Project Title: Evaluation of spring wheat cultivar performance under continuous-crop and crop-crop-fallow systems in central Montana

Project Leader:	D. M. Wichman	Research Agronomist, Moccasin, MT
Project Personnel:	L.E. Talbert	MAES Spr. Wheat Breeder, Bozeman, MT
	S.P. Lanning	MAES Res Assoc. SW Brdr, Bozeman, MT
	B.J.S. Deanon	CARC Res. Assoc. Moccasin, MT
	J. Vavrovsky	CARC Res. Spec., Moccasin, MT
	S. Dahlhausen	CARC Seasonal Field Tech, Moccasin, MT

Objective:
Evaluate relative performance spring wheat cultivars and development lines in central Montana crop environments.

Results:
Twenty spring wheat entries were established on NTCC at Moccasin, Denton, Geraldine, and Ft. Benton. The 2012 growing season was warmer and dryer than the long term average. Geraldine had more optimal precipitation. Warm spring growing conditions were interrupted with of freezing temperatures. At CARC, it froze five consecutive nights May 24-29. The spring wheat showed less frost stress than barley. Driving hail on June 5 removed 10-15% of the spring wheat leaf tissue. 2012 Sawfly cutting was minimal to none. The 2012 spring wheat crop ripened 10-15d earlier than normal. Ft. Benton trial is the first there in ten years.

Three NTCC site mean yields, Moccasin-21.1 bu/a, Denton-23.2 bu/a, Geraldine-30.4, are surprisingly close to the recent six year average (Tables 1-7). Ft. Benton data represents one rep. A down pour buried the seed too deep. Outlook, MT1008, IMICHT79 and SY Tyra were the high yielders for the four locations, respectively. Test weights were low, particularly at Moccasin and Denton at 55.0 and 56.24 lbs/bu, respectively. Geraldine and Ft. Benton both had trial mean test weights of 58.8 lbs/bu. Volt had the high test weight across the four locations. The mean protein content across all four locations was above 15%. Moccasin averaged 18.1% with Mott having trial high protein at 19.3%. Mott had the high protein at Denton with 16.9%. McNeal and Mott, at 17.6% and 17.2% protein, respectively, had the high protein contents at Geraldine. Hank top the Fort Benton location at 16.9% grain protein content.

Vida is used as the standard for multi-year comparison of spring wheat cultivars for yield, test weight, protein, and plant height (See Tables 5-13). Vida is consistently the high or near high grain producer at all three locations. Vida had much below average yield at Moccasin in 2008 which pulls its multi-year mean yield below the mean yields of Outlook, Oneal and Fortuna. Vida is near the mean for test weight and slightly below the mean for grain protein. Mott was frequently at or near the top for protein content.

Summary:
2012 Was a droughty year. However, the 2012 yields were not as far off the six year average as might have been expected.

Funding Summary:
Expenditure information to be provided by OSP. No other grant support was provided.

MWBC FY2011 Grant Submission Plans:
It is planned to submit this project for funding consideration in the next fiscal year.

Table 1 2012 Moccasin no-till recrop spring wheat cultivar evaluation trial.
Exp 129970 Central Agricultural Research Center. Moccasin, Montana

Cultivar	trt	Plant Height	Grain Yield	Test Weight	Protein Content
	#	cm	bu/a	lbs/bu	%
OUTLOOK	4	58	25.1	55.6	15.9
ONEAL	12	57	24.5	55.7	18.8
MT 1053	20	55	23.2	54.4	17.8
FORTUNA	1	62	22.9	54.6	18.2
MCNEAL	2	60	22.8	53.7	18.2
WB GUNNISON	17	56	21.9	54.4	18.3
MT 1008	19	55	21.5	55.1	17.7
CHOTEAU	5	57	21.4	55.4	17.3
VIDA	6	51	21.2	54.7	17.3
DUCLAIR	7	58	21.2	54.3	17.4
IMICHT79	13	48	20.9	55.3	17.9
HANK	8	57	20.8	53.0	19.1
JEDD	11	56	20.6	56.3	18.7
VOLT	10	55	20.2	56.7	18.1
REEDER	3	53	20.1	56.6	17.5
MOTT	16	53	19.7	54.5	19.3
CORBIN	9	59	19.4	55.1	18.6
SY TYRA	18	50	18.8	54.9	18.3
KUNTZ	14	57	18.8	55.4	18.5
AP604CL	15	59	16.4	53.7	19.2
Mean		55.9	21.1	55.0	18.1
P-value		0.00	0.02	0.00	
CV 1		3.6	11.3	1.3	
LSD (0.05)		3.34	3.94	1.45	

Seed Date: 02 April 12 SE3d No-till continuous crop into lentil stubble.
Soil: 2' depth temp:13 C Moisture Probe: 14"
Fertilizer: Top dress 60 N W/seed: 50 lbs 20+20+20+10
Harvest: 6-Aug-12
Growing season: Below average precipitation. Spring conditions conducive to good root establishment. Above average temperature increased drought conditions.

Table 2 2012 Denton no-till recrop spring wheat cultivar evaluation trial.
Exp 129970 Central Agricultural Research Center. Moccasin, Montana

Cultivar	trt	Plant Height	Grain Yield	Test Weight	Protein Content
	#	cm	bu/a	lbs/bu	%
MT 1008	19	63	28.4	58.2	13.5
VIDA	6	63	26.9	56.0	15.2
MT 1053	20	59	26.3	56.8	13.8
ONEAL	12	62	25.9	57.3	15.5
WB GUNNISON	17	60	25.6	57.0	15.5
KUNTZ	14	61	23.8	58.4	15.7
HANK	8	62	23.6	52.5	16.5
SY TYRA	18	59	22.9	57.0	15.1
CORBIN	9	57	22.7	54.6	16.1
FORTUNA	1	65	22.6	56.2	14.7
JEDD	11	56	22.6	56.5	15.8
OUTLOOK	4	64	22.5	54.3	14.9
IMICHT79	13	56	22.4	57.2	15.0
REEDER	3	58	22.3	56.8	15.1
MOTT	16	65	22.3	57.3	16.9
AP604CL	15	66	21.2	55.2	16.6
VOLT	10	61	21.2	57.5	16.0
CHOTEAU	5	59	20.4	57.2	14.9
MCNEAL	2	61	20.3	55.4	15.8
DUCLAIR	7	65	20.0	53.8	15.6
Mean		61.0	23.2	56.24	15.41
P-value		0.082	0.001	0.000	
CV 1		6.8	9.4	1.5	
LSD (0.05)		6.9	3.62	1.73	

Seeded: 25 -April- 2012 On Lentil stubble seeding conditions great
Soil: Temp: 16C Moisture probe depth 18"
Fertilizer: Top dress 60 N W/seed: 50 lbs 20+20+20+10
Harvest: 07-Aug- 2012
Growing season: Below average precipitation. Spring conditions conducive to good root establishment.

Table 3 2012 Geraldine No-till recrop spring wheat cultivar evaluation trial.
Exp 129972 Central Agricultural Research Center. Moccasin, Montana

Cultivar	trt	Plant Height	Grain Yield	Test Weight	Protein Content
	#	cm	bu/a	lbs/bu	%
IMICHT79	13	61	33.8	59.3	16.5
OUTLOOK	4	72	33.8	58.5	15.9
MT 1053	20	65	32.9	57.3	16.9
VIDA	6	70	32.6	58.1	16.2
REEDER	3	65	32.1	58.8	16.4
KUNTZ	14	64	31.9	60.6	16.4
JEDD	11	60	31.5	58.7	16.9
CHOTEAU	5	69	31.1	59.5	16.4
ONEAL	12	72	30.6	58.7	16.7
WB GUNNISON	17	65	30.5	58.5	16.7
DUCLAIR	7	74	30.4	56.3	17.0
HANK	8	68	30.3	56.6	16.8
VOLT	10	66	29.7	60.3	17.5
CORBIN	9	69	29.0	57.8	16.5
MT 1008	19	66	28.9	58.9	16.3
SY TYRA	18	64	28.6	57.8	16.7
AP604CL	15	73	28.5	58.3	17.1
MCNEAL	2	76	28.1	57.3	17.6
MOTT	16	77	27.6	59.2	17.2
FORTUNA	1	81	26.3	59.0	16.5
Mean		68.9	30.4	58.5	16.7
P-value		0.00	0.05	0.00	0.00
CV 1		0	8.8	1.3	0
LSD (0.05)		0	4.41	1.53	0

Seed Date: 25-Apr-12 NTRC on winter wheat stubble (heavy)
Seed Conditions: 2" Soil Temp: 12C probe depth 18"
Fertilizer: Top dress 90 N W/seed: 50 lbs 20+20+20+10
Harvest: 07-Aug- 2012
Growing season: Below average precipitation. Spring conditions conducive to good root establishment.

Table 4 2012 Ft. Benton no-till recrop spring wheat cultivar evaluation trial.
Exp 129970 Central Agricultural Research Center. Moccasin, Montana

Cultivar	trt	Plant Height	Grain Yield	Test Weight	Protein Content
	#	cm	bu/a	lbs/bu	%
SY TYRA	18	52	28.8	60.8	14.5
MT 1008	19	57	27.9	59.6	14.8
VIDA	6	57	27.2	58.4	15.4
FORTUNA	1	75	27.1	58.2	15.3
MCNEAL	2	67	26.9	58.4	15.7
REEDER	3	67	26.6	57.8	16.2
MT 1053	20	52	26.1	60.3	14.9
VOLT	10	63	26.0	60.3	15.8
OUTLOOK	4	65	25.7	55.5	15.7
WB GUNNISON	17	57	25.7	59.7	15.0
DUCLAIR	7	62	25.4	56.2	16.1
CORBIN	9	65	25.1	57.4	16.5
HANK	8	62	24.7	55.1	16.9
IMICHT79	13	56	23.8	58.7	15.9
CHOTEAU	5	56	23.7	57.2	16.6
ONEAL	12	63	23.6	58.1	16.5
JEDD	11	60	23.4	59.1	15.6
MOTT	16	65	22.4	59.9	16.1
AP604CL	15	64	21.0	58.8	15.9
KUNTZ	14	61	20.9	59.8	16.3
Mean		61.3	25.1	58.5	15.8

Only one rep was harvested. Poor stand establishement

Seed Date: 25-Apr-12 NTRC on winter wheat stubble cut short.
Seed Conditions: Soil Temp 20 C probe depth 24"
Post Plant Chemical Fallow: Tom Allen applied glyphosate on April 26.
Fertilizer: Top dress 90 N W/seed: 50 lbs 20+20+20+10
Harvest: 07-Aug- 2012
Growing season: Seed bed conditions were good.Down poor filled double disk furrow, and high temperatures crusting and a poor stand. One rep was harvested.

Table 5 Moccasin multi-year spring wheat variety yields under no-till CC.
Exp 9970 Central Agricultural ResearchCenter. Moccasin, Montana.

	2007	2008	2009	2010	2011	2012	Average	Vida Same Yrs
				bu/a				
AP604 CL			16	26	28	16	21.6	**27.5**
Choteau	32	17	26	27	28	21	25.0	**26.0**
Corbin	33	14	23	31	25	19	24.2	**26.0**
Duclair				30	32	21	27.7	27.9
Fortuna	30	24	26	34	32	23	**28.0**	26.0
Hank	32	25	20	27	27	21	25.3	**26.0**
Jedd		16	24	29	30	21	23.8	**25.1**
IMICHT79					27	21	23.8	**26.6**
WB Gunnison					26	22	24.0	**26.6**
SY Tyra					23	19	20.9	**26.6**
Kuntz		19	21	22	24	19	20.9	**25.1**
McNeal	33	18	28	30	27	23	**26.6**	26.0
Mott				33	29	20	27.1	**27.9**
ONeal		16	28	33	34	25	**27.1**	25.1
Outlook	32	16	29	33	29	25	**27.1**	26.0
Reeder	31	15	24	28	32	20	25.1	**26.0**
Vida	**31**	**16**	**27**	**30**	**32**	**21**	**26.0**	**26.0**
Volt		23	21	24	27	20	23.0	**25.1**
Means	31.2	18.1	23.4	29.3	28.6	21.1		

Varieties with multi-year mean yield > than **Vida** for the same years are in **bold.**

Table 6 Denton multi-year no-till CC spring wheat yield performance.
Exp 9971 Central Agricultural Research Center. Moccasin, Montana.

Pedigree	2007	2008	2009	2010	2011	2012	Average	Vida Same Yrs.
				bu/a				
AP604CL			26	28	16	21	22.8	**29.0**
Choteau	22	14	26	**37**	16	20	22.5	**26.5**
Corbin	23	16	28	**35**	16	23	23.5	**26.5**
Duclair				**37**	16	20	24.1	**27.0**
Fortuna	19	17	26	32	15	23	21.9	**26.5**
Hank	24	16	32	24	17	24	22.7	**26.5**
IMICHT79					16	22	19.1	**22.3**
Jedd		18	31	31	17	23	23.9	**26.8**
Kuntz		17	30	21	16	24	21.5	**26.8**
McNeal	24	17	22	30	16	20	21.6	**26.5**
Mott				32	16	22	23.7	**27.0**
ONeal		19	33	**37**	16	26	26.2	**26.8**
Outlook	23	14	28	32	18	23	22.8	**26.5**
Reeder	21	16	27	28	17	22	22.0	**26.5**
SY Tyra					16	23	19.6	**22.3**
Vida	**25**	**18**	**35**	**36**	**18**	**27**	**26.5**	**26.5**
Volt		16	29	22	16	21	20.9	**26.8**
WB Gunnison					17	26	21.3	**22.3**
Mean	22.7	16.6	27.8	31.0	16.3	23.2		

Varieties with multi-year mean > than **Vida** for the same years are in **bold.**

Table 7 Geraldine multi-year spring wheat variety yield performance.
Exp 9972 Central Agriucultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	2011	2012	Average	Vida same Yrs
				bu/a				
AP604CL			24	24	23	29	24.9	**32.5**
Choteau	40	28	26	32	27	31	30.8	**34.6**
Corbin	39	25	25	36	30	29	30.7	**34.6**
Duclair				34	27	30	30.2	**32.8**
Fortuna	34	25	23	35	25	26	28.1	**34.6**
Hank	37	25	24	25	27	30	27.9	**34.6**
IMICHT79					28	34	30.7	**31.7**
Jedd		21	24	28	24	32	25.6	**31.6**
Kuntz		19	22	20	24	32	23.3	**31.6**
McNeal	31	22	26	26	26	28	26.4	**34.6**
Mott				33	24	28	28.3	**32.8**
ONeal		29	29	35	28	31	30.4	**31.6**
Outlook	40	24	24	31	28	34	30.1	**34.6**
Reeder	40	27	27	28	27	32	30.0	**34.6**
SY Tyra					23	29	25.8	**31.7**
Vida	**50**	**28**	**32**	**35**	**31**	**33**	**34.6**	**34.6**
Volt		22	30	23	28	30	26.6	**31.6**
WB Gunnison					29	31	29.6	**31.7**
Mean	39.8	23.1	25.4	30.2	26.5	30.4		

Varieties multi-year mean yields > than **Vida** for the same years are in **bold.**

Table 8 Moccasin multi-Year spring wheat test weights under no-till CC.
Exp 997010 Central Agricultural Research Center. Moccasin, Montana.

	2007	2008	2009	2010	2011	2012	Average	Vida Same Yrs
				lbs/bu				
AP604 CL			59.8	58.8	59.6	53.7	58.0	**58.3**
Choteau	53.7	58.6	58.7	59.8	60.1	55.4	**57.7**	57.5
Corbin	52.4	58.6	60.5	59.0	59.0	55.1	57.4	**57.5**
Duclair				58.1	57.9	54.3	56.8	**57.9**
Fortuna	53.9	58.1	59.2	59.8	60.2	54.6	**57.6**	57.5
Hank	50.7	56.9	59.4	56.2	58.3	53.0	55.7	**57.5**
Jedd		58.8	60.7	58.9	60.0	56.3	**58.9**	58.4
IMICHT79					60.0	55.3	**57.6**	57.0
WB Gunnison					59.7	54.4	**57.0**	**57.0**
SY Tyra					60.1	54.9	**57.5**	57.0
Kuntz		58.4	59.7	59.5	59.6	55.4	**58.5**	58.4
McNeal	52.3	57.5	59.8	59.1	58.9	53.7	56.9	**57.5**
Mott				59.0	59.2	54.5	57.6	**57.9**
ONeal		59.4	61.2	60.4	60.2	55.7	**59.4**	58.4
Outlook	51.4	57.3	58.9	58.7	59.7	55.6	56.9	**57.5**
Reeder	54.0	58.7	60.7	60.6	61.1	56.6	**58.6**	57.5
Vida	**53.5**	**58.8**	**59.3**	**59.7**	**59.4**	**54.7**	**57.5**	**57.5**
Volt		59.8	60.9	60.6	60.8	56.7	**59.8**	58.4
Means	53.21	58.51	59.98	59.41	59.74	54.95		

Varieties with multi-year mean > than **Vida** for the same years are in **bold.**

Table 9 Denton multi-year spring wheat variety test weight in no-till CC.
Exp 9971 Central Agricultural Research Center. Moccasin, Montana.

Pedigree	2007	2008	2009	2010	2011	2012	average	Vida Same Yrs
				lbs/bu				
AP604CL			62.9	61.1	62.3	55.2	**60.4**	59.6
Choteau	55.9	59.6	61.7	60.4	61.5	57.2	**59.4**	59.2
Corbin	55.7	58.8	61.9	60.1	61.5	54.6	58.8	**59.2**
Fortuna	56.0	59.6	62.4	59.5	61.3	56.2	59.1	**59.2**
Duclair				60.1	61.2	53.8	58.4	**58.8**
Hank	53.7	58.1	62.2	58.2	60.3	52.5	57.5	**59.2**
Jedd		61.2	63.0	60.7	63.2	56.5	**60.9**	59.6
IMICHT79					62.0	57.2	**59.6**	58.4
WB Gunnison					61.7	57.0	**59.3**	58.4
SY Tyra					64.6	57.0	**60.8**	58.4
Kuntz		60.9	62.7	58.9	63.2	58.4	**60.8**	59.6
McNeal	56.1	58.7	61.9	59.0	58.7	55.4	58.3	**59.2**
Mott				59.9	62.6	57.3	**59.9**	58.8
ONeal		60.5	62.3	61.3	61.0	57.3	**60.5**	59.6
Outlook	54.9	59.0	62.7	58.6	59.1	54.3	58.1	**59.2**
Reeder	56.5	60.7	63.4	60.3	61.0	56.8	**59.8**	59.2
Vida	**56.9**	**60.0**	**61.8**	**59.7**	**60.9**	**56.0**	**59.2**	**59.2**
Volt		61.5	63.0	61.7	62.9	**57.5**	**61.3**	59.6
Mean	56.43	60.01	62.54	60.2	61.65	56.2		

Varieties with multi-year mean > than **Vida** for the same years are in **bold.**

Table 10 Geraldine multi-year spring wheat variety test weights.
Exp 9972 Central Agriucultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	2011	2012	Average	Vida same Yrs
				lbs/bu				
AP604CL			61.3	58.5	60.0	58.3	**59.5**	58.6
Choteau	59.3	61.4	59.9	57.1	58.8	59.5	**59.3**	59.1
Corbin	59.7	61.4	60.3	58.2	60.2	57.8	**59.6**	59.1
Duclair				57.2	58.7	56.3	57.4	**58.0**
Fortuna	58.4	60.8	59.1	59.3	61.1	59.0	**59.6**	59.1
Hank	56.2	60.5	60.0	56.9	59.1	56.6	58.2	**59.1**
IMICHT79					60.0	59.3	**59.6**	58.3
Jedd		62.5	61.3	58.9	60.0	58.7	**60.3**	59.3
Kuntz		60.5	60.6	57.4	60.0	60.6	**59.8**	59.3
McNeal	57.6	60.6	60.1	57.6	58.5	57.3	58.6	**59.1**
Mott				58.6	61.3	59.2	**59.7**	58.0
ONeal		62.0	61.7	59.6	60.2	58.7	**60.4**	59.3
Outlook	57.9	60.8	59.0	56.9	57.7	58.5	58.4	**59.1**
Reeder	59.8	62.2	60.7	59.1	59.3	58.8	**60.0**	59.1
SY Tyra					60.5	57.8	**59.2**	58.3
Vida	**58.5**	**62.1**	**60.4**	**57.3**	**58.5**	**58.1**	**59.1**	**59.1**
Volt		62.3	62.7	60.2	62.2	60.3	**61.5**	59.3
WB Gunnison					59.9	58.5	**59.2**	58.3
Mean	59.05	61.31	60.62	58.48	59.88	58.5		

Varieties with multi-year mean > than **Vida** for the same years are in **bold.**

Table 11 Moccasin multi-year spring wheat cultvar protein content in CC no-till.
Exp 9970 Central Agricultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	2011	2012	average	Vida Same Year
	%	%	%	%	%	%		%
AP604 CL			17.8	12.9	15.1	19.2	**16.3**	15.3
Choteau	14.6	14.8	17.6	12.6	15.8	17.3	**15.5**	14.8
Corbin	15.9	14.6	18.1	12.8	14.6	18.6	**15.8**	14.8
Duclair				13.2	14.8	17.4	**15.1**	14.6
Fortuna	14.9	14.5	16.2	12.7	15.8	18.2	**15.4**	14.8
Hank	15.8	13.5	18.5	12.6	15.4	19.1	**15.8**	14.8
IMICHT79					16.2	17.9	**17.1**	16.1
Jedd		13.5	17	13.4	14.2	18.7	**15.4**	14.8
Kuntz		13.7	15.7	12.8	14.6	18.5	**15.1**	14.8
McNeal	15.1	14.6	17.5	12.9	16.2	18.2	**15.8**	14.8
Mott				13.7	15.4	19.3	**16.1**	14.6
ONeal		13.7	17.3	12.9	15.0	18.8	**15.5**	14.8
Outlook	14.5	13.2	16.3	12.0	15.2	15.9	14.5	**14.8**
Reeder	14.9	14.2	16.3	12.4	15.5	17.5	**15.1**	14.8
SY Tyra					15.4	18.3	**16.9**	16.1
Vida	**14.9**	**12.8**	**17.4**	**11.7**	**14.8**	**17.3**	**14.8**	**14.8**
Volt		13.9	16	13.7	13.8	**18.1**	**15.1**	14.8
WB Gunnison					15.4	18.3	**16.9**	16.1
Means	15.26	14.06	16.94	12.88	15.27	18.1		

Varieties with multi-year mean > than **Vida** for the same years are in **bold.**

Table 12 Denton multi-year spring wheat cultivar protein content in CC no-till.
Exp 9971 Central Agricultural Research Center. Moccasin, Montana.

Pedigree	2007	2008	2009	2010	2011	2012	Average	Vida Same Yrs.
			%					
AP604CL			14.8	14.2	14.1	16.6	**14.9**	13.7
Choteau	15.5	14.5	15.0	13.9	14.6	14.9	**14.7**	13.7
Corbin	14.7	13.9	14.6	13.3	13.9	16.1	**14.4**	13.7
Duclair				13.5	13.6	15.6	**14.2**	13.6
Fortuna	17.0	14.6	14.6	13.2	14.6	14.7	**14.8**	13.7
Hank	15.0	13.3	13.3	13.7	13.2	16.5	**14.2**	13.7
IMICHT79					13.4	15.0	**14.2**	13.9
Jedd		13.2	13.4	13.3	13.8	15.8	**13.9**	13.6
Kuntz		12.4	13.4	12.9	12.2	15.7	13.3	**13.6**
McNeal	15.3	13.9	14.2	13.2	14.2	15.8	**14.4**	13.7
Mott				14.1	14.0	16.9	**15.0**	13.6
ONeal		13.7	13.7	13.1	13.8	15.5	**14.0**	13.6
Outlook	15.3	12.8	13.8	12.9	13.4	14.9	**13.9**	13.7
Reeder	15.2	12.7	14.3	13.5	14.3	15.1	**14.2**	13.7
SY Tyra					12.4	15.1	13.8	**13.9**
Vida	**14.2**	**13.1**	**13.9**	**13.1**	**12.6**	15.2	**13.7**	**13.7**
Volt		13.0	13.4	12.9	12.7	16.0	**13.6**	13.6
WB Gunnison					13.2	15.5	**14.4**	13.9
Mean	15.1	13.6	14.4	13.43	13.7	15.41		

Varieties with multi-year mean > than **Vida** for the same years are in **bold.**

Table 13 Multi-Year spring wheat cultivar protein content near Geraldine.
Exp 997210 Central Agricultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	2011	2012	Average	Vida Same Yrs
				%				
AP604CL			14.1	15.2	15.6	17.1	**15.5**	14.7
Choteau	15.4	11.8	14.3	15.1	16.5	16.4	**14.9**	14.3
Corbin	14.7	11.5	14.3	14.9	14.5	16.5	**14.4**	14.3
Duclair				14.3	14.8	17.0	**15.4**	15.2
Fortuna	16.5	11.4	14.5	14.7	14.2	16.5	**14.6**	14.3
Hank	15.7	11.1	13.6	15.1	14.3	16.8	**14.4**	14.3
IMICHT79					14.9	16.5	15.7	15.9
Jedd		10.5	13.6	14.6	14.6	16.9	14.0	14.1
Kuntz		11.3	13.4	14.0	13.6	16.4	13.7	14.1
McNeal	16.2	12.0	14.7	14.8	14.6	17.6	**15.0**	14.3
Mott				15.4	14.2	17.2	**15.6**	15.2
ONeal		10.8	13.6	14.5	14.9	16.7	**14.1**	14.1
Outlook	15.0	11.8	14.8	14.1	15.3	15.9	**14.5**	14.3
Reeder	15.3	11.7	14.0	15.2	14.4	16.4	**14.5**	14.3
SY Tyra					13.9	16.7	15.3	15.9
Vida	**15.4**	**11.7**	**13.4**	**13.8**	**15.5**	**16.2**	**14.3**	**14.3**
Volt		11.9	13.5	13.5	13.8	17.5	14.0	14.1
WB Gunnison					14.6	16.7	15.7	15.9
Mean	15.42	11.56	14.25	14.67	14.77	16.71		

Varieties with multi-year means > than **Vida** for the same years are in **bold.**