25.2	38.9	54.4
NUHORIZON	29.9	51.4	43.0	40.0	19.6	17.4	39.2	29.3	27.5	53.6	48.9	31.2	38.9	58.3
CRIMSON	26.5	44.0	39.7	39.6	30.6	22.9	22.9	26.7	38.3	50.7	50.0	26.0	38.8	56.9
AVALANCHE	30.5	53.2	47.4	43.3	26.9	25.9	48.8	29.2	23.3	48.0	48.4	30.4	38.6	58.7
SCOUT66	28.9	48.5	43.6	39.3	27.4	20.2	28.5	27.9	30.9	49.6	47.6	26.1	38.2	58.3
JAGGER	32.3	56.0	40.7	38.3	30.3	23.8	40.8	27.6	25.7	59.0	36.4	23.5	37.1	57.6
Mean	30.5	54.0	44.1	43.1	28.2	27.0	33.5	29.7	39.4	52.9	51.7	30.6	41.6	57.5
LSD .05	4.9	15.7	4.2	7.1	7.6	7.4	12.1	4.4	6.6	6.6	9.0	7.8		
CV%	11.5	17.7	7.0	8.0	16.6	16.4	16.6	10.6	12.0	9.0	11.9	18.2		

Grain yield average (AVE) includes data from all locations except Martin (MAR), Highmore (HIG), Selby (SEL), Winner (WIN), and Britton (BRI) because of high coefficients of variation.

ID locations: Hayes (HAY), Oelrichs (OEL), Sturgis (STU), Wall (WAL), Watertown (WAT),