

Summary of

EARs

Emo Agricultural

Research Station

2012

By

Kim Jo Bliss

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EARS 2012~

Well for the 2nd year in a row I cannot complain about the moisture; well maybe I can complain about the lack of it! We had a very dry year as you will see from our Weather Summary. For some reason I seem to be more behind this year. I am blaming it on the fact that we were able to work outside more and spent less time to entering data. I am sure things weather wise will turn the other way on us again.

I was fortunate to have both David Donaldson and Josh Boven return as our summer students this year. It is very nice to have students return, not only does it help with the work but I hope it also implies that it is a pretty good place to work as well. The boys are good workers and give the job their best effort and I really appreciate this.

We certainly could have been planting quite early in April but I had to hold off until the students started. We managed to get a good chunk planted on the last day of April. We certainly didn't have any weather delays in planting but instead we did wait for warmer temperatures for our soybeans and sorghum. Our forage harvest went well for 1st cut and from just finishing up our summaries I was shocked to see how well the 1st cut Alfalfa yields were. We held off with 2nd cut until after the Open House and then we had Swift Current (forage harvester) problems so then things were delayed. The machine was repaired but ended up not working properly so it meant further delays. We now have a new motor on the swift current so we should be good for a few years again. This did mess up some of our data but it is difficult when things are not working; no different than farming!

We actually experienced a few combine problems. The wind on the combine was not working properly and in the process of trying to fix this we ended up with some of the screens put in backwards. Thankfully for the use of a smartphone; pictures helped solve this issue and we were back in action. I have requested that we plant our entire plots 10 row in the future to ensure less error's when combining and it sounds like this won't be a problem.

Since the Tait Brothers were in the district tiling we took the opportunity to try and find out what we could do to improve our drainage issues. The hard part is we were experiencing a dry year so it was difficult to show what the actual problems are. We did install and couple of hickenbottoms as inspection tools. We plan to install once more next spring.

Thanks again for the continued support. I enjoy the visits and all the guests we have throughout the year and of course at our Open House. Thanks to the businesses locally that supports us every year.

Next year will be a different year. My boss John Rowsell is retiring November 30, 2012 and I will miss him and his support that he has given to EARS over the years. I am sure things will continue on but we are losing a strong supporter of Research in the North. I look forward to next year but I am sure we will see some challenges!

Thanks again!

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Weather Summary - Emo Agricultural Research Station											
Crop Heat Units											
	May	June	July	August	September	October	TOTAL	Beginning Date	Ending Date		
2000	352	466	693	658	188	0	2357	Apr-27	15-Sep-00		
2001	366	577	681	656	195	0	2475	Apr-28	14-Sep-01		
2002	41	503	706	638	289	0	2177	May-30	15-Sep-02		
2003	299	588	687	747	301	0	2622	May-09	15-Sep-03		
2004	0	437	671	530	312	0	1950	Jun-03	15-Sep-04		
2005	243	655	763	649	505	0	2815	May-09	15-Sep-05		
2006	408	606	780	686	163	0	2643	Apr-16	08-Sep-06		
2007	464	658	717	656	185	0	2680	Apr-22	11-Sep-07		
2008	183	541	683	700	186	0	2293	May-01	12-Sep-07		
2009	205	514	587	619	322	0	2247	May-01	15-Sep-09		
2010	368	550	738	720	161	0	2537	May-01	15-Sep-10		
2011	307	536	747	665	238	0	2493	May-01	14-Sep-11		
2012	348	598	766	636	231	0	2579	May-01	14-Sep-12		
We stop collecting CHU's whenever we reach -2.5 or September 15 - which ever comes first.											
Rainfall											
	May	June	July	August	September	October	TOTAL				
2000	55	108	56	97	48.5	54.2	418.7				
2001	134	83.5	122.5	137	42.5	110.6	630.1				
2002	63	301.5	97	99	42	16.6	619.1				
2003	32.5	133.5	83	57.5	59	25.6	391.1				
2004	185.7	52.9	114.1	83.7	138.5	112.1	687.0				
2005	127.6	224.5	98	107.3	67	77.2	701.6				
2006	79.6	40	57.3	37.6	35.4	26.8	276.7				
2007	113.5	170.4	72	27.25	76.5	116	575.7				
2008	84.5	129.5	104	53	113	112.5	596.5				
2009	53.5	52.5	76.5	105.5	48	61.7	397.7				
2010	117.2	133.7	152	105.5	171	38	717.4				
2011	34	110	41.5	31	63.9	27.3	307.7				
2012	34	78	77.5	36	19	84.2	328.7				
Normal's from Environment Canada - (rainfall amounts)											
	67.3	113.8	99	84	79.4	50.4	493.9				

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EMO OCCC Oat Performance 2012
Emo Agricultural Research Station
(EOPT12)

Seeded: 30-Apr-12
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Mextrol @ 1.4 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw
3	3006	Alcyon	3807.9	4603.2	26.3	43.6	0.0	94.5	55.5	89.0	104	82
5	3008	Prescott	3732.7	4570.1	29.3	43.0	0.0	105.5	59.3	89.3	102	81
13	3015	Robust	4397.5	5602.3	28.5	40.2	0.0	97.0	55.5	90.0	121	100
7	3016	Bia	3398.2	5326.7	26.8	43.0	0.0	93.3	56.0	86.5	93	95
14	3019	Canmore	3115.8	6326.4	27.9	43.3	0.0	93.3	55.5	87.5	85	113
12	3025	RC Amaze	3409.8	5297.8	25.1	40.5	0.0	88.5	60.3	89.0	94	94
24	3026	Synextra	2924.8	6902.4	26.8	41.1	0.3	99.3	61.0	90.5	80	123
17	3028	Navaro	4145.8	6426.7	26.4	43.6	0.0	91.3	58.0	87.5	114	115
19	3031	Dieter	3256.4	5826.6	30.1	42.7	0.0	99.3	63.0	87.3	89	104
11	3032	Avatar	4161.1	5769.3	29.1	43.0	0.0	95.8	56.0	89.8	114	103
4	3033	Oscar	3132.5	3529.7	26.4	44.1	0.0	91.0	56.3	86.0	86	63
10	3034	OA1174-3	4719.8	4838.6	27.5	42.1	0.0	91.5	56.0	90.5	129	86
6	3037	Optimum	4113.7	4541.2	26.7	44.9	0.0	88.0	57.5	86.3	113	81
23	3038	SA04213	3575.1	4831.6	29.0	41.5	0.0	93.3	61.0	86.0	98	86
25	3039	Vitality	3508.5	6073.8	30.4	42.7	0.0	98.5	60.5	86.8	96	108
18	3043	Bradley	3276.6	6426.7	26.4	43.3	0.0	96.0	56.0	87.8	90	115
15	3044	CANTAL	3146.3	7328.5	27.3	42.8	0.0	94.0	63.0	87.5	86	131
20	3046	OA1251-1	3586.7	7278.3	29.5	45.5	0.0	101.5	59.5	93.0	98	130
16	3047	IDAHO	4525.5	5761.6	29.5	43.2	0.0	98.8	61.0	88.0	124	103
1	3049	OA1250-1	3116.5	6140.5	28.6	41.2	0.0	92.8	59.0	87.8	86	109
2	3050	OA1262-1	3487.6	5381.0	27.1	42.4	0.0	97.3	60.0	88.0	96	96
9	3051	Nice	3685.6	5191.0	26.2	44.6	0.0	89.5	58.5	86.3	101	92
8	3052	CFA1201	4203.9	4488.7	28.3	43.0	0.0	94.3	60.0	87.8	115	80
22	3053	SA060123	3456.8	6466.3	25.7	39.3	0.0	98.0	61.0	90.8	95	115
21	3054	SA03259	3235.9	5391.0	30.8	44.3	0.0	97.0	59.0	88.0	89	96

Average	3644.8	5612.8	27.8	42.8	0.0	95.2	59	88
LSD (0.05)	1176.7	2101.9	2.7			8.1	2.5	3.0
C.V.	22.88%	26.59%	6.88%	7.98%		6.09%	3.06%	2.41%

EMO OCCC Barley Performance 2012
 Emo Agricultural Research Station
 (EBPT12)

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Seeded: 30-Apr-12
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Mexrol @ 1.4 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw
13	1009	Bornholm	3148.6	4245.6	32.0	58.6	0.0	67.0	56.5	84.0	104	76
21	1026	Encore	2970.1	7910.3	32.3	52.4	0.0	87.8	57.5	89.0	98	143
8	1030	Cyane	3125.2	4349.6	33.0	52.4	0.0	81.5	59.0	88.8	104	78
3	1034	OAC Ripley	2982.8	5409.8	32.3	54.9	0.0	79.3	55.5	87.8	99	97
20	1037	Dignity	3038.4	3888.4	33.6	53.6	0.0	84.8	55.5	86.5	101	70
17	1038	HY 481-6R	3120.2	4452.4	32.7	58.6	0.0	77.0	53.5	84.0	103	80
7	1040	Corcy	2582.2	6249.1	34.5	54.9	0.0	84.8	58.5	87.8	86	113
12	1042	Yielder	2634.1	6192.6	32.6	54.9	0.0	80.0	61.0	89.5	87	112
33	1043	SYNABELLE	3280.8	5513.7	33.8	54.9	0.0	83.5	57.0	86.8	109	99
31	1049	OCEANIK	3756.4	6788.7	33.0	56.1	0.0	83.0	58.0	84.5	124	122
30	1056	Harmony	2314.3	6523.2	32.5	53.6	0.0	84.0	59.0	89.3	77	118
34	1057	Synasolis	4306.2	6963.6	34.3	54.9	0.0	78.3	62.0	90.3	143	125
19	1059	Amberly	3588.2	7431.8	40.3	58.6	0.0	86.3	59.0	88.3	119	134
15	1063	HY 435-2R	3196.6	3992.9	33.0	58.6	0.0	78.3	57.0	85.8	106	72
18	1064	HY101-6R	3116.1	4162.0	34.6	53.6	0.0	67.0	52.8	84.0	103	75
2	1069	Alliance	3066.5	4974.6	31.2	57.4	0.0	83.5	55.5	87.0	102	90
16	1071	HY 460-6R	3129.8	4703.9	32.5	58.6	0.0	73.8	57.0	86.3	104	85
32	1072	Pandora	3123.9	5438.1	29.8	57.4	0.0	78.0	56.5	86.3	103	98
9	1073	Rhea	2837.2	5180.2	33.5	54.9	0.0	78.0	61.0	89.8	94	93
6	1076	CFO0712	3673.4	5072.2	29.9	56.1	0.0	80.3	55.0	85.0	122	91
14	1080	C621-013	4018.8	6052.8	37.2	59.9	0.0	88.3	54.3	86.0	133	109
5	1082	Alyssa	3218.0	6686.5	35.4	56.1	0.0	87.5	58.0	89.8	107	120
28	1084	SC 10B2R	2963.7	4694.7	33.1	58.6	0.0	76.5	56.5	83.5	98	85
4	1092	Bentley	2606.7	7233.1	33.4	53.6	0.0	75.5	58.0	86.3	86	130
1	1093	OB5447-8	2210.6	6134.2	32.5	52.4	0.0	81.5	57.5	88.8	73	111
22	1094	GB092001	2244.9	4620.3	39.9	52.4	0.0	73.0	55.0	83.0	74	83
23	1095	GB092002	2086.1	4510.6	37.1	58.6	0.0	75.0	52.0	84.5	69	81
24	1096	GB092003	2419.9	7548.4	43.4	57.4	0.0	80.8	54.3	86.3	80	136
25	1097	GB096001	3060.7	5331.4	32.8	52.4	0.0	78.3	52.0	84.0	101	96
26	1098	GB096002	2799.4	4802.1	28.9	58.6	0.0	79.5	55.0	83.5	93	87
27	1099	GB096003	2775.1	6179.9	37.5	57.4	0.0	86.0	54.3	86.0	92	111
10	1100	SQO09-01	3596.6	3892.4	32.0	57.4	0.0	78.8	55.0	84.5	119	70
11	1101	SQO09-02	3689.5	6960.7	35.0	57.4	0.0	87.8	56.5	89.8	122	125
29	1102	OS06-530	1939.0	4627.8	37.9	53.6	0.0	74.8	60.0	88.8	64	83

Average	3018.2	5550.5	34.0	55.9	0.0	80	57	87
LSD (0.05)	725.7	2004.5				2.1	2.1	2.8
C.V.	17.14%	25.74%				2.63%	2.63%	2.30%

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EMO OCCC Spring Wheat Performance 2012
EMO Agricultural Research Station
(ESWPT12)

Seeded: 30-Apr-12
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Metrol @ 1.4 l/ha

	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw
6	5009	Norwell	2957.9	5380.1	25.3	69.8	0.0	78.3	55.0	97.0	108	94
7	5010	Sable	3064.0	6550.4	24.8	66.1	0.0	105.3	56.0	97.0	112	115
28	5014	Orleans	2915.3	5194.5	23.8	64.8	0.0	102.0	55.0	94.5	107	91
27	5019	Megantic	2978.5	5803.6	24.4	71.1	0.0	100.5	58.5	97.0	109	102
16	5024	HY 124-HRS	2156.9	4178.6	26.3	63.6	0.0	104.5	63.0	97.8	79	73
15	5025	HY 017-HRS	3186.9	5092.6	24.2	66.1	0.0	85.5	56.0	97.0	117	89
14	5026	Touran	2299.8	5986.9	24.5	71.1	0.0	87.3	53.5	97.0	84	105
17	5028	HY 162-HRF	2215.2	4232.6	26.3	63.6	0.0	108.0	58.0	95.3	81	74
4	5030	Furano	2894.8	6457.6	28.5	69.8	0.0	99.5	56.0	95.3	106	113
26	5031	MAJOR	2378.3	7313.1	23.0	66.1	0.0	97.3	59.0	98.5	87	128
18	5032	RICHELIEU	2260.3	5400.6	27.0	72.3	0.0	95.5	55.5	97.0	83	94
12	5033	Helios	2975.3	5579.3	26.1	69.8	0.0	90.8	56.0	94.5	109	98
21	5034	Batiscan	2687.8	7166.3	26.1	72.3	0.0	82.8	52.0	95.8	98	125
5	5038	Glenn	2744.5	4911.6	27.1	68.6	0.0	92.0	56.3	97.0	101	86
8	5041	Wilkin	2537.0	5875.9	26.1	67.3	0.0	88.3	55.0	93.3	93	103
20	5042	AW625	3047.9	6867.5	26.8	64.8	0.0	84.8	54.3	93.3	112	120
22	5043	KINGSEY	2797.1	7345.0	26.9	69.8	0.0	100.0	57.0	97.0	102	128
9	5046	CFB0601	3254.5	5869.0	28.5	69.8	0.0	104.8	61.0	95.8	119	103
11	5050	Griffon	3185.1	6573.2	26.7	64.8	0.0	97.8	58.0	95.8	117	115
13	5052	Tokson	2255.1	3653.1	25.1	66.1	0.0	104.8	58.5	96.5	83	64
24	5053	Carberry	3258.5	4913.9	24.5	69.8	0.0	102.5	57.0	97.0	119	86
23	5054	MAGOG	2534.3	5196.8	24.0	67.3	0.0	97.0	56.0	94.5	93	91
19	5057	07SW04	2494.9	5099.5	24.7	67.3	0.0	103.5	55.5	95.8	91	89
10	5059	CFB1240	3927.6	6971.7	24.1	67.3	0.0	96.5	60.0	98.0	144	122
25	5060	BS06-139	2632.2	5002.1	29.6	67.3	0.0	100.0	56.0	94.5	96	87
29	5061	TOPAZE	2177.3	5577.0	24.3	66.1	0.0	103.8	57.5	97.0	80	98
1	5062	AW687	2483.6	5009.0	27.8	68.4	0.0	99.3	57.0	95.3	91	88
2	5063	BA83-EC-8	2487.7	6833.3	27.8	69.8	0.0	91.3	56.5	97.0	91	120
3	5064	BA83-EC-9	2401.8	5769.4	25.7	67.3	0.0	96.3	57.0	97.0	88	101

Average	2730.7	5717.4	25.9	67.9	0.0	97	57	96
LSD (0.05)	1030.6	1974.9				10.7	2.9	3.2
C.V.	26.60%	24.60%				7.88%	3.69%	2.38%

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Emo Cereal Bio Mass Trial 2012
Emo Agricultural Research Station
(ECBMT12)

Seeded: 30-Apr-12
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 per plot
Herbicide: Mextrol @ 1.4 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Days to Head	Days to Mature	Straw Yield	Grain Index	Straw Index
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)					
1		Carberry-70	1124.2	27.2	72.3	0	79.8	52	97	3332.8	44	98
2		Norbec-70	2136.6	29.3	51.1	0	66.8	48	83	2574.2	84	76
3		AC Aylmer-55	3473.3	31.6	46.1	0	94.3	52	83	4892.2	137	144
4		Triticale-0	3208.8	33.9	63.6	0	98.8	55	100	3394.7	127	100
5		Triticale-35	2595.9	30.9	63.6	0	97.0	55	100	3046.7	103	90
6		Triticale-70	2638.8	36.0	64.8	0	96.5	55	100	3082.8	104	91
Average			2529.6	31.5	60.3	0.0	89	53	94	3387.2		
LSD (0.05)			940.3				19.4			1168.2		
C.V.			24.66%				14.61%			22.88%		

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Oat Strips 2012
 Emo Agricultural Research Station
 (OS12)

Seeded: 14-May-12
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Mextrol @ 1.4 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to Head	Days to Mature	Index	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)			Grain	Straw
1	1	Waldren	1894.3	6111.2	33.7	38.6	5	97	55	83	84	115
2	2	Ronald	2783.4	4432.0	30.4	42.4	4	91	55	83	123	83
3	3	Cascade	1997.7	5172.9	29.1	41.2	2	97	55	83	88	97
4	4	Jordan	2420.6	5051.1	33.5	43.6	5	99	55	96	107	95
5	5	AC Triactor	2240.8	5785.0	30.5	39.9	1	90	55	83	99	109

Average	2267.4	5310.4	31.4	41.1	3.4	94	55	86
LSD (0.05)	603.0	941.9			2.5	3.6		
C.V.	17.3%	11.51%			47.8%	2.5%		

JORDAN OATS

LOCATION: Emo
 PLANTING: 16-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Mextrol @ 1.4 l/ha
 HARVEST: 22-Aug-12

VARIETY	YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	STRAW YIELD (kg/ha)	HEIGHT (cm)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
Jordan		32.2	37.4		97	4	54	94
Jordan					106	4	54	94
MEAN		32.2	37.4		101.5	4	54	94

* I could not find the plots lengths so I did not report the yields.

AC KLINK BARLEY

LOCATION: Emo
PLANTING: 17-May-12
FERTILIZER: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
HERBICIDE: Mextrol @ 1.4 l/ha
HARVEST: 09-Aug-12

VARIETY	YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	STRAW YIELD (kg/ha)	HEIGHT (cm)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
AC Klink (1)	1770	39.4	51.1	3189	90	4	53	82
AC Klink (1)	1450			3302	86	4	53	82
AC Klink (2)	724	44.5	53.6	2964	81	4	53	82
AC Klink (2)	1977			3343	82	4	53	82
MEAN	1480	42.0	52.4	3200	85	4	53	82

CHAPAIS BARLEY

LOCATION: Emo
 PLANTING: 18-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Mextrol @ 1.4 l/ha
 HARVEST: 22-Aug-12

VARIETY	YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	STRAW YIELD (kg/ha)	HEIGHT (cm)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
Chapais (1)	554		54.9	3044	65	0	47	94
Chapais (1)	1139			2556	85	0	47	94
Chapais (2)	1273	41.5	53.6	3416	69	0	47	94
Chapais (2)	2202			3431	73	0	47	94
MEAN	1292	41.5	54.3	3112	73	0	47	94

* The 1000 KW # on the first block was incorrect so I didn't report it.

BRUCEFIELD BARLEY

LOCATION: Emo
 PLANTING: 17-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Mextrol @ 1.4 l/ha
 HARVEST: 22-Aug-12

VARIETY	YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	STRAW YIELD (kg/ha)	HEIGHT (cm)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
Brucefield	847		53.6	3344.7	57	0	53	95
Brucefield	986			2577.3	73	0	53	95
MEAN	917		53.6	2961	65	0	53	95

* The 1000 KW # was incorrect so I didn't report it.

TRITICALE MIX
(Triticale, Oats & Peas)

LOCATION: Emo
 PLANTING: 17-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Tropicox @ 2.75 l/ha
 HARVEST: 22-Aug-12

VARIETY	YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	STRAW YIELD (kg/ha)	HEIGHT (cm)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
Triticale Mix	591			1664	98	0	52	95
Triticale Mix	330			2835	90	0	52	95
MEAN	461			2250	94	0	52	95

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Emo - Bio-Char on Barley - 2012
Emo Agricultural Research Station
Emo BCB12

Seeded: 2-May-12
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Mextrol @ 1.4 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Days to Head	Days to Mature	Straw Yield	Grain Index	Straw Index
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)					
1		Norbec - 0	1431.5	30.0	51.1	0	60	46	78	1563.6	90	98
2		Norbec - 2.4 t/ha	1517.4	29.8	51.1	0	61	46	78	1606.7	95	101
3		Norbec - 4.7 t/ha	1662.6	30.4	52.4	0	64	46	78	1519.5	104	96
4		Norbec - 7.1 t/ha	1754.2	30.1	49.9	0	68	46	78	1671.6	110	105
Average			1591.4	30.1	51.1	0	63	46	78	1590.3		
LSD (0.05)			201.1							378.6		
C.V.			7.90%				7.12%			14.88%		

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Emo - Bio-Char on Wheat - 2012
Emo Agricultural Research Station

Emo BCW12

Seeded: 2-May-12
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Mextrol @ 1.4 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Days to Head	Days to Mature	Straw Yield	Grain Index	Straw Index
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)					
1		Carberry - 0	2809.9	29.2	73.6	0	79.8	50	90	2908	105	97
2		Carberry - 2.4 t/ha	2609.1	30.3	73.6	0	81.0	50	90	3179	98	106
3		Carberry - 4.7 t/ha	2917.3	29.2	72.3	0	79.5	50	90	2711	109	90
4		Carberry - 7.1 t/ha	2345.4	29.9	73.6	0	79.3	50	90	3203	88	107
Average			2670.4	29.7	73.3	0.0	80	50	90	3000		
LSD (0.05)			871.8							578.2		
C.V.			20.41%				2.70%			12.05%		

Emo - Bio-Char on Wheat WET- 2012
Emo Agricultural Research Station

Emo BCWWET12

Seeded: 2-May-12
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Mextrol @ 1.4 l/ha
Hoe Grass @ 2.8 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Days to Head	Days to Mature	Straw Yield	Grain Index	Straw Index
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)					
1		Carberry - 0	2688.9	27.1	73.6	0	74.5	50	90.0	3714	113	99
2		Carberry- 2.4 t/ha	1987.9	26.9	71.1	0	73.8	50	90.0	3906	84	105
3		Carberry - 4.7 t/ha	2289.9	27.0	76.1	0	73.5	50	90.0	3775	96	101
4		Carberry - 7.1 t/ha	2550.0	26.9	73.6	0	75.5	50	90.0	3541	107	95
Average			2379.2	27.0	73.6	0.0	74	50	90	3734		
LSD (0.05)			372.2							546.1		
C.V.			9.64%				2.08%			15.42%		

Emo - Bio-Char on Canola - 2012
 Emo Agricultural Research Station
 Emo BCC12

Seeded: 4-May-12
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Matrix @ 1.25 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Straw	Days to	Days to	Grain	Straw
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Yield	Flower	Harvest	Index	Index
1		Canola	765.3	4.1	62.3	0.0		1959.3	51	106	134	97
2		Canola - 2.4 t/ha	575.3	4.4	62.3	0.0		1895.4	51	106	100	94
3		Canola - 4.7 t/ha	552.2	4.0	62.3	0.0		2155.1	51	106	96	107
4		Canola - 7.1 t/ha	399.2	3.9	62.3	0.0		2065.7	51	106	70	102
Average			573.0	4.1	62.3	0.0		2018.9	51	106		
LSD (0.05)												
C.V.			49.46%					6.82%				

* I forgot to take height notes.

FORAGE PEAS

LOCATION: Emo
 PLANTING: 15-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Tropotox @ 2.75 l/ha
 HARVEST: Forage - July 31, 2012
 Grain - August 20, 2012

VARIETY	FORAGE YIELD (kg/ha)	GRAIN YIELD (kg/ha)	STRAW YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	HEIGHT (cm)	LODGING (0-9)	DAYS TO FLOWER	DAYS TO MATURE
Forage Peas	1666.3	297	1377.4	93.5	78.6	52	9	52	97
Forage Peas	1042.5	740	880.9			57	9	52	97
MEAN	1354.4	518.5	1129.15	93.5	78.6	54.5	9	52	97

*Since the peas were so flat, the combine did not pick them up well at all.

ANNUAL GRASS CONTROL

LOCATION: Emo
 PLANTING: Alfalfa May 27, 2011
 Barley May 3, 2012
 Soybean May 31, 2012
 FERTILIZER: Alfalfa 11-52-0 @ 20 kg/ha September 8, 2011
 Barley & Soybean 46-0-0 @ 70 kg/ha
 HERBICIDE: Barley Mextrol & Achieve @ 12.5 ml/ha and 5 ml/ha
 Soybean Matrix @ 10 ml/ha
 HARVEST: Alfalfa July 19, 2012 & August 1, 2012
 Barley August 1, 2012
 Soybean September 18, 2012

TREATMENT #	TREATMENT	YIELD (kg/ha)	YIELD (2nd cut Alf.)	1000 KW (g)	TEST WT. (kg/ha)	STRAW YIELD (kg/ha)	HEIGHT (cm)	HEIGHT (2nd cut Alf.)	(LODGING) (0-9)	HEAD / FLOWER	DAYS TO MATURE	DAYS TO WEED CONTROL	OVERALL WEED CONTROL	ANNUAL GRASS CONTROL
1	Alfalfa	3777	2894				58	48	0				1	1
2	RR Soybeans	0				1881	85		0	46	110		2	1
3	Barley	2780		35.8	58.6	2030	79		0	46	90		2	1
4	RR Soybeans	0				2257	83		0	46	110		2	1
5	RR Soybeans	0				2452	87		0	46	110		2	1

*The Deer ate all the beans.
 *This is a trial to see how effective we can control Annual Grasses - this is year 2
 Year 1 -
 1=Alfalfa
 2=Hard Red Spring Wheat
 3=Round up Ready Soybeans
 4=Barley
 5=Fallow
 *Overall weed control - 1=No weeds 5=Weed Infested
 *Annual grass control - 1=Excellent 5=No Control

Emo Soybean Population & Row Spacing 2012
 Emo Agricultural Research Station
 (ESPR12)

Seeded: 17-May-12
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Matrix @ 1.25 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Days to Flower	Days to Harvest	Straw	Plant Population (m ²)	Pod Height (cm)	Grain Index	Straw Index
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)			Yield				
1		5.5 - 150,000	2798.4	141.5	74.8	0	100.8	46	116	2390.2	54.8	11.6	105	95
2		5.5 - 175,000	2638.7	94.6	72.3	0	99.5	46	116	1893.7	63.3	13.4	99	76
3		5.5 - 200,000	2547.9		73.6	0	99.5	46	116	2812.8	51.8	8.8	96	112
4		11 - 150,000	2898.8	289.0	73.6	0	96.3	46	116	2373.1	40.8	7.0	109	95
5		11 - 175,000	2703.5	106.7	72.3	0	100.0	46	116	2546.0	43.3	8.3	102	102
6		11 - 200,000	2333.9	128.0		0	98.5	46	116	3008.3	44.5	7.3	88	120
Average			2653.5	152.0	73.3	0	99	46	116	2504	50	9		
LSD (0.05)			525.1				6.2			966.5	14.2			
C.V.			12.9%				4.4%			25.6%	19.0%	20.55%		

* Blank #'s are missing numbers.

Emo Soybean Starter Fertilizer 2012
 Emo Agricultural Research Station
 (ESSF12)

Seeded: 17-May-12
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Matrix @ 1.25 l/ha

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Lodging	Height	Days to Flower	Days to Mature	Straw Yield	Plant Population (m ²)	Pod Height (cm)	Grain Index	Straw Index
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)							
1		0 kg/ha	3362.4	136.9	71.1	0	102.0	46	121	2039.4	39.5	8.3	103	89
2		15 kg/ha	3486.5	131.8	71.1	0	99.3	46	121	2429.4	45.3	8.0	106	106
3		30 kg/ha	2973.8	139.9	71.1	0	102.3	46	121	2403.0	34.0	5.8	91	105

Average 3274.2 136.2 71.1 0 101 46 121 2290.6 39.6 7.3
 LSD (0.05) 331.0 694.4
 C.V. 5.8% 17.5%

SOYBEAN FILLER BLOCKS

LOCATION: Emo
 PLANTING: 17-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Matrix 1.25 l/ha
 HARVEST: 18-Sep-12

VARIETY	YIELD (kg/ha)	1000 KW (g)	TEST WT. (kg/hl)	STRAW YIELD (kg/ha)	HEIGHT (cm)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
Rosco	2176	88.1	73.6	1470	91	0	46	120
Rosco	2611			1045	91	0	46	120
Rosco	2073	89.1	73.6	1010	90	0	46	120
Rosco	2074			995	92	0	46	120
OAC Montcalm	2191	97.8	72.3	1190	100	0	46	120
OAC Montcalm	2442			1179	101	0	46	120
Dekalb	2729	111.1	73.6	1941	93	0	46	120
Dekalb	2795			1658	92	0	46	120
Filler (?)	2182	102.5	72.3	1290	107	0	46	120
Filler (?)	2404			1581	102	0	46	120
MEAN	2368	97.7	73.1	1336	96	0	46	120

**Filler was seed found on the shelf; we could not confirm variety therefor we didn't spray it with Matrix either.

KURA CLOVER ESTABLISHMENT TRIAL

LOCATION: Emo
 PLANTING: 25-May-00
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st Cut - June 13, 2012
 2nd Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD (kg/ha)	TOTAL YIELD (t/acre)
FACTOR A						
VENTURE REED CANARY GRASS	3329	84	887	39	3368	1.4
OKAY ORCHARD GRASS	3240	93	900	39	3280	1.3
FACTOR B						
ENDURA KURA CLOVER	3433	88	734	39	3472	1.4
ENDURA + LEO TREFOIL	3358	94	695	37	3395	1.4
ENDURA + WALTER RED CLOVER	3275	85	606	35	3310	1.3
ENDURA + LEGEND 2 ALFALFA	3280	90	1865	46	3326	1.3
ENDURA + WILL WHITE CLOVER	3078	85	569	39	3117	1.3
FACTOR A + FACTOR B						
VENTURE + ENDURA	3261	84	618	39	3300	1.3
VENTURE + ENDURA + LEO	3413	92	739	37	3449	1.4
VENTURE + ENDURA + WALTER	3460	78	738	37	3497	1.4
VENTURE + ENDURA + LEGEND 2	3372	89	1726	43	3415	1.4
VENTURE + ENDURA + WILL	3140	78	614	40	3180	1.3
OKAY + ENDURA	3604	92	849	39	3643	1.5
OKAY + ENDURA + LEO	3304	95	651	37	3340	1.3
OKAY + ENDURA + WALTER	3089	92	474	34	3123	1.3
OKAY + ENDURA + LEGEND 2	3189	91	2005	49	3237	1.3
OKAY + ENDURA + WILL	3016	92	523	39	3054	1.2
MEAN	3285	88	894	51	3324	1.3
C.V.	9.0%	7.3%	18.9%	16.5%	8.9%	
PRF - FACTOR A		0.0374				
PRF - FACTOR B		0.0551	0.0000	0.0254		
PRF - FACTOR + FACTOR B		n/s	0.0162			
LSD (0.05) - FACTOR A						
LSD (0.05) - FACTOR B		6.7	174.7	6.7		
LSD (0.05) - FACTOR A + FACTOR B			247.1			

Kura Clover Establishment Trail
Seperation Data - 2012

	Dry Wt. (g)	%		Dry Wt. (g)	%
101 Reed Canary Grass	2.1	12.8	301 Reed Canary Grass	3.7	23.717949
Kura Clover	7.3	44.5	Kura Clover	0	0.0
Other	7	42.7	Alfalfa	11.9	76.3
	16.4		Other	0	0.0
				15.6	
102 Reed Canary Grass	4.5	26.3	302 Reed Canary Grass	4.1	50.0
Kura Clover	3.1	18.1	Kura Clover	3.3	40.2
Red Clover	5.4	31.6	White Clover	0	0.0
Other	4.1	24.0	Other	0.8	9.8
	17.1			8.2	
103 Orchard Grass	9	44.6	303 Reed Canary Grass	6.1	39.4
Kura Clover	8.9	44.1	Kura Clover	6.3	40.6
Trefoil	0	0	Red Clover	0	0.0
Other	2.3	11.4	Other	3.1	20.0
	20.2			15.5	
104 Orchard Grass	3.1	19.5	304 Orchard Grass	5.1	36.7
Kura Clover	11	69.2	Kura Clover	8.3	59.7
Other	1.8	11.3	Other	0.5	3.6
	15.9			13.9	
105 Reed Canary Grass	7.2	28.9	305 Reed Canary Grass	0	0.0
Kura Clover	13.4	53.8	Kura Clover	8.4	54.9
Trefoil	0	0	Trefoil	0	0
Other	4.3	17.3	Other	6.9	45.1
	24.9			15.3	
106 Reed Canary Grass	2.9	19.2	306 Orchard Grass	10.6	60.6
Kura Clover	10.4	68.9	Kura Clover	5.9	33.7
White Clover	0	0.0	Trefoil	0	0.0
Other	1.8	11.9	Other	1	5.7
	15.1			17.5	
107 Orchard Grass	11.7	51.3	307 Orchard Grass	6.5	34.6
Kura Clover	10.4	45.6	Kura Clover	9.7	51.6
White Clover	0	0.0	Red Clover	0.6	3.2
Other	0.7	3.1	Other	2	10.6
	22.8			18.8	
108 Reed Canary Grass	1.3	4.6	308 Orchard Grass	7.3	27.7
Kura Clover	2.9	10.2	Kura Clover	2.8	10.6
Alfalfa	21.3	75.3	Alfalfa	16.3	61.7
Other	2.8	9.9	Other	0	0
	28.3			26.4	
109 Orchard Grass	10.2	30.2	309 Orchard Grass	8.8	54.0
Kura Clover	4.1	12.1	Kura Clover	5.6	34.4
Alfalfa	9.3	27.5	White Clover	0	0.0
Other	10.2	30.2	Other	1.9	11.7
	33.8			16.3	
110 Orchard Grass	4.4	24.7	310 Reed Canary Grass	3.2	32.0
Kura Clover	12.7	71.3	Kura Clover	5.9	59.0
Red Clover	0	0.0	Other	0.9	9.0
Other	0.7	3.9		10	
	17.8				

*Note - after 2nd cut we seperated out Rep # 1 & # 3 - to see what was there for species.

REED CANARY GRASS FOR HAY / PASTURE SYSTEMS

LOCATION: Emo
 PLANTING: 19-Jun-00
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st Cut - June 15, 2012
 2nd Cut - August 22, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD (kg/ha)
FACTOR A - LEGUME					
LEO TREFOIL	2953	89		35	
WILL WHITE CLOVER	2113	91		33	
ENDURA KURA CLOVER	4134	93		39	
FACTOR B - GRASS					
CLIMAX TIMOTHY	3382	88		34	
BAYLOR SMOOTH BROME GRASS	2891	89		31	
VENTURE REED CANARY GRASS	3221	90		40	
VENTURE + KOKANEE TALL FESCUE	2862	87		37	
VENTURE + FLEET MEADOW BROME GRASS	3255	94		35	
VENTRUE + KOKANEE + FLEET	2787	96		35	
FACTOR A + FACTOR B - LEGUME + GRASS					
LEO + CLIMAX	3423	84		35	
LEO + BAYLOR	3261	85		35	
LEO + VENTURE	2966	94		38	
LEO + VENTURE + KOKANEE	2397	81		35	
LEO + VENTURE + FLEET	3358	93		37	
LEO + VENTURE + KOKANEE + FLEET	2309	95		29	
WILL + CLIMAX	2808	89		30	
WILL + BAYLOR	1534	88		28	
WILL + VENTURE	2056	84		37	
WILL + VENTURE + KOKANEE	1926	96		34	
WILL + VENTURE + FLEET	2336	95		33	
WILL + VENTURE + KOKANEE + FLEET	2016	92		34	
ENDURA + CLIMAX	3915	91		38	
ENDURA + BAYLOR	3878	95		30	
ENDURA + VENTURE	4641	92		45	
ENDURA + VENTURE + KOKANEE	4262	82		42	
ENDURA + VENTURE + FLEET	4071	93		36	
ENDURA + VENTURE + KOKANEE + FLEET	4036	101		43	
MEAN	3066	91		35	
C.V.	24.5%	11.2%		17.3%	
PRF - FACTOR A	0.0000			n/s	
PRF - FACTOR B	n/s	n/s		0.0232	
PRF - FACTOR A + FACTOR B	n/s	n/s		n/s	
LSD (0.05) - FACTOR A	97.9				
LSD (0.05) - FACTOR B				5.0	
LSD (0.05) - FACTOR A + FACTOR B					

*The swift current broke down and we did not get to complete harvest so the data is incomplete and not reportable for 2nd cut.

**We collected seperation samples but I did not have time to get them sorted out.

TRITICALE, OAT, PEA MIXTURE

LOCATION: Emo
 PLANTING: 15-May-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HARVEST: 31-Jul-12

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Trit Mix	3523.9	101	1.4
Trit Mix	3611.5	106	1.5
MEAN	3567.7	103.5	1.4

*This was cut when the grain was in the soft dough stage.

OAT STRIPS BLOCKS

LOCATION: Emo
PLANTING: 14-May-12
FERTILIZER: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
HARVEST: 31-Jul-12

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Ronald	4079	94	1.6
Cascade	3362	103	1.4
Waldren	4125	93	1.7
Jordan	4067	97	1.6
AC Triactor	4869	95	2.0
Forage Oats	2077	103	0.8
MEAN	3763	98	1.7

*This was cut when the grain was in the soft dough stage.

ULTRA ALFALFA

LOCATION: Emo
 PLANTING: 22-Jun-01
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 19, 2012
 2nd Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
SAMPLE A	3273	78	1769	75	5043	2.0
SAMPLE B	3336	60	1395	78	4731	1.9
MEAN	3305	69	1582	77	4887	2.0

*This is the block of Alfalfa behind the building.

ULTRA ALFALFA (End of Range # 6, # 7, & # 8.)

LOCATION: Emo
 PLANTING: 22-Jun-01
 FERTILIZER: 11-52-0 @ 70 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 19, 2012
 2nd Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
(A)	3315	75	1222	45	4536	1.8
(B)	3241	68	1254	57	4495	1.8
MEAN	3278	72	1238	51	4516	1.8

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Emo Philip Krahn Alfalfa Trial 2012
Emo Agricultural Research Station
EPKAT12

Seeded: 17-May-12
Fertilization: 11-52-0 @ 20 kg/ha (September 8, 2011)
Harvest: 1st Cut - June 19, 2012 & 2nd Cut - July 31, 2012

Entry	Code	Variety	Yield (1)	Height (1)	Yield (2)	Height (2)	Total	Total t/acre	Index
			kg/ha	cm	kg/ha	cm	Yield		
1		54V46 / 15% Rich.	3227	69.50	2469	52	5696	2.3	102
2		53Q30 / 15% Rich.	3280	70.00	2496	48	5776	2.3	104
3		55V48	3025	69.00	2175	46	5200	2.1	93
4		54Q32	3056	71.50	2524	45	5581	2.3	100

Average	3147	70.00	2416	47	5563
C.V.	9.99%	8.77%	10.63%	10.07%	8.05%
PR>F	n/s	n/s	n/s	n/s	n/s
LSD (0.05)	503	10	411	8	725

ALFALFA STRIPS - PHILIP KRAHN

LOCATION: Emo
 PLANTING: 17-May-11
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 19, 2012
 2nd Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
54Q32	3162.6	78	2422	50	5584	2.3
(B)	2345.3	68	2077	54	4422	1.8
55V48	3284.1	71	2355	47	5639	2.3
(B)	2546.2	70	2490	58	5037	2.0
53Q30 / 15% Tim.	3611.6	69	2679	52	6290	2.5
(B)	2919.8	73	2715	58	5635	2.3
54V48 / 15% Tim.	3299.6	74	2164	60	5463	2.2
(B)	2702.8	78	2570	53	5272	2.1
MEAN	2984.0	73	2434	54	5418	2.2

ALFALFA VARIETIES (Larry's)

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st cut - June 18, 2012
 2nd cut - July 27, 2012

VARIETY	YIELD # 1 (kg/ha)	HEIGHT # 1 (cm)	YIELD # 2 (kg/ha)	HEIGHT # 2 (cm)	TOTAL YIELD	YIELD (t/acre)
Blend 10-4	3143	62	2818	61	5962	2.4
Ascend	3267	67	2983	66	6251	2.5
Tophand	3172	65	2765	58	5937	2.4
Haygrazer	3274	58	2807	61	6081	2.5
Rhino	3102	61	2776	61	5878	2.4
MEAN	3192	63	2830	61	6022	2.4
C.V.	16.82%	6.30%	5.71%	8.81%	10.18%	
PR>F	n/s	0.0437	n/s	n/s	n/s	
LSD (0.05)	827	6	249	8	944	

*This alfalfa was beautiful and I could have easily taken a 3rd cut.

ALFALFA VARIETY STRIPS (Larry's)

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st cut - June 25, 2012
 2nd cut - July 27, 2012

VARIETY	YIELD # 1 (kg/ha)	HEIGHT # 1 (cm)	YIELD # 2 (kg/ha)	HEIGHT # 2 (cm)	TOTAL YEILD	YIELD (t/acre)
Blend 10-4	4274	67	2554	63	6827.3	2.8
(B)	4619	69	2487	64	7105.6	2.9
Rhino	4466	44	2410	57	6875.7	2.8
(B)	4607	58	2182	51	6788.8	2.7
Hay Grazer	4473	72	2458	59	6930.4	2.8
(B)	4874	62	2177	67	7050.6	2.8
Ascend	3865	58	2696	58	6560.4	2.7
(B)	4639	54	2653	72	7291.7	2.9
Top Hand	4188	60	2842	63	7029.4	2.8
(B)	4026	35	2530	64	6555.1	2.6
MEAN	4403	58	2499	62	6901.5	2.8

ALFALFA

LOCATION: Emo
 PLANTING: 27-May-10
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st Cut - June 25, 2012
 2nd Cut - July 27, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
SAMPLE A	3769	50	2604	55	6373	2.6
SAMPLE B	4358	50	2451	59	6809	2.8
MEAN	4063	50	2527	57	6591	2.7

ALFALFA VARIETIES

LOCATION: Emo
 PLANTING: 14-Jul-05
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 25, 2012
 2nd Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
8920 MF (A)	3763	74	2501	59	6264	2.5
(B)	4620	66	2047	54	6667	2.7
2065 MF (A)	3830	77	2473	59	6303	2.5
(B)	3124	60	2115	55	5239	2.1
ALFAGRAZE (A)	4971	63	1437	45	6408	2.6
(B)	4623	65	1191	39	5814	2.3
MEAN	4155	68	1961	52	6116	2.5

LEGUME COMPARISON TRIAL

LOCATION: Emo
 PLANTING: 23-May-08
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 19, 2012
 2nd Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
ALFALFA	3285	66	2413	46	5698	2.3
SANFOIN	2739	74	412	36	3151	1.3
CICER MILKVETCH	2880	52	931	26	3811	1.5
BIRDS FOOT TREFOIL	993	25	403	25	1396	0.6
MEAN	2474	54	1040	33	3514	1.4
C.V.	6.79%	11.35%	17.31%	14.96%	7.37%	
PR>F	0.0000	0.0000	0.0000	0.0005	0.0000	
LSD (0.05)	269	10	288	8	414	

LEGUME FILLER BLOCKS

LOCATION: Emo
 PLANTING: 04-Jun-07
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 25, 2012
 2nd Cut - Alfalfa - July 31, 2012
 No 2nd cut on Trefoil, Cicer Milkvetch or Crown Vetch

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
BIRDS FOOT TREFOIL	1448	54			1448	0.6
(B)	1635	65			1635	0.7
ALFALFA 1	3210	62	1805	49	5015	2.0
(B)	3166	61	1508	57	4674	1.9
CICER MILK VETCH	3464	45			3464	1.4
(B)	3425	47			3425	1.4
CROWN VETCH	2357	44			2357	1.0
(B)	1876	44			1876	0.8
ALFALFA 2	3190	70	1802	52	4992	2.0
(B)	3373	69	1826	47	5199	2.1
MEAN	2714	56	1735	51	3409	1.4

FORAGE DEMO BLOCKS

LOCATION: Emo
 PLANTING: 28-May-08
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 46-0-0 @ 70kg/ha on Timothy only
 HARVEST: 1st Cut - June 25, 2012
 2nd Cut - Alfalfa - July 31, 2012
 2nd Cut - Sanfoin, Cicer Milk Vetch - August 22, 2012
 No 2nd Cut for Timothy or Trefoil

TREATMENT		1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
TIMOTHY	(A)	5692.3	99			5692.3	2.3
	(B)	4853.1	99			4853.1	2.0
SANFOIN	(A)	4149.1	73	683.2	31	4832.3	2.0
	(B)	4200.6	67	1065.1	39	5265.7	2.1
ALFALFA	(A)	3692.1	72	1557.5	40	5249.6	2.1
	(B)	3286.5	64	1532.5	37	4819.0	1.9
CICER MILKVETCH	(A)	4208.9	58	1479.1	27	5688	2.3
	(B)	3161.8	60	1397.0	25	4558.8	1.8
BIRDS FOOT TREFOIL	(A)	1652.6	29			1652.6	0.7
	(B)	1320	19			1320.0	0.5
MEAN		3621.7	64	1285.7	33	4393.1	1.8

Emo - Bio-Char on Alfalfa- 2012
Emo Agricultural Research Station
Emo BCA12

Seeded: 24-Jun-10
Fertilization: 11-52-0 @ 20 kg/ha (September 7, 2011)
Harvest: 1st Cut - June 19, 2012 & 2nd Cut - July 27, 2012

Entry	Code	Variety	Yield (1)	Height (1)	Yield (2)	Height (2)	Total	Total t/acre	Index
			kg/ha	cm	kg/ha	(cm)	Yield		
1		Alfalfa	2832	66	2680.4	59	5513	2.2	99
2		Alfalfa - 2.4 t/ha	3220	72	2707.0	64	5927	2.4	107
3		Alfalfa - 4.7 t/ha	2221	71	2585.9	56	4807	1.9	86
4		Alfalfa - 7.1 t/ha	3316	70	2695.6	53	6012	2.4	108

Average 2898 70 2667 58 5565
C.V. 16.5% 11.9% 7.8% 6.7%
PR>F 0.0378 n/s n/s 0.022
LSD (0.05) 763.7 13.2 334.5 6.2

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Emo - Bio-Char on Alfalfa WET- 2012
Emo Agricultural Research Station
Emo BCAWET12

Seeded: 29-Jun-10

Fertilization: 11-52-0 @ 20kg/ha (September 8, 2011)

Harvest: 1st cut - June 19, 2012 & 2nd cut - August 1, 2012 **

Entry	Code	Variety	Yield (1)	Height (1)	Yield (2)	Height (2)	Total	Total t/acre	Index
			kg/ha	cm	kg/ha	cm	Yield		
1		Alfalfa	2623	67	2555	67	5178	2.1	105
2		Alfalfa - 2.4 t/ha	2500	66	2432	66	4932	2.0	100
3		Alfalfa - 4.7 t/ha	2603	69	2259	69	4862	2.0	98
4		Alfalfa - 7.1 t/ha	2631	67	2196	67	4827	2.0	98

Average	2589	67	2361	67	4950	2.0
C.V.	6.74%	7.71%	21.86%	7.71%	11.58%	
PR>F	n/s	n/s	n/s	n/s	n/s	
LSD (0.05)	279	8	826	8	917	

**Our swift current broke down so we didn't finished 104, 204, 304 & 404 until August 22, 2012.

Jeff Hyatt RRCA Intern Mixes

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st cut - June 25, 2012
 2nd cut - July 31, 2012

TREATMENT	YIELD (1) (kg/ha)	HEIGHT (cm)	YIELD (2) (kg/ha)	HEIGHT (cm)	TOTAL YIELD	YIELD (t/acre)
Upland	5637	123	2972	55	8608.9	3.5
(B)	5151	143	2567	57	7717.8	3.1
General	4139	110	1520	45	5658.9	2.3
(B)	4300	117	1355	45	5654.3	2.3
Lowland	3874	98	1267	51	5140.0	2.1
(B)	3537	101	1381	46	4917.8	2.0
MEAN	4439	115	1844	50	6283.0	2.5

Lowland = Double Cut Red Clover, Birds Foot Trefoil, Creeping Red Fescue, Reed Canary Grass, Meadow Foxtail & Tall Fesuce.
 General = Birds Foot Trefoil, Russian Wildrye, Double Cut Red Clover, Smooth Bromegrass, Reed Canary Grass, Cicer Milkvetch, & Tall Fescue.
 Upland = Cicer Milkvetch, Sanfoin, Meadow Bromegrass, Western Wheatgrass, Alfalfa & Orchard Grass.

LEO TREFOIL

LOCATION: Emo
 PLANTING: 27-May-10
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 HARVEST: 1st Cut - June 25, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
SAMPLE A	1256	47	0.5
SAMPLE B	1127	24	0.5
MEAN	1192	36	

LEO TREFOIL

LOCATION: Emo
PLANTING: 18-May-11
FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
HARVEST: 1st Cut - June 19, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
SAMPLE A	2478	45	1.0
SAMPLE B	2793	38	1.1
MEAN	2635	42	

GRASS DEMO'S (Larry's)

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 46-0-0 @ 70 kg/ha
 HARVEST: 1st cut - June 18, 2012

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Express Timothy	3956	96	1.6
Treasure Timothy	3933	102	1.6
Courtney Tall Fescue	3837	106	1.6
Arctic Orchard Grass	2545	108	1.0
MEAN	3568	103	1.4
C.V.	9.57%	11.93%	
PR>F	0.0006	n/s	
LSD (0.05)	564.3	20	

GRASS DEMO STRIPS (Larry's)

LOCATION: Emo
PLANTING: 21-May-09
FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
46-0-0 @ 70 kg/ha
HARVEST: 1st cut - June 25, 2012

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Courtney Tall Fescue (B)	3657 3781	105 100	1.5 1.5
Arctic Orchard Grass (B)	2723 2806	115 118	1.1 1.1
Express Timothy (B)	4966 4763	114 115	2.0 1.9
Treasure Timothy (B)	4969 5131	101 104	2.0 2.1
MEAN	4099	109	1.7

TIMOTHY

LOCATION: Emo
 PLANTING: 18-May-11
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 HARVEST: 1st Cut - June 19, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
SAMPLE A	1124	68	0.5
SAMPLE B	978	72	0.4
MEAN	1051	70	

GRASS FILLER BLOCKS

LOCATION: Emo
 PLANTING: 05-Jun-07
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2012)
 46-0-0 @ 70 kg/ha
 HARVEST: 1st Cut - June 19, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD (t/acre)
BELLVUE REED CANARY GRASS (A)	2753	56	1.1
(B)	2700	60	1.1
COURTNEY TALL FESCUE (A)	2795	101	1.1
(B)	2589	88	1.0
MEAN	2709	76	1.1

TALL FESCUE + ALFALFA & TREFOIL

LOCATION: Emo
 PLANTING: 15-May-03
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 46-0-0 @ 70 kg/ha (on straight Tall Fescue plot only)
 HARVEST: 1st Cut -June 15, 2012
 2nd Cut - Alfalfa plots July 27, 2012 & others August 22, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
TALL FESCUE	4114	87	1449	42	5563	2.2
(B)	3556	76	979	37	4535	1.8
TALL FESCUE + ALFALFA	4928	84	3388	68	8315	3.4
(B)	4489	88	2975	68	7464	3.0
TALL FESUCE + TREFOIL	5056	88	2631	44	7687	3.1
(B)	4367	82	1864	50	6232	2.5
MEAN	4418	84	2214	52	6632	2.7

*When this was first planted, it was planted with Trefoil. On May 27, 2008 I decided to to run our seed drill through the plot adding alfalfa, and trefoil since the original trefoil was non-existent. You could see the plants, it wasn't a heavy stand but we did add some legumes to this stand of tall fescue.

*It seems the Alfalfa caught a bit better than the Trefoil.

SORGHUM

LOCATION: Emo
 PLANTING: 04-Jun-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HARVEST: 1st Cut - July 31, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
SAMPLE A	3359	108	1.4
SAMPLE B	2609	108	1.1
MEAN	2984	108	1.2

*This was difficult for the swift current to pick up because of the height.

DEMO BLOCKS

LOCATION: Emo
 PLANTING: 05-Jun-12
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HARVEST: 1st Cut of Teff - August 21, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
Double Cut Red Clover			
Flax (NL Seed)			
Flax (Shelf Seed)			
CW0604 Teff	5894	89	2.4
(B)	4906	91	2.0
MEAN	5400	90	2.2

*The Double Cut Red Clover was just ploughed in.
 **The Flax was full of annual grasses so we didn't collect any data.
 ***The Teff has a lot of potential for an Annual Grass.

GRASS DEMO BLOCKS

LOCATION: Emo
 PLANTING: 04-Jun-12
 FERTILIZER: n/a
 HARVEST: 1st Cut of Teff - August 21, 2012

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
Bellvue Reed Canary Grass			
Timothy			
Courtney Tall Fescue			
Orchard Grass			
Meadow Foxtail			
Meadow Fescue			
Kentucky Bluegrass			
Creeping Red Fescue			
Meadow Bromegrass			
Smooth Bromegrass			
Perennial Ryegrass			
Teff	4073	80	1.6
Teff	5152	91	2.1
MEAN	4612	86	1.9

*These strips were established this year and we will take yields next year.

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Emo Biomass Miscanthus 2012
Emo Agricultural Research Station
2012

Seeding Date: Planted varied over few days in 2010 - other than Annual Crops

Fertilization: per plot

Herbicide: n/a

Harvest: Spring April 11, 2012 Fall October 2 & 10, 2012 Oat & Wheat August 7, 2012 Canola August 20, 2012

Entry	Code	Variety	Yield	1000 Seed	Test Wt.	Straw Yield	Lodging	Height	Days to	Days to	Index	t/acre
			kg/ha	weight (g)	kg/hl	kg/ha	(1-9)	(cm)	Head	Mature		
1	111	1-0 Switchgrass "Sunburst" 0 N Spring Cut	607								63	0.25
2	112	2-0 Switchgrass "Sunburst" 0 N Fall Cut	1551				0	124			160	0.63
3	121	1-50 Switchgrass "Sunburst" 50 N Spring Cut	603								62	0.24
4	122	2-50 Switchgrass "Sunburst" 50 N Fall Cut	2050				0	113			211	0.83
5	211	1-0 Switchgrass "Cave-In-Rock" 0 N Spring Cut	486								50	0.20
6	212	2-0 Switchgrass "Cave-In-Rock" 0 N Fall Cut	1409				0	121			145	0.57
7	221	1-50 Switchgrass "Cave-In-Rock" 50 N Spring Cut	435								45	0.18
8	222	2-50 Switchgrass "Cave-In-Rock" 50 N Fall Cut	1431				0	145			147	0.58
9	311	1-0 Miscanthus Pol 0 N Spring Cut	16				2	42			2	0.01
10	312	2-0 Miscanthus Pol 0 N Fall Cut	282				0	101			29	0.11
11	321	1-50 Miscanthus Pol 50 N Spring	136				3	73			14	0.06
12	322	2-50 Miscanthus Pol 50 N Fall Cut	924				3	117			95	0.37
13	411	1-0 Miscanthus M1 0 N Spring Cut	26				2	40			3	0.01
14	412	2-0 Miscanthus M1 0 N Fall Cut	462				2	121			48	0.19
15	421	1-50 Miscanthus M1 50 N Spring Cut	204				3	70			21	0.08
16	422	2-50 Miscanthus M1 50 N Fall Cut	1113				3	110			115	0.45
17	511	1-0 Miscanthus 114 0 N Spring Cut	79				3	56			8	0.03
18	512	2-0 Miscanthus 114 0 N Fall Cut	1570					149			162	0.63
19	521	1-50 Miscanthus 114 50 N Spring Cut	243				3	78			25	0.10
20	522	2-50 Miscanthus 114 50 N Fall Cut	2060					140			212	0.83
21	611	1-0 Miscanthus 116 0 N Spring Cut	298				3	56			31	0.12
22	612	2-0 Miscanthus 116 0 N Fall Cut	1918					130			198	0.77
23	621	1-50 Miscanthus 116 50 N Spring Cut	603				2	81			62	0.24
24	622	2-50 Miscanthus 116 50 N Fall Cut	3062				1	146			316	1.24
25	712	2-0 Reed Canary Grass (Rival) 0 N Fall Cut	2098				0	112			216	0.85
26	722	2-50 Reed Canary Grass (Rival) 50N Fall Cut	2892				0	129			298	1.17
27	812	2-0 Prairie Cord Grass (Spartina) 0 N Fall Cut	70				0	101			7	0.03
28	822	2-50 Prairie Cord Grass (Spartina) 50 N Fall Cut	180				0	116			19	0.07
29	912	2-0 Big Bluestem (Praire View) 0 N Fall Cut	1094				0	148			113	0.44
30	922	2-50 Big Bluestem (Praire View) 50 N Fall Cut	1435				0	140			148	0.58
31		Oat (AC Aylmer)	247			731	0	61	57	96	25	0.10
32		Spring Wheat (Carberry)	1013			1877	0	84	52	96	104	0.41
33		Canola (7245-RR)	1412	4.0	59.9	2418	0	71	51	111	146	0.57

Average	970	4.0	59.9	1675	1.2	103	53	101	0.39
C.V.	44.05%				45.99%	19.29%			
PR>F	0.0000				0.0000	0.0000			
LDS (0.05)	697				0.887	32.5			

DEMO GRASS STRIPS

LOCATION: Emo
 PLANTING: 25-May-00
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2011)
 46-0-0 @ 70 kg/ha
 HARVEST: Spring Cut - Rep's # 1 & # 2 - April 19, 2012
 Fall Cut - Rep's # 3 & # 4 - October 12, 2012

TREATMENT	SPRING CUT (kg/ha)	HEIGHT (cm)	FALL CUT (kg/ha)	HEIGHT (cm)	SPRING CUT (t/acre)	FALL CUT (t/acre)
REED CANARY GRASS	1941	121	3728	119	0.8	1.5
REED CANARY GRASS	1671	122	3601	105	0.7	1.5
REED CANARY GRASS	1598	109	3395	107	0.6	1.4
MEAN	1737	117	3575	110	0.7	1.4
C.V.	7.98%	35.5%	4.64%	10.44%		
PR>F	n/s	n/s	n/s	n/s		
LSD (0.05)	422	127	505	35		

*Originally these plots were Switch Grass, Praire Grass and Reed Canary Grass but now they are all Reed Canary Grass.

SWITCH GRASS TRIAL

LOCATION: Emo
 PLANTING: 07-Jun-01
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 8, 2011)
 46-0-0 @ 70 kg/ha
 HARVEST: Spring Cut - Reps # 1 & # 2 - April 19, 2012
 Fall Cut - Reps # 3 & # 4 - October 12, 2012

TREATMENT	SPRING CUT (kg/ha)	HEIGHT (cm)	FALL CUT (kg/ha)	HEIGHT (cm)	SPRING CUT (t/acre)	FALL CUT (t/acre)
SUNBURST	2274	74	4054	102	0.9	1.6
FORESTBURG	2981	93	4271	103	1.2	1.7
DACOTAH	1790	80	4373	96	0.7	1.8
VANTAGE (1)	1910	82	3998	105	0.8	1.6
CAVE-IN-THE-ROCK	1832	93	4178	113	0.7	1.7
VANTAGE (2)	1713	73	3957	106	0.7	1.6
MEAN	2083	82	4138	104	0.8	1.7
C.V.	15.7%	11.9%	4.99%	7.5%		
PR>F	n/s	n/s	n/s	n/s		
LSD (0.05)	595	18	375	14		

*Reed Canary Grass is the main species in these plots.

Other Trial Info.

Veggie Trials

We once again planted Carrots and Lettuce. We staggered the lettuce plantings over 3 weeks. We ate and gave away as much lettuce as possible. There is a tremendous amount of food in this small block we plant. The Carrots were planted in a raised bed and did quite well despite we didn't thin them as much as they should have been. Unfortunately about the time we should have been harvesting the deer felt the need to do the harvesting and had them cleaned out in 2 nights.

Oil Seed Radish

John Gerber shared some seed with us and we established a block. It did quite well. We soil samples and then ploughed it into the ground as a green manure. We will re-sample in the spring and see what differences, if any it made.

Reed Canary / Switch Grass Blocks

These were established in 2008 along side with the Farmer Trials. We really felt that the Switch Grass was not the greatest and slowly the Canada thistle was over taking these plots so I sprayed them with Round Up to avoid a long term thistle headache. We also have some well-established Switch Grass blocks in other trials that show it can be grown here.

Legume Demo Blocks

Just like the Grass Demo Blocks that are reported earlier in this report; we also planted blocks of Double Cut Red Clover, Single Cut Red Clover, Sweet Clover, White Clover, Alsike Clover, Trefoil and Alfalfa. These will be used for Demonstration purposes.

Black Sunflower Seeds

We once again planted a block of sunflower seeds to encourage our feathered pests to possible stay in this particular area of the station. They did quite well once again.