

Summary of
EARL
Emo Agricultural
Research Station
2013

By
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EARS – 2013

Well, what a year 2013 has been! It started off very late (about 3 weeks) and we never did make up that time. I had to ask for an extension just to be able to get our data calculated and reported. Never mind the fact that we left many jobs unfinished this year. Planting was late with our very cold, long spring. This meant our Bio-Mass spring harvest was late – but we couldn't do anything since the snow was still on the ground at the end of April. Once we were ready to harvest our forage trials – that were also delayed with our late spring – we had trouble with our Forage Harvester. This made for a very late first cut – but because we did experience some nice heat in July the Alfalfa was easily ready for a 2nd cut early enough. We certainly could have done a bit more forage cutting (third cut on the alfalfa) after the critical cutting period was over – but time did not permit – nor the weather. Combining of course was later with our later planting season. Most of it was done after our students left. The yields of our cereals were not outstanding – a lot was the year and the extreme lodging we had which again – was a weather related problem. We did end up with some problems with the combine as well – but this was the first time in 3 years that it gave us any grief at all so I am not complaining about that.

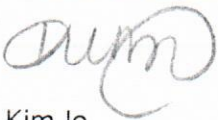
I had great students once again this year; Nick Donaldson (University of Guelph student) and Lucas Hudson (Lakehead University student) were my summer staff. Both boys worked hard and were a real pleasure to be around. It was their first year but they caught on quickly and despite it being a more difficult year – we had a great time. Destiny Woolsey worked this fall, half days. Destiny ended up getting to do most of the harvest and seed cleaning. It was great having her around and worked well that she worked every afternoon since when we were combining we could barely get out there before lunch much anyway with our heavy dews. There is talk that next year we will be cut back on our students – I don't know how we will get everything done but guess time will tell.

My new boss; Tom Beach paid us a visit early in the season. Tom is stationed at Kemptville and was a real pleasure to work with this year. We know we have some challenges ahead of us but we are hoping that with some stronger partnerships we will be here for a few more years.

Thanks again to everyone that visited us, attended our Open House and Field Days – it is great to show off our work. I'd also like to thank everyone that donated (seed etc.) to us – there are many of you – but we really do appreciate your support.

Wishing you a great winter and hoping to see everyone next spring!

Thanks for all your support!



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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
2013	107	566	701	643	282	0	2299	May-27	16-Sep-13

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
2013	93	71.5	149	122	72	26.3	533.8

Normal's from Environment Canada - (rainfall amounts)							
	67.3	113.8	99	84	79.4	50.4	493.9

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Soybean Variety Trial 2013
Emo Agricultural Research Station
SBVT13

Seeded: 27-May-13
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Round Up @ 1.25 /ha

Entry	Code	Variety	Grain	1000 Seed	Test Wt.	Lodging	Height	Index		Harv Adjusted	
			kg/ha	weight (g)	kg/hi	(0-9)	(cm)	Grain	Straw	Grain	Straw
1	1	26-10 RY	2757.8	133.7	71.1	5	98	106		106	
2	2	25-10 RY	2820.0	135.6	72.3	6	115	108		108	
3	3	26-12 RY	0.0	0.0	0.0	4	107	0		4	
4	4	23-10 RY	2410.4	169.7	71.1	2	89	93		93	
5	5	24-61 RY	2404.6	167.7	72.3	6	108	92		93	
6	6	Osbourne	3451.6	161.2	71.1	6	105	133		131	
7	7	HS 05RYS25	0.0	0.0	0.0	2	105	0		4	
8	8	HS 05RYS12	0.0	0.0	0.0	2	105	0		4	
9	9	NSC Niverville RR2Y	2384.6	140.2	72.3	7	103	92		92	
10	10	00703	2778.0	163.5	73.6	8	103	107		107	
11	11	HS 006RYS24	2455.0	175.8	72.3	7	103	94		95	
12	12	RR Richer	2607.4	150.2	71.1	8	106	100		100	
13	13	NSC Elie RR2Y	2398.6	161.1	69.6	7	83	92		93	
14	14	900Y61	2296.6	159.1	69.6	3	87	88		89	
15	15	900Y71	2604.3	154.9	72.3	5	86	100		100	
16	16	900Y81	2406.1	165.3	71.1	5	91	93		93	
17	17	24-10 RY	2441.0	161.0	71.1	8	91	94		94	
18	18	28-12 RY	0.0	0.0	0.0	4	95	0		4	
19	19	27-12 RY	1739.5	142.9	68.6	6	100	67		68	
20	20	29-20 RY	0.0	0.0	0.0	6	100	0		4	
21	21	Richer B	3098.4	158.9	71.1	9	109	119		118	

Average	2600.9	119.1	54.3	5.3	99
LSD (0.05)	645.3			13.1	3.1
C.V.	17.4%			9.3%	40.6%

* The varieties with no yields listed did not mature.

	Grain	Straw
SE	452.8129	
SD	1166.5827	
H	0.96	

Soybean Timo Trial - 2013
 Emo Agricultural Research Station
 SBT113

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Seeded: 27-May-13
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Venture 1.4 l/ha

Entry	Code	Variety	Grain	1000 Seed	Test Wt.	Avg. Height	Avg. # of	Lodging	Height	Days to	Index		Harv Adjusted	
			kg/ha	weight (g)	kg/hi	to First Pod (cm)	Pods per Plant	(0-9)	(cm)	Mature	Grain	Straw	Grain	Straw
1	1	GS 1001	1394	166.8	72.3	16	14	2	93	109	69		73	
2	2	Rosco	1890	134.7	72.3	11	29	9	90	116	94		95	
3	3	Prudence	2735	159.0	73.6	14	36	9	98	116	136		132	

Average 2006 153.5 72.7 14 26 7 94 114
 LSD (0.05) 821.4 0.0 13.5 0.0
 C.V. 23.7% 0.0% 8.3% 0.0%

	Grain	Straw
SE	474.8399	
SD	678.2740	
H	0.88	

SOYBEAN VARIETY STRIPS

LOCATION: Emo
 PLANTING: 27-May-13
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Round-Up 1.25 l/ha (on Round Up Ready Varieties)
 Venture 1.4 l/ha (on non-Round Up Ready Varieties)

VARIETY	YIELD (kg/ha)	AVG. HEIGHT TO FIRST POD (cm)	AVG. # OF PODS PER PLANT	GRAIN INDEX
28-12 RY		13	33	
NSC Elie RR2Y	2001	16	26	90
900Y61	2427	16	20	110
NSC Niverville RR2Y	2741	14	18	124
HS 05RYS12		17	28	
Richer (B)	2765	16	28	125
703	2080	12	16	94
24-61 RY	2269	13	18	103
HS 006RYS24	2188	10	18	99
900Y81	2477	12	15	112
900Y71	1771	13	12	80
HS 05RYS25		13	24	
RR Richer	3035	15	24	137
23-10 RY	2166	11	14	98
29-20 RY		19	41	
Osborne	2219	14	17	100
26-10 RY	1656	14	26	75
26-12 RY		19	34	
24-10 RY	2452	15	27	111
25-10 RY	2484	18	21	112
27-12 RY	1835	12	31	83
Rosco	1898	11	29	86
GS 1001	1856	16	14	84
OAC Prudence	1688	14	36	76
MEAN	2211	14	24	

* The varieties with no yields reported did not mature.

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Chick Pea Variety Trial - 2013
Emo Agricultural Research Station
(EARS13)

Seeded: 27-May-13
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Venture 1.4 l/ha

Entry	Code	Variety	Grain	1000 Seed	Test Wt.	Lodging	Height	Days to Flower	Index		Harv Adjusted	
			kg/ha	weight (g)	kg/hl	(0-9)	(cm)		Grain	Straw	Grain	Straw
1	1	CDC Frontier	326.0	171.3	74.8	0	68	43	70		86	
2	2	CDC Cory	340.5	132.2	68.6	0	92	43	73		87	
3	3	CDC Vanguard	421.4	131.4	71.1	0	69	43	90		95	
4	4	CDC Orion	457.3	146.9	69.8	0	85	43	98		99	
5	5	CDC Leader	535.5	169.5	74.8	0	60	48	115		107	
6	6	CDC Corrine	465.9	138.3	72.3	0	72	48	100		100	
7	7	CDC Cabri	721.1	144.6	71.1	0	88	43	154		126	

Average	467	147.7	71.8	0.0	76	44
LSD (0.05)	341				31	
C.V.	41.6%				27.3%	

	Grain	Straw
SE	194.2886	
SD	133.7352	
H	0.47	

FLAX

LOCATION: Emo
PLANTING: 04-Jun-13
FERTILIZER: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
HERBICIDE: Venture 1.4 l/ha

VARIETY	YIELD (kg/ha)	HEIGHT (cm)	LODGING (0-9)	DAYS TO FLOWER	DAYS TO MATURE
FLAX	707	65	0	63	104
FLAX	1710	65	0	63	104
MEAN	1208	65	0	63	104

EMO OCCC Barley Performance 2013
Emo Agricultural Research Station
(EBPT13)

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Seeded: 16-May-13
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Target @ 1.5 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw	Grain	Straw
1	1001	AC Kings	2871.1	2871.0	29.2	59.9	2.3	87.8	56	95	85	95	90	97
2	1009	Bornholm	3879.7	2082.1	42.0	64.8	2.8	74.5	56	96	114	69	110	82
3	1034	OAC Ripley	2924.8	2944.4	39.4	62.3	0.8	80.8	54	96	86	98	91	99
4	1037	Dignity	2960.5	3188.2	36.5	57.4	3.0	86.5	56	94	87	106	91	103
5	1038	HY 481-6R	3113.2	2832.9	35.1	56.1	1.0	79.3	52	95	92	94	94	97
6	1043	SYNABELLE	3820.8	2907.5	40.6	58.6	2.8	84.3	54	96	113	97	109	98
7	1049	OCEANIK	3626.4	2776.1	44.1	61.1	3.3	89.3	56	95	107	92	105	95
8	1052	OAC Laverne	2727.8	3923.6	38.9	61.1	1.5	85.0	56	94	80	130	87	118
9	1056	Harmony	3028.5	3846.4	40.8	59.9	3.8	89.8	56	95	89	128	93	116
10	1057	Synasolis	3978.1	3544.5	39.6	59.9	7.5	81.8	56	95	117	118	112	110
11	1059	Amberly	3724.2	3452.1	46.1	57.4	4.5	91.5	56	96	110	115	107	109
12	1064	HY 101-6R	3116.7	3564.8	40.8	56.1	0.8	72.3	52	95	92	118	95	111
13	1069	Alliance	3484.7	3227.5	36.1	58.6	2.5	85.3	54	96	103	107	102	104
14	1071	HY 460-6R	3444.5	3133.3	30.9	56.1	2.5	83.5	54	95	102	104	101	102
15	1072	Pandora	4034.6	2456.9	42.1	67.3	3.0	81.3	54	94	119	82	113	89
16	1080	HY 621-6R	3626.6	2626.5	42.1	62.3	2.8	83.3	53	95	107	87	105	92
17	1084	Conestogo	3622.9	2588.3	43.4	61.8	0.5	85.0	53	95	107	86	105	92
18	1092	Bentley	3171.4	3491.7	41.8	59.9	1.0	84.8	56	96	94	116	96	109
19	1094	GB092001	2552.2	2401.2	47.5	58.6	0.8	87.3	52	95	75	80	83	88
20	1097	GB096001	3170.7	2531.4	39.0	59.3	0.0	79.3	53	95	94	84	96	91
21	1098	GB096002	3549.0	2157.2	38.3	61.1	1.0	75.8	54	96	105	72	103	83
22	1104	OS08-321	3434.1	2870.7	41.1	61.1	1.3	84.8	56	94	101	95	101	97
23	1105	GB106006	3559.7	3170.8	34.6	57.4	1.8	80.5	54	96	105	105	103	103
24	1106	GB106009	3182.6	2944.7	34.0	58.6	2.5	84.8	56	94	94	98	96	99
25	1107	OB 5447-8	3883.3	3001.1	43.5	61.1	3.5	77.8	55	96	115	100	110	100
26	1108	Chambly	3634.6	3751.5	40.3	59.9	2.3	87.8	56	96	107	125	105	114

Average 3389.3 3011.0 39.5 59.9 2.3 83.2 55 95
LSD (0.05) 644.2 906.5 2.2 8.2 0.566 0.398
C.V. 13.5% 21.2% 65.7% 7.0% 0.74% 0.30%

	Grain	Straw
SE	456.2056	638.9387
SD	403.3354	497.5120
H	0.68	0.59

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Manitoba Barley Trial - 2013
Emo Agricultural Research Station
MBBT13

Seeded: 16-May-13
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Target 1.5 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw	Grain	Straw
1	1	Cowboy	3578.5	8230.1	49.2	63.6	5	95	56	97	111	115	108	113
2	2	Conlon	3769.2	4817.6	46.6	63.6	1	90	55	98	117	67	113	72
3	3	Newdale	2462.9	7719.8	44.5	59.9	2	87	59	97	76	108	82	107
4	4	Austenson	3097.5	7941.1	49.3	64.8	3	89	58	97	96	111	97	109

Average	3227.0	7177.1	47.4	63.0	2.8	90	57	97
LSD (0.05)	907.2	1877.1				10.2	3.3	
C.V.	17.6%	16.4%				7.1%	3.6%	

	Grain	Straw
SE	566.9872	1173.4602
SD	582.5635	1586.8559
H	0.76	0.86

Larry's Barley Trial - 2013
 Emo Agricultural Research Station
 LBT13

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Seeded: 17-May-13
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Target 1.5 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw	Grain	Straw
1	1	Brucefield	3814.9	6803.1	35.1	57.4	7	84	53	94	104	93	103	100
2	2	AC Klinck	3147.8	6868.1	43.2	59.9	9	81	53	94	86	94	89	100
3	3	Oceanik	4005.0	8317.2	39.8	53.6	8	92	53	94	110	113	107	100

Average	3655.9	7329.5	39.4	57.0	7.9	85	53	94
LSD (0.05)	730.7	2993.1			3.2	13.8		
C.V.	11.6%	23.6%			23.5%	19.3%		

	Grain	Straw
SE	422.2602	1729.7578
SD	450.1835	856.0215
H	0.78	-0.02

EMO OCCC Spring Wheat Performance 2013
Emo Agricultural Research Station
(ESWPT13)

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Seeded: 16-May-13
Fertilization: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
Herbicide: Target @ 1.5 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to	Days to	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw	Grain	Straw
1	5009	Norwell	3169.1	5382.7	32.7	72.3	0.5	91	52	95	101	100	100	100
2	5010	Sable	3837.0	4513.2	33.9	74.8	0.8	82	52	104	122	83	117	91
3	5014	Orleans	3086.8	4264.7	35.9	68.6	0.0	100	54	95	98	79	99	88
4	5019	Megantic	3305.0	4513.2	35.0	72.3	0.3	103	52	95	105	83	104	91
5	5024	HY 124-HRS	2809.6	4181.9	34.9	72.3	0.0	85	54	96	89	77	92	88
6	5025	HY 017-HRS	3159.5	6417.8	36.6	72.3	1.3	85	54	100	100	119	100	110
7	5028	HY 162-HRF	2655.0	4330.9	39.5	69.8	0.0	86	52	95	84	80	88	89
8	5030	Furano	3422.8	6453.1	34.3	74.8	0.3	107	59	104	109	119	107	111
9	5031	MAJOR	3068.4	5754.4	33.9	76.1	1.8	106	59	104	97	106	98	104
10	5032	RICHELIEU	3415.0	6288.7	36.6	72.3	0.3	101	56	104	108	116	106	109
11	5037	Fuzion	3060.5	3945.9	37.5	74.8	1.8	113	55	100	97	73	98	85
12	5041	Wilkin	3011.6	5343.4	33.2	66.1	0.0	79	52	95	96	99	97	99
13	5042	AW625	4027.5	4356.9	38.6	71.1	4.8	119	54	95	128	81	121	89
14	5043	KINGSEY	3663.4	7422.8	37.0	74.8	0.3	119	56	100	116	137	112	121
15	5053	Carberry	2210.5	4991.2	29.4	72.3	0.0	82	52	96	70	92	77	96
16	5054	MAGOG	2868.6	4138.0	35.6	68.6	1.3	90	54	96	91	77	93	87
17	5055	TOPAZE	2708.0	6996.2	30.9	72.3	0.0	90	59	100	86	129	89	116
18	5062	AW687	3172.4	5033.9	37.6	71.1	1.3	101	54	100	101	93	101	96
19	5063	BA83-EC-8	2873.4	7593.4	34.6	72.3	0.5	103	54	100	91	140	93	122
20	5065	BW932	2478.5	4493.0	32.2	69.8	1.5	80	54	104	79	83	84	91
21	5066	CM9004	4030.6	6963.6	31.8	72.3	0.0	82	58	100	128	129	121	116
22	5067	AW725	3644.6	4298.5	37.1	74.8	0.3	112	56	104	116	80	112	89
23	5060	Kleos	3403.3	4599.4	34.6	71.1	0.0	99	54	96	108	85	106	92
24	0	Filler	2497.8	7479.5	34.1	73.6	1.8	84	54	104	79	138	84	121

Average 3149.1 5406.5 34.9 72.1 0.8 96 55 99
LSD (0.05) 666.2 2319.8
C.V. 15.0% 30.4% 13.5% 1.4% 0.0%

	Grain	Straw
SE	471.4223	1640.8761
SD	478.5799	1225.5363
H	0.76	0.55

Manitoba Oat Trial
 Emo Agricultural Research Station
 MBOT13

14

Seeded: 16-May-13
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Target 1.5 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt	Lodging	Height	Days to	Days to	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw	Grain	Straw
1	1	Souris	2567.7	9613.6	30.8	47.4	1	89	54	98	85	104	86	94
2	2	Summit	3044.0	9089.2	35.6	48.6	0	98	56	96	100	99	100	102
3	3	SO-1	3479.9	8918.7	41.8	47.4	0	98	56	98	115	97	114	104
Average			3030.5	9207.2	36.1	47.8	0.3	95	55	97				
LSD (0.05)			377.4	1918.3				7.8						
C.V.			7.20%	12.0%				4.7%						

	Grain	Straw
SE	218.1992	1108.5412
SD	456.2238	362.1670
H	0.94	-1.34

Larry's Oat Trial - 2013
 Emo Agricultural Research Station
 LOT13

15

Seeded: 17-May-13
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Target 1.25 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt	Lodging	Height	Days to	Days to	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)	Head	Mature	Grain	Straw	Grain	Straw
1	1	Jordan	3036.9	2752.3	37.1	41.2	3	109	65	97	124	62	114	74
2	2	Waldern	1938.1	4056.1	35.8	33.7	9	112	58	97	79	92	88	94
3	3	Triactor	2684.9	6953.2	33.8	42.4	6	102	58	95	109	157	105	139
4	4	Cascade	2299.8	5359.8	27.6	39.9	8	111	58	97	94	121	96	114
5	5	Souris	2314.0	3042.0	29.6	43.6	5	98	54	97	94	69	97	79

Average 2454.8 4432.7 32.8 40.2 6.1 106 59 97
 LSD (0.05) 843.1 4240.2 4.3 7.2
 C.V. 22.3% 44.1% 45.5% 4.4%

	Grain	Straw
SE	547.1658	1953.0426
SD	419.1235	1740.1191
H	0.57	0.69

REPLANT Larry's Oat Trial - 2013
 Emo Agricultural Research Station
 RELOT13

16

Seeded: 27-May-13
 Fertilization: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 Herbicide: Target 1.5 l/ha

Entry	Code	Variety	Grain	Straw	1000 Seed	Test Wt.	Lodging	Height	Days to Head	Days to Mature	Index		Harv Adjusted	
			kg/ha	kg/ha	weight (g)	kg/hl	(0-9)	(cm)			Grain	Straw	Grain	Straw
1	1	Jordan	1923.6	8686.2	38.0	39.9	8	102	62	93	88	147	150	141
2	2	Waldern	1316.3	4751.2	32.3	41.2	6	100	55	90	60	80	270	83
3	3	Triactor	2468.8	6670.4	33.9	39.9	7	99	48	94	113	113	43	111
4	4	Cascade	1825.3	4130.0	34.2	42.4	5	108	48	93	84	70	170	74
5	5	Souris	2588.7	4271.3	31.5	41.2	5	100	45	90	119	72	19	76
6	6	Ronald	2944.8	6918.7	33.1	44.9	6	105	55	94	135	117	-51	115

Average	2177.9	5904.6	33.8	41.6	6.0	102	52	93
LSD (0.05)	5558.3	1977.1			5.5	14.5		
C.V.	125.9%	22.2%			60.7%	9.4%		

	Grain	Straw
SE	2741.9769	1312.0017
SD	595.4637	1816.5603
H	-4.30	0.87

RONALD OATS

LOCATION: Emo
PLANTING: 27-May-13
FERTILIZER: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
HERBICIDE: Target 1.5 l/ha

VARIETY	YIELD (kg/ha)	STRAW YIELD (kg/ha)	HEIGHT (cm)	LODGING (0-9)	DAYS TO HEAD	DAYS TO MATURE
Ronald	1773.8	10804	97	0	56	91
Ronald	1571.4	6521	97	0	56	91
MEAN	1672.6	8662.5	97	0	56	91

These yields are averages from 2 different blocks at the Station.

MANITOBA CEREAL STRIPS

LOCATION: Emo
 PLANTING: 16-May-13
 FERTILIZER: 11-52-0 @ 20 kg/ha
 46-0-0 @ 70 kg/ha
 HERBICIDE: Target 1.5 l/ha

VARIETY	YIELD (kg/ha)	STRAW YIELD (kg/ha)	HEIGHT (cm)	LODGING (0-9)	DAYS TO HEAD	DAYS TO MATURE
OATS						
Summit	3678.4	6700.9	111	9	57	98
SO-1	2451.5	6154.4	98	9	57	98
MEAN	3064.9	6427.7	105	9	57	98
BARLEY						
Cowboy	2628.65	6681.8	98	8	57	98
Newdale	2123.2	3918.8	87	9	57	95
Conlon	341.2	2069.4	79	9	55	95
Austenson	1690.4	3975.6	72	9	57	98
MEAN	1695.9	4161.4	84	9	57	97
WHEAT						
Carberry	2493.6	5157.6	89	0	53	102
Kane	2644.9	4283.1	85	5	53	102
Pasteur	3660.0	3922.9	93	5	60	110
Glen	2585.8	5631.4	101	5	53	102
MEAN	2846.1	4748.7	92	4	55	104

LARRY's CEREAL STRIPS

LOCATION: Emo

PLANTING: 17-May-13

FERTILIZER: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha

HERBICIDE: Target 1.5 l/ha

VARIETY	YIELD (kg/ha)	STRAW YIELD (kg/ha)	HEIGHT (cm)	LODGING (0-9)	DAYS TO HEAD	DAYS TO MATURE
OATS						
Souris	1842	5242	97	9	52	115
Cascade	1878	4337	95	9	56	111
Triactor	2348	7742	105	9	56	111
Waldren	1980	6223	97	9	59	115
Jordan	1762	5222	110	7	59	119
MEAN	1962	5753	101	9	56	114
BARLEY						
Oceanik	2193	5267	98	8	57	98
Brucefield	2657	5188	87	9	57	95
AC Klinck	3065	6064	79	9	55	95
MEAN	2638	5507	88	9	56	96

ANNUAL GRASS CONTROL

LOCATION: Emo
 PLANTING: Alfalfa - May 27, 2011
 Barley & Wheat - June 3, 2013
 FERTILIZER: Alfalfa - 11-52-0 @ 20 kg/ha September 7, 2013
 Barley & Wheat - 11-52-0 @ 20 kg/ha & 46-0-0 @ 70 kg/ha
 HERBICIDE: We never did get a chance to apply due to weather and timing.
 HARVEST: Alfalfa - July 3, 2013 & August 8, 2013
 Barley & Wheat September 17, 2013

TREATMENT #	TREATMENT	YIELD (kg/ha)	YIELD (2nd cut Alf.)	STRAW YIELD (kg/ha)	HEIGHT (cm)	HEIGHT (2nd cut Alf.)	(LODGING) (0-9)	DAYS TO HEAD	DAYS TO MATURE
1	Alfalfa	3606	2844	-	75	56	0	-	-
2	Barley	1954	-	3865	82	-	2	55	97
3	Wheat	928	-	3746	84	-	2	53	106
4	Wheat	2281	-	3190	80	-	2	53	106
5	Wheat	1806	-	3388	78	-	2	53	106

**This is a trial to see how effective we can control Annual Grasses - this is year 3, but we didn't get to apply any chemical.

- Year 1 -
 1=Alfalfa
 2=Hard Red Spring Wheat
 3=Round up Ready Soybeans
 4=Barley
 5=Fallow
- Year 2 -
 1=Alfalfa
 2=RR Soybeans
 3=Barley
 4=RR Soybeans
 5=RR Soybeans

Emo - Bio-Chemical Analysis - 2013
Emo Agricultural Research Station
Emo BC413

Harvest: 1st Cut - July 2nd & 2nd Cut - August 1st
Fertilization: 11-52-0 @ 20 kg/ha (September 2, 2012)
Irrigation: 0 - Jun-10

FORAGE OATS

LOCATION: Emo
PLANTING: 18-Jun-13
FERTILIZER: 11-52-0 @ 20 kg/ha
46-0-0 @ 70 kg/ha
HARVEST: 16-Sep-13

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Range # 2			
FORAGE OATS	2336	93	0.9
	2739	92	1.1
Range # 6			
FORAGE OATS	2988	120	1.2
	3096	101	1.3
MEAN	2790	102	1.1

Emo - Bio-Char on Alfalfa- 2013
Emo Agricultural Research Station
Emo BCA13

Seeded: 24-Jun-10

Fertilization: 11-52-0 @ 20 kg/ha (September 5, 2012)

Harvest: 1st Cut - July 2nd & 2nd Cut - August 7th

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	4265	86	2317	72	6583	2.7	101
2		Alfalfa - 2.4 t/ha	4271	82	2261	69	6532	2.6	101
3		Alfalfa - 4.7 t/ha	4114	89	2227	70	6341	2.6	98
4		Alfalfa - 7.1 t/ha	4181	82	2332	71	6513	2.6	100

Average	4208	84	2284	70	6492
C.V.	9.6%	10.3%	5.6%	5.1%	6.5%
PR>F					
LSD (0.05)	647	14	205	6	673

ALFALFA

LOCATION: Emo
PLANTING: 27-May-10
FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
HARVEST: 1st Cut - July 2, 2013
2nd Cut- August 7, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
SAMPLE A	3999	75	2193	75	6191	2.5
SAMPLE B	2776	60	2282	64	5058	2.0
MEAN	3387	68	2237	70	5625	2.3

ALFALFA VARIETIES (Larry's)

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 7, 2013

VARIETY	YIELD # 1 (kg/ha)	HEIGHT # 1 (cm)	YIELD # 2 (kg/ha)	HEIGHT # 2 (cm)	TOTAL YIELD	YIELD (t/acre)
Blend 10-4	3610	90	2509	72	6119	2.5
Ascend	3835	87	2450	66	6286	2.5
Tophand	3507	87	2515	67	6022	2.4
Haygrazer	3645	92	2419	69	6065	2.5
Rhino	3997	90	2449	65	6446	2.6
MEAN	3719	89	2468	68	6187	2.5
C.V.	16.0%	6.1%	6.9%	5.3%	9.5%	
PR>F						
LSD (0.05)	914	8	261	6	901	

*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 5, 2012)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 7, 2013

VARIETY	YIELD # 1 (kg/ha)	HEIGHT # 1 (cm)	YIELD # 2 (kg/ha)	HEIGHT # 2 (cm)	TOTAL YEILD	YIELD (t/acre)
Blend 10-4	4192	95	1825	68	6018	2.4
(B)	5002	86	1960	62	6962	2.8
Rhino	4215	94	1822	56	6037	2.4
(B)	4638	90	1827	60	6465	2.6
Hay Grazer	4122	89	1823	56	5945	2.4
(B)	5031	93	1614	57	6645	2.7
Ascend	4201	96	1741	66	5941	2.4
(B)	4320	91	1750	63	6070	2.5
Top Hand	4092	87	1740	61	5832	2.4
(B)	4597	98	1786	60	6383	2.6
MEAN	4441	92	1789	61	6230	2.5

ALFALFA VARIETIES

LOCATION: Emo
 PLANTING: 14-Jul-05
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 8, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
8920 MF (A)	5105	83	2159	64	7264	2.9
(B)	4596	87	2635	69	7231	2.9
2065 MF (A)	3829	64	2587	64	6416	2.6
(B)	3709	73	2729	64	6439	2.6
ALFAGRAZE (A)	4637	76	2315	74	6952	2.8
(B)	4353	77	1880	68	6233	2.5
MEAN	4372	77	2384	67	6756	2.7

ULTRA ALFALFA

LOCATION: Emo
 PLANTING: 22-Jun-01
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 10, 2012)
 HARVEST: 1st cut - July 3, 2013
 2nd cut - August 8, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
SAMPLE A	4558	78	1587	62	6145	2.5
SAMPLE B	3554	74	1667	61	5221	2.1
MEAN	4056	76	1627	62	5683	2.3

*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 10, 2012)
HARVEST: 1st Cut - July 3, 2013
2nd Cut - August 8, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
(A)	3973	96	1892	96	5865	2.4
(B)	4833	100	1683	100	6516	2.6
MEAN	4403	98	1788	98	6191	2.5

Emo Philip Krahn Alfalfa Trial 2013
 Emo Agricultural Research Station
 EPKAT13

29

Seeded: 17-May-12
Fertilization: 11-52-0 @ 20 kg/ha (September 7, 2012)
Harvest: 1st cut - July 3, 2013
 2nd cut - August 8, 2013

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.	3713	82	2671	73	6384	2.6	105
2		53Q30 / 15% Rich.	3948	87	2644	67	6592	2.7	108
3		55V48	2838	83	2606	70	5444	2.2	89
4		54Q32	3324	80	2624	70	5948	2.4	98

Average	3456	83	2636	70	6092
C.V.	11.4%	8.2%	3.1%	5.33%	5.89%
PR>F	0.0150				0.0065
LSD (0.05)	629.2	10.8	130.0	6.0	573.7

ALFALFA STRIPS - PHILIP KRAHN

LOCATION: Emo
 PLANTING: 17-May-11
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2012)
 HARVEST: 1st cut - July 3, 2013
 2nd cut - August 8, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
54Q32	3478	93	3111	82	6589	2.7
(B)	3419	90	2639	69	6058	2.4
55V48	3454	85	2627	70	6082	2.5
(B)	3153	84	2061	63	5214	2.1
53Q30 / 15% Tim.	5011	74	2808	63	7818	3.2
(B)	3061	85	2282.8	65	5344	2.2
54V48 / 15% Tim.	4810	85	2488	64	7298	2.9
(B)	3919	77	2871	54	6790	2.7
MEAN	3788	84	2611	66	6399	2.6

LEGUME COMPARISON TRIAL

LOCATION: Emo
 PLANTING: 23-May-08
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 HARVEST: 1st cut - July 3, 2013
 2nd cut - August 8, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
ALFALFA	3190	74	2270	62	5460	2.2
SANFOIN	3390	95	889	38	4279	1.7
CICER MILKVETCH	2675	57	1815	36	4490	1.8
BIRDS FOOT TREFOIL	1842	53	796	30	2638	1.1
MEAN	2774	70	1443	42	4217	1.7
C.V.	17.1%	7.3%	6.5%	9.9%	11.4%	
PR>F	0.0055	0.0000	0.0000	0.0000	0.0001	
LSD (0.05)	761	8	151	7	767	

FORAGE DEMO BLOCKS

LOCATION: Emo
 PLANTING: 28-May-08
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 46-0-0 @ 70 kg/ha (Timothy only)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 8, 2013 (Alfalfa only)

TREATMENT		1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
TIMOTHY	(A)	2179	82			2178.6	0.9
	(B)	2576	90			2576.4	1.0
SANFOIN	(A)	4196	110			4195.7	1.7
	(B)	3347	101			3347.2	1.4
ALFALFA	(A)	4078	68	2122	66	6199.3	2.5
	(B)	3511	68	2470	59	5980.3	2.4
CICER MILKVETCH	(A)	2477	58			2476.9	1.0
	(B)	2565	58			2564.9	1.0
BIRDS FOOT TREFOIL	(A)	3960	78			3959.7	1.6
	(B)	3561	80			3561.0	1.4
MEAN		3245	79	2296	63	3704.0	1.5

FORAGE DEMO BLOCKS

LOCATION: Emo
 PLANTING: 28-May-08
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 46-0-0 @ 70 kg/ha (Timothy only)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 8, 2013 (Alfalfa only)

TREATMENT		1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
TIMOTHY	(A)	2179	82			2178.6	0.9
	(B)	2576	90			2576.4	1.0
SANFOIN	(A)	4196	110			4195.7	1.7
	(B)	3347	101			3347.2	1.4
ALFALFA	(A)	4078	68	2122	66	6199.3	2.5
	(B)	3511	68	2470	59	5980.3	2.4
CICER MILKVETCH	(A)	2477	58			2476.9	1.0
	(B)	2565	58			2564.9	1.0
BIRDS FOOT TREFOIL	(A)	3960	78			3959.7	1.6
	(B)	3561	80			3561.0	1.4
MEAN		3245	79	2296	63	3704.0	1.5

LEGUME FILLER BLOCKS

LOCATION: Emo
 PLANTING: 04-Jun-07
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 8, 2013 (Alfalfa only)

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
BIRDS FOOT TREFOIL	2129	50			2129	0.9
(B)	2284	45			2284	0.9
ALFALFA 1	3703	70	2636	71	6340	2.6
(B)	3217	78	2421	63	5638	2.3
CICER MILK VETCH	4657	46			4657	1.9
(B)	3612	63			3612	1.5
CROWN VETCH	3024	53			3024	1.2
(B)	3709	63			3709	1.5
ALFALFA 2	3047	82	2194	59	5241	2.1
(B)	3762	75	2046	59	5808	2.3
MEAN	3314	63	2324	63	4244	1.7

LEGUME DEMO BLOCKS

LOCATION: Emo
 PLANTING: June 4 & 5, 2012
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2012)
 HARVEST: 1st Cut - July 3, 2013
 2nd Cut - August 8, 2013 (Alfalfa only)

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YEILD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL (t/acre)
DOUBLE CUT RED CLOVER	4461	53			4461	1.8
(John's seed)	4028	63			4028	1.6
DOUBLE CUT RED CLOVER	3358	67			3358	1.4
(Larry's seed)	4651	67			4651	1.9
SINGLE CUT RED CLOVER	4411	76			4411	1.8
	3743	66			3743	1.5
SWEET CLOVER	1582	141			1582	0.6
(John's seed)	2087	140			2087	0.8
SWEET CLOVER	2005	132			2005	0.8
(Larry's seed)	2063	127			2063	0.8
WHITE CLOVER	1989	35			1989	0.8
	2129	35			2129	0.9
ALSIKE CLOVER	3236	49			3236	1.3
	2920	51			2920	1.2
TREFOIL	1580	45			1580	0.6
	1183	45			1183	0.5
GRAZELAND ALFALFA	3208	85	1957	62	5166	2.1
	3545	78	2010	62	5555	2.2
ACCEL ALFALFA	2766	81	1909	60	4674	1.9
	2608	85	1518	62	4126	1.7
2065 ALFALFA	3310	77	2123	60	5432	2.2
	3301	71	1932	60	5233	2.1
MEAN	2917	76	1908	61	3437	1.4

LEO TREFOIL

LOCATION: Emo
PLANTING: 27-May-10
FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2012)
HARVEST: 1st cut - July 3, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
SAMPLE A	3021.5	40	1.2
SAMPLE B	2149	45	0.9
MEAN	2585	43	

TALL FESCUE + ALFALFA & TREFOIL

LOCATION: Emo
 PLANTING: 15-May-03
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 46-0-0 @ 70 kg/ha (Tall Fescue Plots only - May 10, 2013 & July 29, 2013)
 HARVEST: 1st cut - July 2, 2013
 2nd cut - August 7, 2013 (Only plots containing Alfalfa)

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	2nd CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD	TOTAL YIELD (t/acre)
TALL FESCUE	3713	99			3713	1.5
(B)	3728	101			3728	1.5
TALL FESCUE + ALFALFA	4146	91	1958	52	6104	2.5
(B)	3894	91	1585	65	5479	2.2
TALL FESUCE + TREFOIL	3186	60			3186	1.3
(B)	2442	59			2442	1.0
MEAN	3518	84	590	59	4109	1.7

*When this was first planted, it was planted with Trefoil. On May 27, 2008 I decided 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.

JEFF HYATT RRCA INTERN MIXES

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER:
 HARVEST:

TREATMENT	YIELD (1) (kg/ha)	HEIGHT (cm)	YIELD (2) (kg/ha)	HEIGHT (cm)	TOTAL YIELD	YIELD (t/acre)
Upland	6048	122	2414	48	8462.4	3.4
(B)	3512	109	2173	54	5684.8	2.3
General	3547	131	681	39	4227.1	1.7
(B)	3990	114	678	41	4667.3	1.9
Lowland	3712	120	585	31	4297.8	1.7
(B)	4221	121	454	30	4674.4	1.9
MEAN	4172	120	1164	41	5335.6	2.2

Lowland = Double Cut Red Clover, Birds Foot Trefoil, Creeping
 Red Fescue, Reed Canary Grass, Meadow Foxtail &
 Tall Fescue.

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.

GRASS DEMO'S (Larry's)

LOCATION: Emo
 PLANTING: 21-May-09
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
 46-0-0 @ 70 kg/ha
 HARVEST: 1st Cut - July 2, 2013

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Express Timothy	4249	102	1.7
Treasure Timothy	4048	100	1.6
Courtney Tall Fescue	3049	109	1.2
Arctic Orchard Grass	2809	107	1.1
MEAN	3539	104	1.4
C.V.	6.6%	3.4%	
PR>F	0.0000	0.0166	
LSD (0.05)	374.7	5.7	

GRASS DEMO STRIPS (Larry's)

LOCATION: Emo
PLANTING: 21-May-09
FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2012)
46-0-0 @ 40 kg /ha May 10, 2013 & July 20, 2013
HARVEST: 1st cut - July 2, 2013

TREATMENT	YIELD (kg/ha)	HEIGHT (cm)	YIELD (t/acre)
Courtney Tall Fescue	3467	101	1.4
(B)	3044	96	1.2
Arctic Orchard Grass	2780	112	1.1
(B)	2610	112	1.1
Express Timothy	3962	99	1.6
(B)	4873	101	2.0
Treasure Timothy	4720	100	1.9
(B)	4616	101	1.9
MEAN	3759	103	1.5

TIMOTHY

LOCATION: Emo
PLANTING: 18-May-11
FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2012)
46-0-0 @ 70 kg/ha (May 10 & July 29, 2013)
HARVEST: 1st cut - July 3, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
SAMPLE A	4994	119	2.0
SAMPLE B	5187	104	2.1
MEAN	5091	112	

GRASS FILLER BLOCKS

LOCATION: Emo
PLANTING: 05-Jun-07
FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2012)
46-0-0 @ 70 kg/ha (May 10 & July 29, 2013)
HARVEST: 1st Cut - July 3, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL YIELD (t/acre)
BELLVUE REED CANARY GRASS (A)	2826	97	1.1
(B)	2943	91	1.2
COURTNEY TALL FESCUE (A)	2904	101	1.2
(B)	2584	103	1.0
MEAN	2814	98	1.1

GRASS DEMO BLOCKS

LOCATION: Emo
 PLANTING: 04-Jun-12
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 7, 2013)
 46-0-0 @ 70 kg/ha (May 10 & July 29, 2013)
 HARVEST: 1st cut - July 3, 2013

TREATMENT	1st CUT YIELD (kg/ha)	HEIGHT (cm)	TOTAL (t/acre)
Bellvue Reed Canary Grass	3863	122	1.6
	2715	119	1.1
Timothy	4205	101	1.7
	3932	99	1.6
Courtney Tall Fescue	2562	124	1.0
	2674	120	1.1
Orchard Grass	2960	125	1.2
	3042	112	1.2
Meadow Foxtail			
Meadow Fescue	3049	90	1.2
	3402	84	1.4
Kentucky Bluegrass			
Creeping Red Fescue			
Meadow Bromegrass	2824	110	1.1
	2843	117	1.1
Smooth Bromegrass	3169	117	1.3
	2808	117	1.1
Perennial Ryegrass	2988	61	1.2
	3089	73	1.2
MEAN	3133	106	1

Meadow Foxtail, Kentucky Bluegrass and Creeping Red Fescue did not survive our winters.

KURA CLOVER ESTABLISHMENT TRIAL

LOCATION: Emo
 PLANTING: 25-May-00
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2013)
 HARVEST: 1st cut - June 12, 2013
 2nd cut - July 31, 2013

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	2711	53	2425	46	5135	2.1
OKAY ORCHARD GRASS	2272	54	2355	42	4627	1.9
FACTOR B						
ENDURA KURA CLOVER	2557	57	2330	43	4888	2.0
ENDURA + LEO TREFOIL	2518	48	2398	43	4916	2.0
ENDURA + WALTER RED CLOVER	2536	50	2304	43	4840	2.0
ENDURA + LEGEND 2 ALFALFA	2366	55	2574	50	4940	2.0
ENDURA + WILL WHITE CLOVER	2480	55	2342	42	4822	1.9
FACTOR A + FACTOR B						
VENTURE + ENDURA	2763	57	2257	50	5020	2.0
VENTURE + ENDURA + LEO	2738	48	2418	47	5156	2.1
VENTURE + ENDURA + WALTER	2766	47	2347	42	5113	2.1
VENTURE + ENDURA + LEGEND 2	2582	56	2594	48	5176	2.1
VENTURE + ENDURA + WILL	2705	55	2508	45	5213	2.1
OKAY + ENDURA	2352	58	2404	36	4755	1.9
OKAY + ENDURA + LEO	2299	48	2379	39	4677	1.9
OKAY + ENDURA + WALTER	2306	53	2261	43	4567	1.8
OKAY + ENDURA + LEGEND 2	2150	54	2554	52	4705	1.9
OKAY + ENDURA + WILL	2256	55	2176	39	4432	1.8
MEAN	2491	53	2390	44	4881	2.0
C.V.	8.6%	12.2%	10.0%	17.4%	6.5%	
PRF - FACTOR A	0.0021				0.0014	
PRF - FACTOR B		0.0505				
PRF - FACTOR + FACTOR B						
LSD (0.05) - FACTOR A						
LSD (0.05) - FACTOR B		0.4				
LSD (0.05) - FACTOR A + FACTOR B						

Kura Clover Establishment Trail
 Seperation Data - 2013

	Dry Wt. (g)	%		Dry Wt. (g)	%
101 Reed Canary Grass	7.7	11.8	301 Reed Canary Grass	3.3	2.9
Kura Clover	35.8	54.7	Kura Clover	37.9	33.8
Other	22.0	33.6	Alfalfa	45.9	40.9
	65.5		Other	25.1	22.4
				112.2	
102 Reed Canary Grass	6.7	9.6	302 Reed Canary Grass	18.3	17.7
Kura Clover	16.1	23.1	Kura Clover	48.6	47.1
Red Clover	17.2	24.7	White Clover	0	0.0
Other	29.7	42.6	Other	36.3	35.2
	69.7			103.2	
103 Orchard Grass	29.9	34.1	303 Reed Canary Grass	31.5	35.8
Kura Clover	20.4	23.3	Kura Clover	26.4	30.0
Trefoil	0	0	Red Clover	9.5	10.8
Other	37.3	42.6	Other	20.6	23.4
	87.6			88	
104 Orchard Grass	27.8	38.0	304 Orchard Grass	21	33.1
Kura Clover	13.4	18.3	Kura Clover	26.5	41.8
Other	32	43.7	Other	15.9	25.1
	73.2			63.4	
105 Reed Canary Grass	11.9	13.6	305 Reed Canary Grass	37.7	44.5
Kura Clover	27.6	31.5	Kura Clover	27	31.8
Trefoil	0	0	Trefoil	0	0
Other	48	54.9	Other	20.1	23.7
	87.5			84.8	
106 Reed Canary Grass	14.2	15.7	306 Orchard Grass	45.3	44.6
Kura Clover	40.2	44.6	Kura Clover	40.5	39.9
White Clover	2.9	3.2	Trefoil	0	0.0
Other	32.9	36.5	Other	15.8	15.6
	90.2			101.6	
107 Orchard Grass	16.3	26.4	307 Orchard Grass	19.1	24.7
Kura Clover	17.7	28.7	Kura Clover	25.2	32.6
White Clover	3.2	5.2	Red Clover	9.5	12.3
Other	24.5	39.7	Other	23.4	30.3
	61.7			77.2	
108 Reed Canary Grass	5.7	6.9	308 Orchard Grass	19	18.1
Kura Clover	17.2	20.8	Kura Clover	11.6	11.1
Alfalfa	38.1	46.2	Alfalfa	61.9	59.0
Other	21.5	26.1	Other	12.4	11.8
	82.5			104.9	
109 Orchard Grass	9.0	12.4	309 Orchard Grass	22.7	33.1
Kura Clover	16.4	22.6	Kura Clover	32.7	47.7
Alfalfa	29.5	40.6	White Clover	1.5	2.2
Other	17.8	24.5	Other	11.7	17.1
	72.7			68.6	
110 Orchard Grass	19.7	25.3	310 Reed Canary Grass	11.6	15.2
Kura Clover	13.1	16.8	Kura Clover	11.9	15.6
Red Clover	11.0	14.1	Other	52.7	69.2
Other	34.2	43.8		76.2	
	78				

*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 5, 2013)
 HARVEST: 1st cut - June 12 & 13, 2013
 2nd cut - August 1, 2013

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 - LEGUME						
LEO TREFOIL	2622	38	2069	35	4691	1.1
WILL WHITE CLOVER	1818	36	1673	37	3491	0.7
ENDURA KURA CLOVER	3623	41	2657	37	6064	1.5
FACTOR B - GRASS						
CLIMAX TIMOTHY	3009	42	2076	35	5085	1.2
BAYLOR SMOOTH BROME GRASS	2948	39	2039	33	4987	1.2
VENTURE REED CANARY GRASS	2715	42	2521	46	5236	1.1
VENTURE + KOKANEE TALL FESCUE	2466	36	2154	35	4620	1.0
VENTURE + FLEET MEADOW BROME GRASS	2531	38	2095	31	4391	1.0
VENTRUE + KOKANEE + FLEET	2455	34	1914	38	4172	1.0
FACTOR A + FACTOR B - LEGUME + GRASS						
LEO + CLIMAX	2656	47	2048	37	4704	1.1
LEO + BAYLOR	3757	46	2347	29	6105	1.5
LEO + VENTURE	2595	36	2072	38	4667	1.0
LEO + VENTURE + KOKANEE	1914	32	1768	38	3682	0.8
LEO + VENTURE + FLEET	2575	38	2405	34	4980	1.0
LEO + VENTURE + KOKANEE + FLEET	2233	33	1777	34	4010	0.9
WILL + CLIMAX	2616	33	1962	36	4578	1.1
WILL + BAYLOR	1733	32	1319	35	3052	0.7
WILL + VENTURE	1752	43	2262	49	4014	0.7
WILL + VENTURE + KOKANEE	1704	39	1618	33	3322	0.7
WILL + VENTURE + FLEET	1613	37	1491	33	3105	0.7
WILL + VENTURE + KOKANEE + FLEET	1489	35	1385	39	2874	0.6
ENDURA + CLIMAX	3756	45	2218	33	5974	1.5
ENDURA + BAYLOR	3353	38	2452	36	5806	1.4
ENDURA + VENTURE	3798	46	3229	52	7027	1.5
ENDURA + VENTURE + KOKANEE	3779	38	3076	34	6856	1.5
ENDURA + VENTURE + FLEET	3405	41	2389	28	5088	1.4
ENDURA + VENTURE + KOKANEE + FLEET	3644	36	2579	41	5633	1.5
MEAN	2687	38	2133	36	4748.6	1.1
C.V.	24.7%	18.3%	27.6%	15.9%	25.4%	
PRF- FACTOR A	0.0003		0.0009		0.0000	
PRF - FACTOR B				0.0000		
PRF - FACTOR A + FACTOR B				0.0272		
LSD (0.05) - FACTOR A	36.2		29.4		32.4	
LSD (0.05) - FACTOR B				2.3		
LSD (0.05) - FACTOR A + FACTOR B				2.7		

*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.

Reed Canary Grass for Hay / Pasture Systems
 Separation Data
 (The plots with Trefoil only)

	Weight (g)	%		Weight (g)	%
101 Trefoil	2.4	13.7	201 Trefoil	14.8	50.2
Timothy	0	0.0	Reed Canary Grass	0	0.0
Other	15.1	86.3	Tall Fescue	0	18.0
TOTAL	17.5		Meadow Brome Grass	5.3	31.9
105 Trefoil	0	0.0	Other	9.4	100.0
Reed Canary Grass	8.3	32.9	TOTAL	29.5	
Other	16.9	67.1	204 Trefoil	16.2	43.1
TOTAL	25.2		Reed Canary Grass	0	0.0
109 Trefoil	0	0.0	Meadow Brome Grass	15.6	41.5
Reed Canary Grass	0	0.0	Other	5.8	15.4
Tall Fescue	0	0.0	TOTAL	37.6	
Meadow Brome Grass	0	0.0	205 Trefoil	14.0	47.6
Other	21.3	100.0	Timothy	4.2	14.3
TOTAL	21.3		Other	11.2	38.1
111 Trefoil	0	0.0	TOTAL	29.4	
Smooth Brome Grass	23.2	53.8	206 Trefoil	2.1	5.4
Other	19.9	46.2	Smooth Brome Grass	1.5	3.9
TOTAL	43.1		Other	35.1	90.7
112 Trefoil	0	0.0	TOTAL	38.7	
Reed Canary Grass	8.4	19.2	210 Trefoil	0	0.0
Meadow Brome	2.2	5.0	Reed Canary Grass	5.0	11.4
Other	33.1	75.7	Tall Fescue	2.8	6.4
TOTAL	43.7		Other	35.9	82.2
115 Trefoil		#DIV/0!	TOTAL	43.7	
Reed Canary Grass		#DIV/0!	218 Trefoil	0	0.0
Tall Fescue		#DIV/0!	Reed Canary Grass	0	0.0
Other		#DIV/0!	Other	23.3	100.0
TOTAL	0		TOTAL	23.3	
(missed sample)					

Reed Canary Grass for Hay / Pasture Systems
 Separation Data 2010
 (The plots with Trefoil only)

	Weight (g)	%		Weight (g)	%
304 Trefoil	8.0	34.2	402 Trefoil	8.3	27.2
Reed Canary Grass	0	0.0	Reed Canary Grass	0	0.0
Tall Fescue	0	0.0	Tall Fescue	0	0.0
Other	15.4	65.8	Meadow Brome	9.3	30.5
TOTAL	23.4		Other	12.9	42.3
306 Trefoil	2.2	9.4	TOTAL	30.5	
Reed Canary Grass	12.8	54.9	405 Trefoil	0	0.0
Other	8.3	35.6	Reed Canary Grass	10.6	23.7
TOTAL	23.3		Other	34.1	76.3
308 Trefoil	0	0.0	TOTAL	44.7	
Reed Canary Grass	0	0.0	408 Trefoil	0	0.0
Tall Fescue	0	0.0	Reed Canary Grass	3.2	22.2
Meadow Brome	17.3	35.2	Tall Fescue	0	0.0
Other	31.9	64.8	Other	11.2	77.8
TOTAL	49.2		TOTAL	14.4	
310 Trefoil	31.1	61.0	410 Trefoil	0	0.0
Timothy	0	0.0	Smooth Brome Grass	0	0.0
Other	19.9	39.0	Other	34.3	100.0
TOTAL	51		TOTAL	34.3	
311 Trefoil	0	0.0	412 Trefoil	11.0	32.0
Smooth Brome Grass	6.3	19.3	Timothy	6.6	19.2
Other	26.4	80.7	Other	16.8	48.8
TOTAL	32.7		TOTAL	34.4	
314 Trefoil	12.3	40.2	417 Trefoil	21.2	44.7
Reed Canary Grass	0	0.0	Reed Canary Grass	0.3	0.6
Meadow Brome	2.1	6.9	Meadow Brome Grass	11.6	24.5
Other	16.2	52.9	Other	14.3	30.2
TOTAL	30.6		TOTAL	47.4	

DEMO GRASS STRIPS

LOCATION: Emo
 PLANTING: 25-May-00
 FERTILIZER: 11-52-0 @ 20 kg/ha (September 5, 2013)
 46-0-0 @ 70 kg/ha
 HARVEST: Spring cut - May 8, 2013
 Fall cut - didn't happen, weather and time didn't cooperate.

TREATMENT	SPRING CUT (kg/ha)	HEIGHT (cm)	FALL CUT (kg/ha)	HEIGHT (cm)	SPRING CUT (t/acre)	FALL CUT (t/acre)
REED CANARY GRASS	1759	93			0.7	0.0
REED CANARY GRASS	1808	96			0.7	0.0
REED CANARY GRASS	1564	93			0.6	0.0
MEAN	1710	94			0.7	0.0
C.V.	20.7%	13.0%				
PR>F						
LSD (0.05)	1520	52				

*Originally these plots were Switch Grass, Praise 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 7, 2012)
 46-0-0 @ 70 kg/ha
 HARVEST: Spring Harvest - May 8, 2013
 Unable to do a Fall Harvest

TREATMENT	SPRING CUT (kg/ha)	HEIGHT (cm)	SPRING CUT (t/acre)
SUNBURST	2017	71	0.8
FORESTBURG	2020	60	0.8
DACOTAH	1875	70	0.8
VANTAGE (1)	1888	64	0.8
CAVE-IN-THE-ROCK	1279	76	0.5
VANTAGE (2)	1839	62	0.7
MEAN	1819	67	0.7
C.V.	20.7%	9.1%	
PR>F			
LSD (0.05)	969.1	15.7	

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

Emo Biomass Miscanthus 2013
Emo Agricultural Research Station
2013

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Seeding Date: Planted varied over few days in 2010 - other than Annual Crops
Oats & Wheat - June 3 2013 Canola - June 5, 2013

Fertilization: per plot

Herbicide: n/a

Harvest: Spring - May 9, 2013

Wheat & Oats- September 18, 2013

Entry	Code	Variety	Yield	Straw Yield	Lodging	Height	Days to	Days to	Index	t/acre
			kg/ha	kg/ha	(1-9)	(cm)	Head	Mature		
1	111	1-0 Switchgrass "Sunburst" 0 N Spring Cut	517						53	0.21
2	112	2-0 Switchgrass "Sunburst" 0 N Fall Cut							0	0.00
3	121	1-50 Switchgrass "Sunburst" 50 N Spring Cut	843						87	0.34
4	122	2-50 Switchgrass "Sunburst" 50 N Fall Cut							0	0.00
5	211	1-0 Switchgrass "Cave-In-Rock" 0 N Spring Cut	523						54	0.21
6	212	2-0 Switchgrass "Cave-In-Rock" 0 N Fall Cut							0	0.00
7	221	1-50 Switchgrass "Cave-In-Rock" 50 N Spring Cut	880						91	0.36
8	222	2-50 Switchgrass "Cave-In-Rock" 50 N Fall Cut							0	0.00
9	311	1-0 Miscanthus Pol 0 N Spring Cut	94			63			10	0.04
10	312	2-0 Miscanthus Pol 0 N Fall Cut							0	0.00
11	321	1-50 Miscanthus Pol 50 N Spring	242			77			25	0.10
12	322	2-50 Miscanthus Pol 50 N Fall Cut							0	0.00
13	411	1-0 Miscanthus M1 0 N Spring Cut	526			57			54	0.21
14	412	2-0 Miscanthus M1 0N Fall Cut							0	0.00
15	421	1-50 Miscanthus M1 50 N Spring Cut	431			68			44	0.17
16	422	2-50 Miscanthus M1 50 N Fall Cut							0	0.00
17	511	1-0 Miscanthus 114 0 N Spring Cut	487			105			50	0.20
18	512	2-0 Miscanthus 114 0 N Fall Cut							0	0.00
19	521	1-50 Miscanthus 114 50 N Spring Cut	1294			109			133	0.52
20	522	2-50 Miscanthus 114 50 N Fall Cut							0	0.00
21	611	1-0 Miscanthus 116 0 N Spring Cut	697			82			72	0.28
22	612	2-0 Miscanthus 116 0 N Fall Cut							0	0.00
23	621	1-50 Miscanthus 116 50 N Spring Cut	1762			83			182	0.71
24	622	2-50 Miscanthus 116 50 N Fall Cut							0	0.00
25	712	2-0 Reed Canary Grass (Rival) 0 N Fall Cut							0	0.00
26	722	2-50 Reed Canary Grass (Rival) 50N Fall Cut							0	0.00
27	812	2-0 Prairie Cord Grass (Spartina) 0 N Fall Cut							0	0.00
28	822	2-50 Prairie Cord Grass (Spartina) 50 N Fall Cut							0	0.00
29	912	2-0 Big Bluestem (Praire View) 0 N Fall Cut							0	0.00
30	922	2-50 Big Bluestem (Praire View) 50 N Fall Cut							0	0.00
31		Oat (Prescott)	501	4513	1		55	97	52	0.20
32		Spring Wheat (Carberry)	485	1712	1		52	96	50	0.20
33		Canola (7245-RR)							0	0.00

Average 970 3113 1.0 80 53 97 0.11
C.V. 44.05%
PR>F 0.0000
LDS (0.05) 697

* This trial was cancelled but if time would have permitted I was planning to do a fall harvest but time didn't permit.

Other Trials – 2013

Soybean Protein Trial

Soybean Inoculant Trial – both of these were consumed by deer, no data collected

Trefoil (2 blocks)

– this trial winter killed

Quinoa – we did not get viable seed for this trial

Chick Pea Variety Strips – did not harvest there was very little to harvest so due to time we didn't bother

Lentil Variety Strips

Lentil Variety Trial – these trials died – I think from moisture

Sunflower Block

Other Cereal Demo Blocks – but most were full of Annual Grass Weeds so we chopped and baled early.

Hybrid Poplar

Black Spruce

We are still experiencing tile troubles --- would certainly like to get that fixed up!