2014

OHIO FORAGE PERFORMANCE TRIALS

C O N T E N T S:

SUMMARY

This report is a summary of performance data collected from forage variety trials in Ohio during 2014, including commercial varieties of alfalfa, red clover, white clover orchardgrass, tall fescue and annual ryegrass in tests planted in 2011 to 2014 across three sites in Ohio: South Charleston, Wooster, and North Baltimore. For more details on forage species and management, see the *Ohio Agronomy Guide*, Ohio State University Extension Bulletin 472, which can be purchased from Ohio State University Extension's eStore at http://estore.osu-extension.org/.

Interpreting Yield Data

Yield data are reported in Tables 2 through 11. Details of establishment and management of each test are listed in footnotes below the tables. Least significant differences (LSD) are listed at the bottom of Tables 3 through 11. Differences between varieties are significant only if they are equal to or greater than the LSD value. If a given variety out yields another variety by as much or more than the LSD value, then we are 95% sure that the yield difference is real, with only a 5% probability that the difference is due to chance alone. For example, if variety X is 0.50 ton/acre higher in yield than variety Y, then this difference is statistically significant if the LSD is 0.50 or less.

The CV value or coefficient of variation, listed at the bottom of each table is used as a measure of the precision of the experiment. Lower CV values will generally relate to lower experimental error in the trial. Uncontrollable or unmeasured variations in soil fertility, soil drainage, and other environmental factors contribute to greater experimental error and higher CV values. However, higher CV values can also occur simply as a result of the mean yield being low (eg. due to weather conditions), because the CV is a function of the mean yield. So a higher CV will often occur where yields are low despite there being no increase in experimental error.

Results reported here should be representative of what might occur throughout the state but would be most applicable under environmental and management conditions similar to those of the tests. The relative yields of all forage legume varieties are affected by crop management and by environmental factors including soil type, winter conditions, soil moisture conditions, diseases, and insects.

ALFALFA

Alfalfa has the highest combined yield and quality potential of any adapted perennial forage grown in Ohio. It is grown on about 330,000 acres. Alfalfa requires well-drained soils with near-neutral pH (6.5-7.0) for greatest production and persistence. Alfalfa trials are initiated each year and data is collected for at least four years unless the stand becomes so depleted that further testing is no longer worthwhile; variety performance should be evaluated over several sites and years.

Guidelines for Selecting Alfalfa Varieties

To capitalize on alfalfa's potential, select high-yielding varieties with resistance to problem diseases. Alfalfa variety rankings for a number of traits described below are reported on the University of Wisconsin forage website, at http://www.uwex.edu/ces/forage/pubs/varinfo.htm.

Consider these factors when selecting alfalfa varieties for Ohio:

1. **Yield.** Yield is critical to profitability of an alfalfa stand. Select varieties with high yields over several locations and years. Table 2 shows this comparison in percent of the average test yield. Varieties that perform equally well across several locations and years are adapted to a wider range of environmental conditions, which is important because soils may vary on your farm and weather conditions vary from year to year.

2. **Persistence.** Another important consideration is how long the alfalfa stand will last. Study variety performance by age of stand to get an estimate of longevity of productivity. Some varieties may decline with age more rapidly than others, which may influence your variety choice depending on how long you intend to keep the stand. For long-term rotations, choose varieties with good disease resistance and good performance in the fourth year. If you plan to harvest alfalfa for three years or less, then high performance during the first three years should be given priority.

3. **Fall dormancy (FD).** Alfalfa varieties with fall dormancy ratings of 1 through 5 are considered adequately winter hardy for Ohio conditions while those of 6 or higher are not considered adapted. Varieties with higher fall dormancy ratings tend to grow at a lower temperature, so they begin growth earlier in the spring and continue growth later into the fall. The fall dormancy rating does not correlate well with winter hardiness within the range of varieties adapted to the Midwest USA.

4. **Disease resistance.** Variety selection based on yield performance alone is less satisfactory than selections that also consider disease resistance characteristics. Resistance to specific disease-causing pathogens may be the most important attribute in an alfalfa variety. Pathogens can dramatically reduce yield and persistence of susceptible varieties. In an evaluation of older versus newer alfalfa varieties we found that newer varieties yielded more and persisted longer than older varieties, primarily because of improved resistance to diseases that affected the trial. For more information on alfalfa diseases and varietal resistance to specific diseases, go to the following websites:
   http://oardc.osu.edu/ohiofieldcropdisease/t01_pageview2/Home.htm
   http://www.uwex.edu/ces/forage/pubs/varinfo.htm

5. **Insect resistance.** Alfalfa varieties have been developed for resistance to potato leafhopper (PLH), which is the most consistently damaging insect pest of alfalfa in Ohio. The PLH resistant varieties are not resistant to the alfalfa weevil, and they will need to be protected from that pest like all standard alfalfa varieties when weevil populations exceed the economic action threshold. For more information on insect management in alfalfa, see the following website: http://entomology.osu.edu/ag/pageview.asp?id=1029.

6. **Compare to check variety.** For comparisons of varieties across several trials, always compare varieties to the same check variety planted within the trial. The variety Vernal is used as a check in all Ohio trials and is commonly included in trials in other states. Another good way to compare varieties across trials is to look at their yield in relation to the trial average reported in Table 2.

7. **Use good management.** No variety can produce well under poor management. Good management considers all aspects of alfalfa production: seed bed preparation, liming and fertilization, seeding, pest control, harvest, storage, and post harvest treatment. Many newer varieties are better adapted to intensive management.

Summary of 2014 Crop Conditions

Total rainfall for the season was above normal at all locations, with the greatest deviation being at N. Baltimore (3.39 below normal). Rainfall in April and June was above normal at all locations but was variable across locations during the other months. Average monthly temperatures were above normal from April through June, but tended to be below normal for July through October.

Weather 2014

	Wooster		S. Charleston		N. Baltimore	
Month	Total	DFA*	Total	DFA*	Total	DFA*
	Precipitation (inches of rainfall)					
	total	DFA	total	DFA	total	DFA
Apr	5.56	2.26	5.09	1.09	3.85	0.55
May	2.65	-1.15	5.10	0.60	1.63	-1.67
June	5.71	1.81	4.94	0.74	4.16	0.56
July	2.74	-1.26	3.58	-0.42	1.88	-1.82
Aug	3.88	0.35	1.47	-1.93	0.77	-2.03
Sept	0.76	-2.14	1.19	-1.61	3.93	1.33
Oct	1.68	-0.62	2.04	-0.26	1.99	-0.31
Total	22.98	-0.75	23.41	-1.79	18.21	-3.39
	Average Daily Temperature (°F)					
Apr	50.5	2.4	52.6	1.6	49.9	1.0
May	61.2	2.8	62.8	1.7	62.0	2.4
June	59.8	2.2	71.8	1.5	71.9	2.4
July	69.3	-2.3	69.1	-4.7	69.3	-3.6
Aug	69.5	-0.5	71.4	-0.6	70.8	0.2
Sept	62.6	-1.2	63.9	-1.7	63.5	-0.9
Oct	52.4	0.2	52.5	-1.5	52.4	-0.2

*DFA = departure from long-term average

Alfalfa

The established trial at North Baltimore had the highest yields, averaging 7.30 tons/acre. A new spring seeding at South Charleston was established later than we recommend, but performed reasonably considering the late planting date, with two harvests taken for a total annual yield of 1.48 tons/acre averaged across all varieties. Insecticide applications were used at all locations for control of potato leafhopper (PLH) in the standard yield trials.

Table 2:

Summary of Alfalfa Variety Performance in Ohio

Standard Trials - Insecticide applied (values are yield as a percent of the trial average)

		South Charleston		North Baltimore	Wooster	Total	Avg all
Variety	Marketers	2012-14	2014	2012-14	2013-14	site-yrs	site yrs
4030	Preferred Seed Company				104	2	104
55Q27	Pioneer		99			1	99
55V50	Pioneer	106			104	5	105
55VR06	Pioneer		106			1	106
55H94	Pioneer	94			96	5	95
Ameristand 407TQ	Americas Alfalfa	99				11	102
Archer III	Americas Alfalfa	99				3	99
BlueJay	Blue River Hybrids				99	2	99
Caliber	Beck's Hybrids	97	86	99		7	96
Charger	Beck's Hybrids	100				3	100
Contender	Beck's Hybrids		100	99		4	100
DBX 303 L	Doebler's PA Hybrids Inc.				102	2	102
DBX 304 HY	Doebler's PA Hybrids Inc.				103	2	103
DBX 305 LH	Doebler's PA Hybrids Inc.				99	2	99
DG 4210	Crop Protection Service	101			99	9	100
DKA 3417 RR	Dekalb			99		3	99
DKA 4118 RR	Dekalb			97		7	97
Enduro Elite	The Cisco Companies		93			1	93
Fierce	Beck's Hybrids		85			1	85
FSG 403 LR	Farm Science Genetics		110		103	3	105
FSG 424	Farm Science Genetics		93		95	3	94
FSG 524	Farm Science Genetics		94		96	3	96
Gunner	Croplan Genetics	100				3	100
L-455 HD	Legacy Seed		101		97	3	98
Legacy 449 Aph 2	Legacy Seed			98		3	98
Magnitude	Farm Science Genetics			100		3	100
Mariner IV	Allied Seed		114	103		4	106
Persist II	Doeblers PA Hybrids			103		3	103
Persist III	Doeblers PA Hybrids		105		109	3	108
PGI 459	Producers Choice					8	101
PGI 557	Producers Choice	104				7	100
Pluss II	Doeblers PA Hybrids			104		3	104
Prolific II	Doeblers PA Hybrids				107	2	107
Rebound 6.0	Croplan Genetics	102				3	102
VERNAL	Public	96	100	100	93	109	92
WL 354 HQ	Crop Protection Service	100				3	100
WL 353 LH	Crop Protection Service	103				3	103
Trial Averaged Yield		5.46	1.48	5.06	5.60	--	--
Number of site years		3	1	3	2	--	--

Table 3:
Alfalfa Variety Trial
Ohio, South Charleston, Sown 8/22/2011

					Total				
Variety	27-May	30-Jun	31-Jul	9-Sep	2014	2013	2012	2012-14	% Stand
Released Cultivars:	---------- Tons Dry Matter/Acre ----------								9/18/2014
55V50	1.64	1.33	0.87	0.73	4.56	6.23	6.61	17.41	85
PGI 557	1.36	1.36	0.84	0.82	4.38	6.20	6.38	16.97	83
WL 353 LH	1.51	1.27	0.74	0.72	4.24	5.99	6.57	16.80	85
Rebound 6.0	1.52	1.36	0.90	0.78	4.57	5.99	6.06	16.63	86
DG 4210	1.56	1.25	0.84	0.77	4.42	6.23	5.82	16.47	88
Charger	1.54	1.34	0.82	0.70	4.39	6.19	5.83	16.41	86
Gunner	1.44	1.31	0.84	0.71	4.30	5.95	6.04	16.29	84
Archer III	1.58	1.25	0.89	0.73	4.44	5.90	5.93	16.28	85
AmeriStand 407TQ	1.47	1.25	0.77	0.79	4.28	5.85	6.13	16.26	79
WL 354 HQ	1.54	1.30	0.79	0.75	4.37	5.69	6.09	16.14	86
Caliber	1.49	1.16	0.82	0.67	4.15	5.74	6.04	15.93	84
Vernal	1.28	1.14	0.65	0.77	3.84	5.55	6.35	15.74	79
55H94	1.27	1.15	0.80	0.66	3.87	5.66	5.85	15.38	83
Mean	1.48	1.26	0.82	0.74	4.30	5.92	6.15	16.37	84
LSD 0.05	0.24	0.18	0.15	0.17	0.57	0.56	0.92	1.64	5.11
Prob > F	.25 ns	.21 ns	.12 ns	.85 ns	.40 ns	.18 ns	.83 ns	.68 ns	0.05
CV %	11.2	10.1	12.7	16.1	9.3	6.6	10.4	7.0	4.3

Data subjected to Nearest Neighbor AOV, adjusted means reported.
ns = no significant differences among varieties.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 16 lb/a.
Plot size:	4' x 20' , 15'alleys and borders, RCBD with four reps.
Soil type / analysis:	Crosby silt loam, pH=7.0, P=46 lbs/a, K= 186 lbs/a, CEC=14, O.M.=2.1, (10/13).
2014 Pest control:	Insecticide was applied on 16-June, 11-July, 13-August for potato leafhopper control.
2014 Fertility	Applied 500 lb/a of 0-0-60 after first harvest.

Table 4:
Alfalfa Variety Trial
Ohio, North Baltimore, Sown 4-13-2012

					Total			
Variety	29-May	1-Jul	4-Aug	9-Sep	2014	2013	2012	2012-14
Released Cultivars:	---------- Tons Dry Matter/Acre ----------							
Pluss II	2.63	2.31	2.20	0.61	7.71	6.39	1.64	15.73
Mariner IV	2.38	2.33	1.70	0.49	7.02	7.00	1.62	15.63
Persist II	2.70	2.34	2.09	0.74	7.89	6.25	1.47	15.61
Vernal	2.25	2.30	1.94	0.50	7.01	6.56	1.58	15.14
Magnitude	2.51	2.15	1.91	0.55	7.10	6.50	1.50	15.10
Contender	2.53	2.27	2.12	0.65	7.59	6.11	1.40	15.09
Caliber	2.33	2.23	2.00	0.61	7.20	6.22	1.60	15.02
DKA 3417 RR	2.45	2.28	1.90	0.52	7.14	6.34	1.49	14.97
L 449 Aph2	2.37	2.11	2.00	0.62	7.00	6.31	1.52	14.82
DKA 4118 RR	2.43	2.31	2.13	0.58	7.42	5.89	1.47	14.78
Mean	2.46	2.27	1.98	0.59	7.30	6.32	1.55	15.17
LSD 0.05	0.28	0.22	0.49	0.26	0.91	0.44	0.24	1.12
Prob > F	.12 ns	.49 ns	.41 ns	.63 ns	.34 ns	0.01	.52 ns	.41 ns
CV %	7.9	6.6	17.1	30.2	8.7	4.9	10.8	5.1

Data subjected to Nearest Neighbor AOV, adjusted means reported.
ns = no significant differences among varieties.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 16 lb/a.
Plot size:	4' x 20' , 15'alleys and borders, RCBD with four reps.
Soil type / analysis:	Holtville silt loam, pH=6.0, P=37 lbs/a, K=253 lbs/a, CEC=17.1, O.M.=2.9, (10/12).
2014 Pest control:	Insecticide was applied on 12-June, 16-July and 19-August for potato leafhopper control.

Table 5:
Alfalfa Variety Trial
Ohio, Wooster, Sown 4-23-2013

Variety	30-May	3-Jul	14-Aug	8-Sep	Total 2014	Total 2013	Total 2013-14	% Stand
Released Cultivars:	----------Tons Dry Matter/Acre ----------							9/30/13
Persist III	2.42	2.28	1.71	1.42	7.77	4.46	12.24	94
Prolific II	2.15	2.25	1.66	1.38	7.42	4.52	11.94	88
4030	2.19	2.25	1.67	1.45	7.43	4.23	11.67	90
55V50	2.23	2.36	1.62	1.41	7.66	3.99	11.65	93
DBX 304 HY	2.10	2.27	1.56	1.43	7.31	4.26	11.57	94
FSG 403 LR	2.26	2.18	1.70	1.35	7.45	4.08	11.54	87
DBX 303 L	2.46	1.98	1.56	1.40	7.53	3.92	11.45	96
DG 4210	2.05	2.31	1.52	1.17	7.05	4.07	11.12	84
DBX 305 LH	2.15	2.00	1.58	1.31	7.05	4.02	11.08	91
BlueJay	2.12	2.07	1.63	1.26	7.14	3.94	11.07	91
L 455 HD	1.99	2.25	1.49	1.20	6.88	3.99	10.88	84
FSG 524	1.86	2.25	1.59	1.21	6.99	3.81	10.80	94
55H94	2.23	1.95	1.51	1.26	6.89	3.91	10.80	89
FSG 424	1.85	2.35	1.57	1.26	6.94	3.69	10.62	89
Vernal	2.10	1.80	1.36	1.14	6.47	4.00	10.47	80
Mean	2.12	2.17	1.57	1.29	7.15	4.05	11.20	89
LSD 0.05	0.16	0.16	0.13	0.14	0.35	0.29	0.57	4.45
Prob > F	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
CV %	5.32	5.33	5.78	7.48	3.49	5.12	3.61	3.53

* Variety tested using experimental seed that may not give performance identical to that of commercially available seed.
Data subjected to Nearest Neighbor AOV, adjusted means reported.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 16 lb/a.
Plot size:	4' x 20', 15' alleys and borders, RCBD with four reps.
Soil type / analysis:	Riddles silt loam, pH = 6.9, P =32 lb/a, K = 180 lb/a, CEC = 7.2 (10/13).
2014 Fertility:	Applied 972 lb/a 0-18-36 on 15-July.
2014 Pest control:	Insecticide was applied 12-June, 18-July and 19-August for potato leafhopper control.

Table 6:
Alfalfa Variety Trial
Ohio, South Charleston, Sown 5/20/14

Variety	15-Jul	4-Sep	Total 2014
Released Cultivars:	----------Tons Dry Matter/Acre ----------		
Mariner IV	0.61	1.08	1.68
FSG 403 LR	0.47	1.15	1.63
55VR06	0.51	1.08	1.57
Persist III	0.51	1.11	1.55
L-455 HD	0.39	1.07	1.49
Contender	0.35	1.12	1.48
Vernal	0.40	1.06	1.48
55Q27	0.52	0.96	1.47
FSG 524	0.42	0.98	1.39
Enduro Elite	0.42	0.97	1.38
FSG 424	0.33	1.05	1.37
Caliber	0.25	1.00	1.28
Fierce	0.24	1.01	1.26
Mean	0.43	1.05	1.48
LSD 0.05	0.17	0.14	0.24
Prob > F	0.01	0.3 ns	0.03
CV %	28.3	9.6	11.4

Data subjected to Nearest Neighbor AOV, adjusted means reported.
ns = no significant differences among varieties.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 16 lb/a.
Plot size:	4' x 20' , 15'alleys and borders, RCBD with four reps.
Soil type / analysis:	Crosby silt loam, pH=6.8, P=126 lbs/a, K= 338 lbs/a, CEC=19.2, O.M.=3.4, (10/13).
2014 Pest control:	Insecticide was applied on 16-June, 28-July, 13-August for potato leafhopper control.

Clover: Red & White

Red and white clover trials were seeded in 2013 at South Charleston. Trials were sprayed after the first harvest for potato Leafhopper (PLH) control to aid new growth due to the high numbers of PLH.

Red clover is better adapted than alfalfa to soils that are somewhat poorly drained and slightly acidic; however, greatest production will occur on well-drained soils with high water-holding capacity and pH above 6.0. Red clover is not as productive as alfalfa in the summer and it generally persists for a shorter time than alfalfa. New varieties are capable of persisting into a third year.

White clover is a short-lived perennial that is well suited for pastures. It spreads and persists over time by vegetative propagation of stolons and by natural reseeding. White clover tolerates periods of poor drainage, but does poorly in dry weather.

Table 7:
Red Clover Variety Trial
Ohio, South Charleston, Sown 4/9/2013

					Total			
Variety	Marketers	2-Jun	11-Jul	10-Sep	2014	2013	2013-14	% Stand
		---------- Tons Dry Matter/A ----------						9/18/2014
FSG 402	Farm Science Genetics	3.24	1.94	1.08	6.26	2.98	9.24	83
RC0401*	Allied Seed	2.90	2.07	1.27	6.24	3.08	9.32	78
Gallant	The Cisco Companies	3.18	2.06	1.18	6.43	2.91	9.34	84
PGI 44	Producers Choice	3.10	1.95	1.09	6.14	2.91	9.05	81
Common red	Public	2.60	1.25	0.42	4.27	2.55	6.82	15
Mammoth red	Public	3.72	0.71	0.13	4.56	1.86	6.42	30
Mean		3.12	1.66	0.86	5.65	2.72	8.36	62
LSD 0.05		0.58	0.40	0.27	1.09	0.49	1.24	17.09
Prob > F		0.02	<.0001	<.0001	<.001	<.001	<.0001	<.0001
CV %		12.2	15.8	20.8	12.9	12.0	9.8	18.4

* Variety tested using experimental seed that may not give performance identical to that of commercially available seed.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 12 lb/a.
Plot size:	4' x 20' , 7' alleys and borders, RCBD with four reps.
Soil type/ analysis:	Crosby silt loam, pH=7.0, P=48 lbs/a, K=216 lbs/a, CEC=12.7, O.M.=1.8,(10/13).
2014 Pest control:	Insecticide was applied on 11-July for potato leafhopper control.

Table 8:
White Clover Variety Trial
Ohio, South Charleston, Sown 4/9/2013

Variety	Marketers	2-Jun	11-Jul	10-Sep	Total 2014	Total 2013	Total 2013-14
		---------- Tons Dry Matter/A ----------					
Cashmere	Saddle Bute Ag	0.83	0.61	0.33	1.79	1.70	3.59
Patriot	Pennington Seed	1.07	0.58	0.39	2.04	1.25	3.28
Kentucky Select	Saddle Bute Ag	0.79	0.48	0.33	1.63	1.48	2.93
Durana	Pennington Seed	0.64	0.41	0.28	1.34	1.39	2.67
Crusade II	Allied Seed	0.20	0.38	0.27	0.59	1.88	2.61
Mean		0.66	0.49	0.34	1.49	1.56	3.05
LSD 0.05		0.47	0.21	0.18	0.72	0.29	0.91
Prob > F		0.01	0.06 ns	0.47 ns	0.02	0.01	0.29 ns
CV %		47.7	29.7	35.9	32.1	12.4	20.2

Note: Stand for all varieties is 100% on 9/18/14.

ns = no significant differences among varieties.

Establishment: Seeded with a Hege 3-point hitch drill with presswheels at 4 lb/a.
Plot size: 4' x 20' , 7' alleys and borders, RCBD with four reps.
Soil type/ analysis: Crosby silt loam, pH=7.0, P=48 lbs/a, K=216 lbs/a, CEC=12.7, O.M.=1.8,(10/13).
2014 Pest control: Insecticide was applied on 11-July for potato leafhopper control.

Orchardgrass

The new orchardgrass trial seeded at South Charleston had an average yield of 1.54 tons/acre. The test was established later than we recommend and therefore had weed competition in the first growth so yields are not reported for the first harvest. Orchardgrass varieties can have significant maturity differences. Varieties will be rated for maturity at harvest beginning in 2015.

Table 9:
Orchargrass Variety Trial
Ohio, South Charleston, Sown 5/20/2014

Variety	Marketers	4-Sep	8-Oct	Total 2014
		---------- Tons Dry Matter/ Acre ----------		
OG0604WH*	Allied Seed	1.33	0.40	1.73
OG0506*	Allied Seed	1.30	0.41	1.71
Potomac	Public	1.09	0.51	1.60
Profit	DLF International	1.11	0.45	1.55
SS-0708OGDT	Allied Seed	1.17	0.34	1.51
Pennlate	Public	1.17	0.33	1.50
Barlegro	Barenbrug USA	0.96	0.22	1.19
Mean		1.16	0.38	1.54
LSD 0.05		0.15	0.14	0.26
Prob > F		0.01	0.02	0.02
CV %		8.16	24.04	10.71

* Variety tested using experimental seed that may not give performance identical to that of commercially available seed.

Data subjected to Nearest Neighbor AOV, adjusted means reported.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 20 lb/a.
Plot size:	4' x 15' , 15'alleys and borders, RCBD with four reps.
Soil type / analysis:	Kokomo silt loam, pH=6.8, P=126 lbs/a, K= 338 lbs/a, CEC=19.2, O.M.=3.4, (10/13).
2014 Fertility	Applied 100 lb/a of 46-0-0 on 23-July and 12-September.

Tall Fescue

The tall fescue trial established at South Charleston in 2014 had an average yield of 1.83 tons/acre. The test was established later than we recommend and therefore had weed competition in the first growth so yields are not reported for the first harvest. New varieties that are endophyte-free or that contain a non-toxic endophyte have potential to provide improved animal performance compared with the old endophyte-infected varieties, especially during the summer grazing season, and to provide forage for beef cattle and sheep during autumn and early winter.

Table 10:
Tall Fescue Variety Trial
Ohio, South Charleston, Sown 5/20/2014

Variety	Marketers	4-Sep	8-Oct	Total 2014
		---------- Tons Dry Matter/ Acre ----------		
TF 0705SL*	Allied Seed	1.84	0.42	2.21
Brava	Allied Seed	1.47	0.67	2.10
TF 0402*	Allied Seed	1.55	0.39	1.94
KY 31 -	Public	1.45	0.44	1.86
Brutus	Saddle Bute AG	1.18	0.42	1.63
KY 31+	Public	1.31	0.31	1.61
Barelite	Barenbrug USA	1.13	0.27	1.48
Mean		1.42	0.41	1.83
LSD 0.05		0.27	0.28	0.65
Prob > F		0.002	0.15	0.20
CV %		12.8	45.7	22.7

* Variety tested using experimental seed that may not give performance identical to that of commercially available seed.

Data subjected to Nearest Neighbor AOV, adjusted means reported.

Establishment:	Seeded with a Hege 3-point hitch drill with presswheels at 20 lb/a.
Plot size:	4' x 15' , 15'alleys and borders, RCBD with four reps.
Soil type / analysis:	Kokomo silt loam, pH=6.8, P=126 lbs/a, K= 338 lbs/a, CEC=19.2, O.M.=3.4, (10/13).
2014 Fertility	Applied 100 lb/a of 46-0-0 on 23-July and 12-September.

Annual Ryegrass

An annual ryegrass trial was planted in September of 2013 and was only harvested once in November 2013. Due to the harsh winter all but four varieties had severe winter injury or died, so the trial was terminated after the winter injury ratings were recorded. Annual ryegrass is a cool-season annual bunchgrass that is highly palatable and digestible. It has high seedling vigor.

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Table 11:
Annual Ryegrass Variety Trial
Ohio, South Charleston, Sown 9-16-2013

Variety		11-Nov-13	Winter Injury
		Tons Dry Matter/Acre	4/11/2014
Winterhawk	Oregon Seeds	0.22	2.02
Marshall	Wax Seed Co.	0.23	2.32
PPG-LWD101*	Not Marketed in 2013	0.19	2.35
Fria	Allied Seed	0.25	2.79
CTD12-WF*	Not Marketed in 2013	0.12	3.40
CTD12-WK*	Not Marketed in 2013	0.10	3.46
CTD12-WEW*	Not Marketed in 2013	0.17	3.50
Assist	Saddle Butte Ag	0.14	3.54
SARG-KOSP*	Not Marketed in 2013	0.18	3.58
CTD12-WLF*	Not Marketed in 2013	0.13	3.81
SARG-KOWE*	Not Marketed in 2013	0.20	3.94
CTD12-WM*	Not Marketed in 2013	0.22	4.01
CTD12-WAL*	Not Marketed in 2013	0.19	4.08
SARG-GRF*	Not Marketed in 2013	0.23	4.38
SARG-RGED*	Not Marketed in 2013	0.27	4.45
07-WW*	Not Marketed in 2013	0.19	4.60
Jeanne	DLF International Seeds	0.26	4.62
07-EW*	Not Marketed in 2013	0.25	4.66
SARG-KOWI*	Not Marketed in 2013	0.10	4.68
Lh4X-IPS*	Not Marketed in 2013	0.18	4.72
Frosty	Central Farm Supply	0.37	4.75
PS-Lm-09-2*	Not Marketed in 2013	0.25	4.75
Max	Pickseed USA	0.31	4.84
LRM42*	Not Marketed in 2013	0.33	4.91
SARG-RGT90*	Not Marketed in 2013	0.17	4.92
Dyna-Gain	Columbia Seeds	0.45	4.94
KoGreen	Oregon Seeds	0.18	4.95
TAMTBO	Oregon Seeds	0.24	4.95
Passerel Plus	Pennington Seed	0.42	5.00
LRM41*	Not Marketed in 2013	0.25	5.00
Amp	Columbia Seeds	0.25	5.00
Big Shot	Central Farm Supply	0.21	5.00
Mean		0.23	4.21
LSD 0.05		0.12	0.52
Prob > F		< 0.0001	< 0.0001
CV %		36.97	8.75

Winter Injury -- 1 = no injury to 5= severe injury (dead)
* Experimental varieties that may be named at a later date

ADDRESS OF MARKETERS

Allied Seed
1108 Hilldale Drive
Macon, MO 63552
www.alliedseed.com

America's Alfalfa
P.O. Box 8246
Madison,WI 53708
www.americasalfalfa.com

Barenbrug USA
P.O. Box 239
Tangent, OR
www.barusa.com

Beck's Hybrids
6767 East 276th St.
Atlanta, IN 46031
www.beckshybrids.com

Blue River Hybrids
27087 Tiber Rd.
Kelly, IA 50134
www.blueriverorgseed.com

Central Farm & Supply
380 N. Smyser Rd.
Wooster, Ohio 44691
330-264-0282
www.centralfarm.com

Columbia Seeds
887 N. Grant Ave.
Corvalllis, OR 97330
www.columbiaseeds.com

Croplan Genetics
See Local Retailer
www.croplangenetics.com

Crop Protection Services
See Local Retailer
www.cpsagu.com

Dekalb
See Local Retailer
www.asgrowanddekalb.com

DLF International Seeds
175 W. H Street
P.O. Box 229
Halsey, OR 97348
www.dlfis.com

Doeblers PA Hybrids
202 Tiadaghton Ave.
Jersey Shore, PA 17740
www.doeblers.com

Farm Science Genetics
9311 Highway 45
Nampa, ID83686
www.farmsciencegenetics.com

Legacy Seeds, Inc.
290 Depot St
Scandinavia, WI 54977
www.Legacyseeds.com

Oregon Seed Inc.
33080 Red Bridge Rd.
Albany, OR 97322
www.oregroseeds.com

Pennington Seed
P.O. Box 290
Madison, GA 30650
www.penningtonusa.com

Pickseed USA, Inc.
P.O. Box 888
Tangent,OR 97389-
www.pickseed.com/usa

Pioneer Hi-Bred Int'l
See Local Retailer
www.pioneer.com

Preferred Seed Company
575 Kennedy Rd.
Buffalo, NY 14227
www.preferredseed.com

Producers Choice
16690 Greystone Lane
Jordan, MN 55352
www.producerschoiceseed.com

Saddle Butte Ag., Inc.
P.O. Box 50
Shedd,OR 97377
www.saddlebutte.com

The Cisco Companies
602 N. Shortridge Rd.
Indianapollis, IN 46219
www.ciscoseeds.com

Wax Seed Company
212 Front St N.
Armory, MS 38821
662-256-3511

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Ohio Forage Network
http://forages.osu.edu

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