PROJECT TITLE: Off-station spring wheat variety evaluations in eastern Montana – 2014 (4W4640)

PRINCIPAL INVESTIGATOR: Joyce Eckhoff, Eastern Agricultural Research Center, Sidney
phone: (406)433-2208 e-mail: joyce.eckhoff@montana.edu

Personnel:

Site/County	Producer	CES Agent
Flaxville, Daniels	Dave Roos	Bobbie Roos
Poplar, Roosevelt	Mark Swank	Ann Ronning
Nashua, Valley	Bill Lauckner	Shelley Mills
Wibaux, Wibaux	Rick Miske	Dave Bertelsen

The Wibaux site was not harvested because of poor stands.

OBJECTIVE: To evaluate varieties of spring wheat under dryland conditions at various sites in eastern Montana.

METHODS:

County	previous crop	planting date	harvest date
Valley, dryland	fallow	May 23	Sep 15
Roosevelt, dryland	fallow	May 21	Sep 12
Wibaux, dryland	spring wheat	May 22	Sep 16
Daniels, dryland	fallow	May 21	Sep 12

RESULTS: Summaries of yields, test weights, protein contents, and heights in inches across all sites are shown in Tables 1-4. Velva had greatest yield across sites (Table 1).Barlow had greatest test weight across sites (Table 2). Egan had the highest protein content across sites (Table 3). Barlow was tallest across sites and SY Tyra was shortest across sites (Table 4).

Flaxville, Daniels County: Performances and relative values of yield, test weight and protein of spring wheat varieties at Flaxville are shown in Tables 5-8. Reeder had greatest economic return.

Poplar, Roosevelt County: Performance and relative values of yield, test weight and protein of spring wheat varieties at Poplar are shown in Tables 9-12. Elgin had greatest economic return.

Nashua, Valley County: Performances and relative values of yield, test weight and protein of spring wheat varieties at Nashua are shown in Tables 13-16. McNeal had greatest economic return.

Wibaux, Wibaux County: Performance of yield, test weight and protein of spring wheat varieties at Wibaux are shown in Table 17. Since this is the first year for this site, there are no relative tables. WB9879CLP had greatest economic return.

SUMMARY: Off-station yield trials are conducted at several sites in eastern Montana. All experiments reported under this project are of the replicated small plot type. These trials provide important information about performance of experimental lines and varieties from Montana State University, other state universities, and private companies.

FUNDING SUMMARY: Expenditure information to be provided by OSP. No other grants support this project.

MWBC FY2015 GRANT SUBMISSION PLANS: It is planned to submit this project for funding consideration in the next fiscal year.

Table 1. Summary of spring wheat yields in bu/acre at four off-station sites in eastern Montana, 2014.

Variety	Flaxville, dryland fallow	Poplar, dryland fallow	Nashua, dryland fallow	Wibaux, dryland fallow	average
McNeal	56.1	49.7	**60.1**	57.5	55.9
Reeder	55.1	54.6	47.3	52.6	52.4
Choteau	54.3	51.8	41.2	53.1	50.1
Vida	45.2	55.3	49.8	53.4	50.9
Duclair	50.9	53.9	40.8	49.7	48.8
Elgin	50.4	**59.3**	54.8	51.3	53.9
WB9879CLP	50.2	50.9	39.4	56.3	49.2
Brennen	35.0	58.8	45.6	47.8	46.8
SY Tyra	49.3	50.0	51.7	**65.9**	54.2
Mott	45.1	51.3	37.7	54.4	47.1
Velva	**58.7**	55.3	51.9	58.3	**56.0**
Prosper	49.3	42.0	49.8	51.3	48.1
Barlow	37.9	51.4	44.7	54.0	47.0
Egan	35.1	50.0	43.9	50.3	44.8
site average	48.58	52.7	47.5	54.4	50.8
probability	<0.001	<0.001	0.033	0.080	
CV (S/Mean)	13.3	6.7	15.6	11.0	
LSD 0.05	10.8	5.9	12.4	10.1	

Table 2. Summary of spring wheat test weights in lb/bu at three off-station sites in eastern Montana, 2014.

Variety	Flaxville, dryland fallow	Poplar, dryland fallow	Nashua, dryland fallow	Wibaux, dryland fallow	average
McNeal	59.0	54.5	53.5	57.0	56.0
Reeder	60.5	56.0	55.5	59.5	57.9
Choteau	59.0	54.5	52.5	58.0	56.0
Vida	59.5	56.0	55.5	59.0	57.5
Duclair	59.0	54.5	53.0	57.0	55.9
Elgin	60.0	55.0	54.0	57.5	56.6
WB9879CLP	58.5	55.5	53.5	57.0	56.1
Brennen	59.5	58.5	57.0	59.0	58.5
SY Tyra	59.5	55.0	55.5	59.0	57.3
Mott	59.5	56.0	54.5	58.5	57.1
Velva	60.0	55.5	54.5	58.5	57.1
Prosper	60.0	55.5	54.5	59.0	57.3
Barlow	62.5	60.5	59.0	61.5	60.9
Egan	57.0	55.0	54.0	56.0	55.5
site average	59.4	55.8	54.7	58.3	57.1

Table 3. Summary of spring wheat protein contents in percent at three dryland off-station sites in eastern Montana, 2014.

Variety	Flaxville, dryland fallow	Poplar, dryland fallow	Nashua, dryland fallow	Wibaux, dryland fallow	average
McNeal	14.00	15.38	14.03	13.11	14.13
Reeder	14.38	15.36	14.50	12.46	14.17
Choteau	13.34	14.90	15.34	12.14	13.93
Vida	13.66	14.18	13.07	11.32	13.06
Duclair	13.40	14.28	14.29	12.07	13.51
Elgin	14.03	14.86	14.76	14.00	14.41
WB9879CLP	13.04	14.84	14.94	14.36	14.30
Brennen	13.68	14.41	14.85	15.20	14.53
SY Tyra	12.81	14.84	13.66	12.56	13.47
Mott	13.62	15.35	14.81	13.73	14.38
Velva	13.35	14.54	15.03	12.46	13.84
Prosper	13.22	14.03	13.24	11.19	12.92
Barlow	14.27	14.50	13.47	13.74	14.00
Egan	14.98	15.38	15.80	15.50	15.42
site average	13.67	14.72	14.34	13.15	13.97

Table 4. Summary of spring wheat heights in inches at three dryland off-station sites in eastern Montana, 2014.

Variety	Flaxville, dryland fallow	Poplar, dryland fallow	Nashua, dryland fallow	Wibaux, dryland fallow	average
McNeal	31.5	32.4	29.8	30.7	31.1
Reeder	31.0	31.5	28.1	30.7	30.3
Choteau	28.6	30.5	26.0	26.7	27.9
Vida	31.9	30.0	27.6	27.7	29.3
Duclair	28.6	31.6	27.4	26.7	28.6
Elgin	33.5	34.1	30.6	32.6	32.7
WB9879CLP	28.2	30.4	27.4	28.5	28.6
Brennen	28.1	29.6	25.8	25.5	27.3
SY Tyra	28.0	27.0	24.8	25.3	26.3
Mott	33.9	33.6	29.0	30.7	31.8
Velva	31.5	32.2	28.3	30.0	30.5
Prosper	31.6	31.4	27.7	29.9	30.2
Barlow	34.6	34.2	31.9	34.1	33.7
Egan	27.9	31.2	27.7	29.6	29.1
site average	30.6	31.5	28.0	29.2	29.8
probability	<0.001	<0.001	0.007	<0.001	
CV (S/Mean)	5.1	3.9	6.536	4.4	
LSD 0.05	2.6	2.1	3.1	2.1	

Table 5. Performance of spring wheat grown under dryland fallow conditions at Flaxville, MT.
Planted: May 21, 2014 Harvested: September 12, 2014 Cooperator: Dave Roos

Variety	height, in	grain protein, %	test wt, lb/bu	yield, bu/ac	$/acre[1] +/- Vida
Reeder	31.0	14.38	60.5	55.1	95.67
McNeal	31.5	14.00	59.0	56.1	91.91
Velva	31.5	13.35	60.0	58.7	86.98
Choteau	28.6	13.34	59.0	54.3	54.50
Elgin	33.5	14.03	60.0	50.4	47.39
Duclair	28.6	13.40	59.0	50.9	36.54
Prosper	31.6	13.22	60.0	49.3	17.60
WB9879CLP	28.2	13.04	58.5	50.2	16.72
SY Tyra	28.0	12.81	59.5	49.3	10.21
Vida	31.9	13.66	59.5	45.2	0.00
Mott	33.9	13.62	59.5	45.1	-7.08
Barlow	34.6	14.27	62.5	37.9	-46.06
Egan	27.9	14.98	57.0	35.1	-57.36
Brennen	28.1	13.68	59.5	35.0	-78.13
average	30.64	13.67	59.4	48.58	
probability	<0.001			<0.001	
CV (S/Mean)	5.1			13.3	
LSD 0.05	2.6			10.8	

[1] Wheat prices compiled and summarized by P. Lamb, NARC, Havre, MT, from 10-yr (2004-2013) average daily market values for PNW, supplied by the Montana Wheat and Barley Committee.

Table 6. Relative yields of spring wheat varieties as compared to Vida when grown under dryland conditions in Daniels County in cooperation with CES.

Cultivar	2013	2014	Ave	as % of Vida
Velva	27.7	58.7	43.2	129.7
Reeder	24.6	55.1	39.9	119.8
McNeal	21.9	56.1	39.0	117.1
Choteau	19.3	54.3	36.8	110.5
SY Tyra	23.1	49.3	36.2	108.7
Elgin	21.0	50.4	35.7	107.2
Duclair	19.7	50.9	35.3	106.0
WB9879CLP	18.9	50.2	34.6	103.9
Prosper	19.9	49.3	34.6	103.9
Mott	23.8	45.1	34.5	103.6
Vida	21.3	45.2	33.3	100.0
Barlow	--	37.9	37.9	83.8
Egan	--	35.1	35.1	77.7
Brennen	--	35.0	35.0	77.4

NOTE: Average yields in this summary should not be compared to each other since they are not grown in the same years. Compare yields only to the check variety.

Table 7. Relative test weights of spring wheat varieties as compared to Vida when grown under dryland conditions in Daniels County in cooperation with CES.

Cultivar	2013	2014	Ave	as % of Vida
Barlow	--	62.5	62.5	105.0
Velva	61.0	60.0	60.5	102.0
Reeder	60.5	60.5	60.5	102.0
Elgin	60.0	60.0	60.0	101.2
SY Tyra	60.5	59.5	60.0	101.2
Mott	60.0	59.5	59.8	100.8
Prosper	59.0	60.0	59.5	100.3
Vida	59.0	59.5	59.3	100.0
Brennen	--	59.5	59.5	100.0
McNeal	58.5	59.0	58.8	99.2
Choteau	58.5	59.0	58.8	99.2
Duclair	57.5	59.0	58.3	98.3
WB9879CLP	58.0	58.5	58.3	98.3
Egan	--	57.0	57.0	95.8

NOTE: Average test weights in this summary should not be compared to each other since they are not grown in the same years. Compare test weights only to the check variety.

Table 8. Relative protein contents of spring wheat varieties as compared to Vida when grown under dryland conditions in Daniels County in cooperation with CES.

Cultivar	2013	2014	Ave	as % of Vida
Egan	--	15.0	15.0	109.5
Mott	11.9	13.6	12.8	104.9
Barlow	--	14.3	14.3	104.4
McNeal	10.9	14.0	12.5	102.5
Reeder	10.7	14.4	12.5	102.5
Prosper	11.4	13.2	12.3	100.8
Vida	10.7	13.7	12.2	100.0
Brennen	--	13.7	13.7	100.0
Velva	10.9	13.4	12.1	99.2
Choteau	10.9	13.3	12.1	99.2
Duclair	10.8	13.4	12.1	99.2
Elgin	10.1	14.0	12.1	99.2
WB9879CLP	10.8	13.0	11.9	97.5
SY Tyra	10.9	12.8	11.9	97.5

NOTE: Average protein contents in this summary should not be compared to each other since they are not grown in the same years. Compare protein contents only to the check variety.

Table 9. Performance of spring wheat grown under dryland conditions at Poplar, MT.
Planted: May 21, 2014 Harvested: Sept 12, 2014 Cooperator: Mark Swank

Variety	height, in	test wt, lb/bu	percent protein	yield, bu/acre	$/acre[1] +/- Vida
Elgin	34.1	55.0	14.86	59.3	55.86
Brennen	29.6	58.5	14.41	58.8	42.20
Reeder	31.5	56.0	15.36	54.6	27.84
Velva	32.2	55.5	14.54	55.3	8.85
Vida	30.0	56.0	14.18	55.3	0.00
Mott	33.6	56.0	15.35	51.3	-5.16
Choteau	30.5	54.5	14.90	51.8	-8.45
CAP400-1	31.2	55.0	15.38	50.0	-10.16
Duclair	31.6	54.5	14.28	53.9	-13.12
McNeal	32.4	54.5	15.38	49.7	-13.21
WB9879CLP	30.4	55.5	14.84	50.9	-25.45
Barlow	34.2	60.5	14.50	51.4	-28.32
SY Tyra	27.0	55.0	14.84	50.0	-34.16
Prosper	31.4	55.5	14.03	42.0	-130.92
average	31.46	55.8	14.72	52.7	
probability	<0.001			<0.001	
CV (S/MEAN)	3.9			6.7	
LSD (0.05)	2.0			5.9	

[1] Wheat prices compiled and summarized by P. Lamb, NARC, Havre, MT, from 4-yr (2010-2013) average daily market values for PNW, supplied by the Montana Wheat and Barley Committee.

Table 10. Relative yields of spring wheat varieties as compared to Vida when grown under dryland conditions in Roosevelt County in cooperation with CES.

Cultivar	2010	2011	2012	2013	2014	Ave	as % of Vida
Brennan	--	--	--	--	58.8	58.8	106.3
Velva	--	--	--	82.3	55.3	68.8	104.8
MT1172	--	--	--	78.3	56.6	67.5	102.7
Elgin	--	--	--	74.6	59.3	67.0	102.0
Vida	47.7	63.8	49.0	76.0	55.3	58.4	100.0
Duclair	52.2	61.4	46.8	67.8	53.9	56.4	96.7
Reeder	47.5	54.5	47.0	78.3	54.6	56.4	96.6
SY Tyra	--	62.4	45.7	76.2	50.0	58.6	96.0
Choteau	47.6	58.4	44.2	71.9	51.8	54.8	93.9
Mott	37.4	64.0	47.2	71.6	51.3	54.3	93.0
Barlow	--	--	--	--	51.4	51.4	92.9
McNeal	38.8	58.7	43.8	76.4	49.7	53.5	91.6
Prosper	--	56.5	46.9	76.7	42.0	55.5	91.0
WB9879CLP	--	--	--	68.2	50.9	59.6	90.7
Egan	--	--	--	--	50.0	50.0	90.4

NOTE: Average yields in this summary should not be compared to each other since they are not grown in the same years. Compare yields only to the check variety.

Table 11. Relative test weights of spring wheat varieties as compared to Vida when grown under dryland conditions in Roosevelt County in cooperation with CES.

Cultivar	2010	2011	2012	2013	2014	Ave	as % of Vida
Barlow	--	--	--	--	60.5	60.5	108.0
Brennan	--	--	--	--	58.5	58.5	104.5
Reeder	58.0	61.5	58.0	61.0	56.0	58.9	101.4
Velva	--	--	--	62.0	55.5	58.8	101.3
Elgin	--	--	--	62.0	55.0	58.5	100.9
Mott	56.5	61.5	57.0	61.5	56.0	58.5	100.7
SY Tyra	--	61.0	57.0	60.5	55.0	58.4	100.2
Vida	57.5	61.0	56.0	60.0	56.0	58.1	100.0
Prosper	--	60.0	56.0	61.5	55.5	58.3	100.0
WB9879CLP	--	--	--	59.5	55.5	57.5	99.1
MT1172	--	--	--	59.0	55.5	57.3	98.7
McNeal	56.0	60.0	55.5	60.5	54.5	57.3	98.6
Choteau	55.5	59.5	56.0	60.0	54.5	57.1	98.3
Egan	--	--	--	--	55.0	55.0	98.2
Duclair	55.0	59.0	56.0	59.5	54.5	56.8	97.8

NOTE: Average test weights in this summary should not be compared to each other since they are not grown in the same years. Compare test weights only to the check variety.

Table 12 Relative protein contents of spring wheat varieties as compared to Vida when grown under dryland conditions in Roosevelt County in cooperation with CES.

Cultivar	2010	2011	2012	2013	2014	Ave	as % of Vida
Egan	--	--	--	--	15.4	15.4	108.5
Elgin	--	--	--	15.0	14.9	15.0	104.5
WB9879CLP	--	--	--	14.7	14.8	14.8	103.1
Reeder	15.4	15.1	15.9	14.6	15.4	15.3	103.0
MT1172	--	--	--	15.4	14.0	14.7	102.8
Mott	15.6	14.0	16.0	14.8	15.4	15.2	102.2
Barlow	--	--	--	--	14.5	14.5	102.1
Choteau	15.3	13.9	16.5	14.8	14.9	15.1	101.6
McNeal	14.9	13.3	16.5	15.3	15.4	15.1	101.6
Brennan	--	--	--	--	14.4	14.4	101.4
Velva	--	--	--	14.4	14.5	14.5	101.0
Duclair	16.1	13.8	15.8	14.2	14.3	14.8	100.0
Vida	15.6	14.7	15.3	14.4	14.2	14.8	100.0
Prosper	--	15.0	15.5	13.4	14.0	14.5	98.8
SY Tyra	--	13.6	14.8	13.0	14.8	14.1	95.9

NOTE: Average protein contents in this summary should not be compared to each other since they are not grown in the same years. Compare protein contents only to the check variety.

Table 13. Performance of spring wheat grown under dryland conditions at Nashua, MT.
Planted: May 23, 2014 Harvested: September 15, 2014 Cooperator: Bill Lauckner

Variety	height, in	test wt, lb/bu	grain protein, %	yield, bu/ac	$/acre[1] +/- Vida
McNeal	29.8	53.5	14.03	60.1	135.80
Elgin	30.6	54.0	14.76	54.8	112.14
Velva	28.3	54.5	15.03	51.9	92.38
SY Tyra	24.8	55.5	13.66	51.7	37.16
CAP400-1	27.7	54.0	15.80	43.9	34.29
Reeder	28.1	55.5	14.50	47.3	32.45
Brennen	25.8	57.0	14.85	45.6	23.09
Prosper	27.7	54.5	13.24	49.8	10.46
Vida	27.6	55.5	13.07	49.8	0.00
Choteau	26.0	52.5	15.34	41.2	-6.32
Barlow	31.9	59.0	13.47	44.7	-24.51
WB9879CLP	27.4	53.5	14.94	39.4	-30.62
Duclair	27.4	53.0	14.29	40.8	-36.02
Mott	29.0	54.5	14.81	37.7	-53.38
average	28.0	54.7	14.34	47.5	
probability	0.007			0.033	
CV (S/Mean)	6.5			15.6	
LSD 0.05	3.1			12.4	

[1] Wheat prices compiled and summarized by P. Lamb, NARC, Havre, MT, from 4-yr (2010-2013) average daily market values for PNW, supplied by the Montana Wheat and Barley Committee.

Table 14. Relative yielding abilities of spring wheat varieties as compared to Vida when grown under dryland conditions in Valley County in cooperation with CES.

Cultivar	2010	2011	2012	2013	2014	Ave	as % of Vida
MT1172	--	--	--	54.6	54.0	54.3	110.3
Elgin	--	--	--	49.5	54.8	52.2	105.9
Velva	--	--	--	46.7	51.9	49.3	100.1
Vida	40.8	48.8	25.5	48.7	49.8	42.7	100.0
SY Tyra	--	45.2	24.1	42.9	51.7	41.0	94.8
Prosper	--	39.3	29.5	43.4	49.8	40.5	93.8
McNeal	38.8	44.4	20.5	35.6	60.1	39.9	93.4
Reeder	38.6	45.1	23.7	42.0	47.3	39.3	92.1
Brennan	--	--	--	--	45.6	45.6	91.6
Barlow	--	--	--	--	44.7	44.7	89.8
Egan	--	--	--	--	43.9	43.9	88.2
WB9879CLP	--	--	--	45.9	39.4	42.7	86.6
Choteau	28.4	40.4	20.9	39.6	41.2	34.1	79.8
Mott	18.0	41.9	23.4	49.3	37.7	34.1	79.7
Duclair	25.8	35.9	20.8	33.2	40.8	31.3	73.3

NOTE: Average yields in this summary should not be compared to each other since they are not grown in the same years. Compare yields only to the check variety.

Table 15. Relative test weights of spring wheat varieties as compared to Vida when grown under dryland conditions in Valley County in cooperation with CES.

Cultivar	2010	2011	2012	2013	2014	Ave	as % of Vida
Barlow	--	--	--	--	59.0	59.0	106.3
SY Tyra	--	61.5	60.0	62.5	55.5	59.9	103.0
Brennan	--	--	--	--	57.0	57.0	102.7
Velva	--	--	--	62.0	54.5	58.3	101.3
Mott	56.5	60.5	58.0	61.5	54.5	58.2	100.9
Reeder	56.5	60.0	57.5	60.0	55.5	57.9	100.3
Vida	56.0	60.0	57.5	59.5	55.5	57.7	100.0
MT1172	--	--	--	60.5	54.5	57.5	100.0
Prosper	--	60.0	57.0	61.0	54.5	58.1	100.0
Elgin	--	--	--	60.5	54.0	57.3	99.6
McNeal	56.5	59.5	56.5	61.0	53.5	57.4	99.5
WB9879CLP	--	--	--	60.0	53.5	56.8	98.7
Choteau	55.5	59.5	56.5	59.0	52.5	56.6	98.1
Duclair	54.0	59.5	57.0	58.0	53.0	56.3	97.6
Egan	--	--	--	--	54.0	54.0	97.3

NOTE: Average test weights in this summary should not be compared to each other since they are not grown in the same years. Compare test weights only to the check variety.

Table 16. Relative protein contents of spring wheat varieties as compared to Vida when grown under dryland conditions in Valley County in cooperation with CES.

Cultivar	2010	2011	2012	2013	2014	Ave	as % of Vida
Egan	--	--	--	--	15.8	15.8	120.6
Brennan	--	--	--	--	14.8	14.8	113.0
WB9879CLP	--	--	--	15.1	14.9	15.0	111.5
Elgin	--	--	--	14.8	14.8	14.8	110.0
Reeder	15.8	16.2	15.6	14.0	14.5	15.2	106.4
Choteau	14.9	14.5	16.7	14.4	15.3	15.2	106.0
Velva	--	--	--	13.1	15.0	14.1	104.5
MT1172	--	--	--	14.7	13.3	14.0	104.1
Mott	15.2	14.8	15.3	14.1	14.8	14.8	103.8
Barlow	--	--	--	--	13.5	13.5	103.1
McNeal	14.7	14.2	16.3	13.6	14.0	14.6	101.8
Duclair	14.8	13.9	14.7	14.7	14.3	14.5	101.3
Vida	14.7	15.3	14.6	13.8	13.1	14.3	100.0
Prosper	--	14.1	14.3	13.2	13.2	13.7	96.5
SY Tyra	--	14.0	14.1	12.4	13.7	13.6	95.4

NOTE: Average protein contents in this summary should not be compared to each other since they are not grown in the same years. Compare protein contents only to the check variety.

Table 17. Performance of spring wheat grown under dryland conditions at Wibaux, MT.
Planted: May 22, 2014 Harvested: September 16, 2014 Cooperator: Rick Miske

Variety	Height, in	Grain protein	Test weight	Yield, bu/acre	$/acre[1] +/- Vida
WB9879CLP	28.5	14.36	57.0	56.3	100.33
SY Tyra	25.3	12.56	59.0	65.9	100.00
CAP400-1	29.6	15.50	56.0	50.3	83.85
Mott	30.7	13.73	58.5	54.4	62.94
Barlow	34.1	13.74	61.5	54.0	59.34
McNeal	30.7	13.11	57.0	57.5	55.80
Brennen	25.5	15.20	59.0	47.8	50.80
Elgin	32.6	14.00	57.5	51.3	45.79
Velva	30.0	12.46	58.5	58.3	39.20
Vida	27.7	11.32	59.0	53.4	0.00
Choteau	26.7	12.14	58.0	53.1	-2.40
Reeder	30.7	12.46	59.5	52.6	-6.40
Prosper	29.9	11.19	59.0	51.3	-16.80
Duclair	26.7	12.07	57.0	49.7	-29.60
average	29.2	13.15	58.3	54.4	
probability	<0.001			0.080	
CV (S/Mean)	4.4			11.0	
LSD 0.05	2.1			10.1	

[1] Wheat prices compiled and summarized by P. Lamb, NARC, Havre, MT, from 4-yr (2010-2013) average daily market values for PNW, supplied by the Montana Wheat and Barley Committee.