

MT-61 MAXIMIZING NO TILL DRYLAND CEREAL GRAIN YIELDS IN THE NORTHERN GREAT PLAINS  
 THROUGH PRECISE FERTILIZER PLACEMENT  
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PPI TILLAGE/FERTILIZER PLACEMENT PROJECT - SPRING GRAINS 1986

- Yield and test weight averages from 7 sites -

Cooperator	Treatment	Test Wt.	Yield
Stickel * Fallon, MT	1 No-till check	45.6	9.6
	2 " broadcast	40.8	19.4
	3 " band	39.0	23.8
	4 " band x 1.5	38.2	26.8
Barley	5 Till check	46.3	6.5
	6 " broadcast	38.9	23.3
	7 " broadcast/incorp.	37.0	17.5
	8 " band	38.8	25.3
	9 " band x 1.5	38.3	17.8
	No-till	40.9	19.9
	Till	39.4	18.5

\* Some yield reduction due to grasshoppers

Hunter Fairview, MT	1	49.9	62.4
	2	51.8	61.0
	3	49.6	61.9
	4	50.3	69.7
	5	49.1	46.8
Barley	6	49.9	57.5
	7	50.5	46.2
	8	50.4	58.2
	9	49.8	70.8
	No-till	50.3	63.9
	Till	49.8	54.4

Hanson Wolf Point, MT	1 No-till check	61.0	12.8
	2 " broadcast	61.3	13.5
	3 " band	61.8	13.4
	4 " band x 1.5	61.5	12.7
S. Wheat	5 Till check	56.5	11.4
	6 " broadcast	60.0	12.0
	7 " broadcast/Incorp	61.4	12.4
	8 " band	60.9	12.4
	9 " band x 1.5	60.1	11.3
	No-till	61.4	13.0
	Till	59.8	11.9

Cooperator	Treatment	Test Wt.	Yield
Good Chester, MT	1 No-till check	50.4	10.6
	2 " broadcast	50.6	8.0
	3 " band	50.4	4.8
	4 " band x 1.5	50.5	5.9
Barley	5 Till check	49.9	14.7
	6 " broadcast	50.1	14.2
	7 " broadcast/Incorp	50.2	13.5
	8 " band	50.3	11.2
	9 " band x 1.5	50.0	15.7
	No-till	50.5	7.7
	Till	50.1	13.8
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Stipe Moiese, MT	1	60.7	6.6
	2	61.0	27.3
	3	60.7	30.3
	4	61.9	29.0
S. Wheat	5	59.6	4.4
	6	59.9	16.2
	7	60.9	11.0
	8	59.6	17.7
	No treatment 9		
	No-till	60.9	22.1
	Till	60.0	12.3
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Koenig Kalispell, MT	1	48.9	56.9
	2	47.9	92.0
	3	46.3	78.9
	4	44.6	64.8
Barley	5	49.3	58.7
	6	46.3	64.8
	7	46.4	69.7
	8	45.5	73.6
	9	45.8	32.4*
	No-till	46.8	71.4
	Till	46.7	59.1
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\* Anhydrous injury- thin stand

Deihl **	5	57.8	8.8
E. Helena, MT	6	57.5	11.8
	7	57.4	6.6
	8	56.8	14.8
S. Wheat	9	57.1	13.3

\*\* Severe weed problems led to elimination of no-till plots.

Averages by Grain crop:

Crop	Treatment	Test Wt.	Yield
Barley	1 no-till check	48.9	35.1
	2 " broadcast	47.7	40.8
	3 " band	46.6	43.8
	4 " band x 1.5	45.9	47.1
	5 Till check	48.9	37.6
	6 " broadcast	46.6	41.3
	7 " broadcast/Incorp	46.4	34.8
	8 " band	46.5	43.3
	9 " band x 1.5	46.3	37.0
	No-till	47.3	41.5
	Till	47.0	38.8

S. Wheat	1 No-till check	60.9	9.7
	2 " broadcast	61.2	20.3
	3 " band	61.2	21.8
	4 " band x 1.5	61.6	16.8
	5 Till check	57.9	8.2
	6 " broadcast	59.1	13.3
	7 " broadcast/Incorp	59.9	10.0
	8 " band	59.1	15.0
	9 " band x 1.5	58.6	12.3
	No-till	61.2	17.2
	Till	58.9	11.7

Potassium / Sulfur Test Plot Results -

<u>Cooperator</u>	<u>Location</u>	<u>Treatment</u>	<u>Test Wt</u>	<u>Yield</u>
Hanson	Wolf Point	Low K (10#/A)	61.0	13.1
		High K (20#/A)	62.2	10.3
		Low S (5#/A)	58.8	15.5
		High S (10#/A)	61.5	13.5
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Stipe	Moiese	0 # K	61.5	26.0
		30 # K	61.1	28.0
		60 # K	60.7	27.1
		90 # K	60.6	25.0
		25 # S	60.2	25.9
		50 # S	60.8	26.5
		75 # S	61.9	23.2