

Perennial Grasses for Grazing 2004 - 2009

Project #: 2004-D

Cooperator: Ron Marcinek

By: Grey Wooded Forage Association

Funded: funded through the Agricultural Opportunities Fund

Sponsors: All those listed on the map below and Dickson Fertilizer

Many thanks to Ron and Judy Marcinek who have given us the site to work with for many years.

Plot Map 2006

Co-operator: Ron Marcinek

Kura Clover seeded May 200, provided by AAFRD		
Kura Clover and Meadow Brome seeded May 2001		
Meadow Brome seeded May 200, provided by Ron Marcinek		
AC Knowles Hybrid Brome, provided by Proven Seed seeded at 18 lb/acre		
Courtenay Tall Fescue, provided by Blue Tag Seeds (Northstar Seeds Ltd) seeded at 16 lb/acre		
Garrison Foxtail, provided by Seaborn Seeds, seeded in 2006		
Kay Orchardgrass, provided by Seaborn Seeds, seeded in 2006		
Canada Bluegrass, provided by Seaborn Seeds, seeded in 2006		
Promesse Timothy, provided by Dickson Fertilizer (Brett Young Seeds) seeded at 7.5 lb/acre		
Rival Reed Canary Grass, provided by Dickson Fertilizer (Brett Young Seeds) at 7.5 lb/acre		



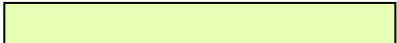
2009 Project Results

Effects of Nitrogen Fertilizer Applications on Perennial Grasses

> **Fertilizer used: 46-0-0-0**

> **High Fertilizer = Nitrogen 150 lb/ac** 

> **Low Fertilizer (Nitrogen 75 lb/ac)** 

> **No Fertilizer** 



In 2009 we tried something different. We put 150 lbs of nitrogen on one third, 75 lbs on the second third and nothing on the rest of the site. These strips ran north/south, across all the grass species.

After the yield was determined, we calculated the values of the additional yield as a result of the fertilizer applications. We used a range of \$0.03 to \$0.06 per lb based on potential prices of hay this past winter.

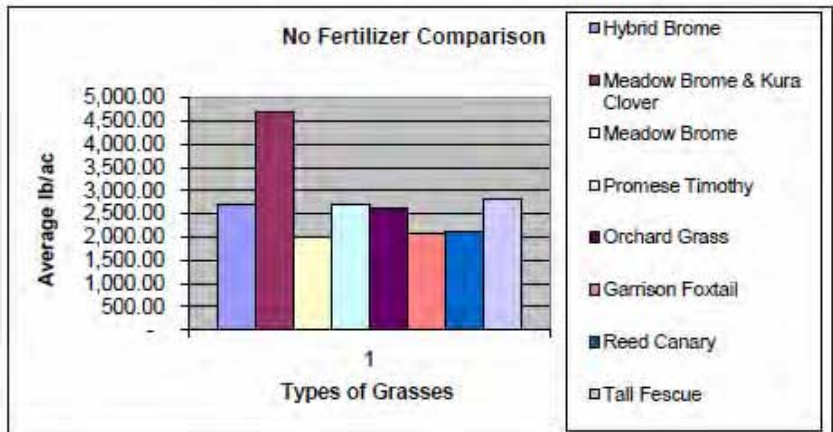
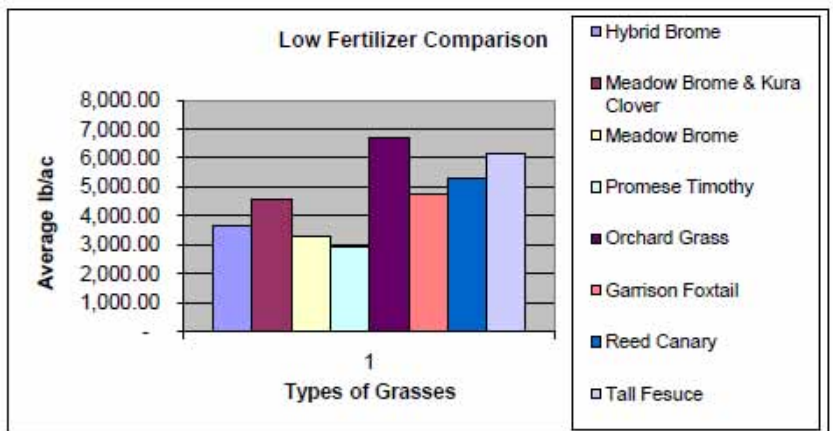
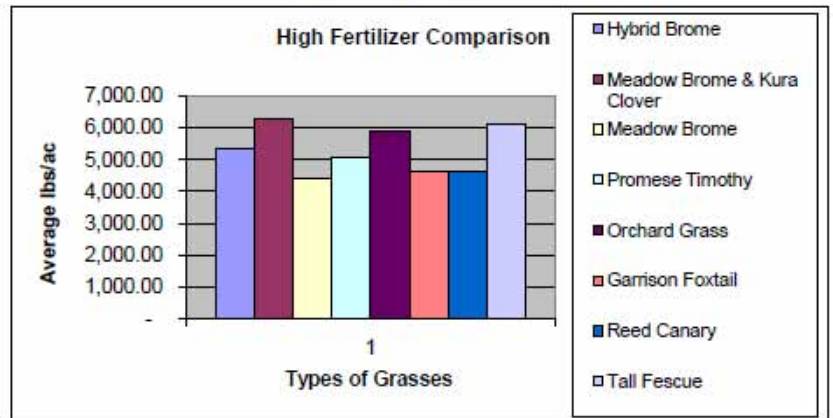
The results were very interesting. Obviously, not all forages respond equally to nitrogen fertilizer under the same climatic conditions.

It looked like it didn't pay to add fertilizer to the meadow brome mixed with kura clover. The bromes and promesse timothy responded moderately to the fertilizer treatments. The rest of the grasses responded very well to the fertilizer treatments, with the greatest returns from 75 lbs of nitrogen per acre.

Most likely the 150 lb rate was more than the plants could use, as other factors became the most limiting factors. Top on this list would be water. Lack of other nutrients could be limiting as well. Then there's the physical capacity of the plants themselves. That's where choosing forage species and well adapted varieties within species comes in.



Summary Charts



Meadow Brome & Kura Clover

		Cost/ac \$		100.50	
Average lbs/ac					
Yield Increase		1,623.90 lb/ac		Net Return/ac	
6,299.29		\$ 0.06	\$ 97.43	-\$	3.07
		\$ 0.05	\$ 81.19	-\$	19.31
		\$ 0.04	\$ 64.96	-\$	35.54
		\$ 0.03	\$ 48.72	-\$	51.78
		Cost/ac \$		50.25	
Average lbs/ac					
Yield Increase		(80.30) lb/ac			
4,595.09		\$ 0.06	-\$ 4.82	-\$	55.07
		\$ 0.05	-\$ 4.02	-\$	54.27
		\$ 0.04	-\$ 3.21	-\$	53.46
		\$ 0.03	-\$ 2.41	-\$	52.66
		Cost/ac \$		50.25	
Average lbs/ac					
Yield Increase					
		\$ 0.06	\$ 80.30	\$	30.05
		\$ 0.05	\$ 66.92	\$	16.67
		\$ 0.04	\$ 53.54	\$	3.29
		\$ 0.03	\$ 40.15	-\$	10.10
Average lbs/ac					
4,675.39					

Meadow Brome

		Cost/ac \$		100.50	
Average lbs/ac					
Yield Increase		2,418.00 lb/ac		Net Return/ac	
4,398.79		\$ 0.06	\$ 145.08	\$	44.58
		\$ 0.05	\$ 120.90	\$	20.40
		\$ 0.04	\$ 96.72	-\$	3.78
		\$ 0.03	\$ 72.54	-\$	27.96
		Cost/ac \$		50.25	
Average lbs/ac					
Yield Increase		1,338.38 lb/ac			
3,319.17		\$ 0.06	\$ 80.30	\$	30.05
		\$ 0.05	\$ 66.92	\$	16.67
		\$ 0.04	\$ 53.54	\$	3.29
		\$ 0.03	\$ 40.15	-\$	10.10
Average lbs/ac					
1,980.80					

AC Knowles Hybrid Brome

		Cost/ac \$		100.50	
Average lbs/ac					
Yield Increase		2,614.29 lb/ac		Net Return/ac	
5,317.81		\$ 0.06	\$ 156.96	\$	56.36
		\$ 0.05	\$ 130.71	\$	30.21
		\$ 0.04	\$ 104.57	\$	4.07
		\$ 0.03	\$ 78.43	-\$	22.07
		Cost/ac \$		50.25	
Average lbs/ac					
Yield Increase		936.86 lb/ac			
3,640.38		\$ 0.06	\$ 56.21	\$	5.96
		\$ 0.05	\$ 46.84	-\$	3.41
		\$ 0.04	\$ 37.47	-\$	12.78
		\$ 0.03	\$ 28.11	-\$	22.14
Average lbs/ac					
2,703.52					

Courtenay Tall Fescue

		Cost/ac \$		100.50	
Average lbs/ac					
Yield Increase		3,319.17 lb/ac		Net Return/ac	
6,138.68		\$ 0.06	\$ 199.15	\$	98.65
		\$ 0.05	\$ 165.96	\$	65.46
		\$ 0.04	\$ 132.77	\$	32.27
		\$ 0.03	\$ 99.58	-\$	0.92
		Cost/ac \$		50.25	
Average lbs/ac					
Yield Increase		3,354.86 lb/ac			
6,174.37		\$ 0.06	\$ 201.29	\$	151.04
		\$ 0.05	\$ 167.74	\$	117.49
		\$ 0.04	\$ 134.19	\$	83.94
		\$ 0.03	\$ 100.65	\$	50.40
Average lbs/ac					
2,819.51					



Garrison Creeping Foxtail

Cost/ac \$	100.50			
Average lbs/ac				
Yield Increase	2,525.07 lb/ac		Net Return/ac	
4,612.93	\$ 0.06	\$ 151.50	\$	51.00
	\$ 0.05	\$ 126.25	\$	25.75
	\$ 0.04	\$ 101.00	\$	0.50
	\$ 0.03	\$ 75.75	-\$	24.75
Cost/ac \$	50.25			
Average lbs/ac				
Yield Increase	2,676.75 lb/ac			
4,764.62	\$ 0.06	\$ 160.61	\$	110.36
	\$ 0.05	\$ 133.84	\$	83.59
	\$ 0.04	\$ 107.07	\$	56.82
	\$ 0.03	\$ 80.30	\$	30.05
Average lbs/ac				
2,087.87				

Kay Orchardgrass

Cost/ac \$	100.50			
Average lbs/ac				
Yield Increase	3,274.56 lb/ac		Net Return/ac	
5,897.77	\$ 0.06	\$ 196.47	\$	95.97
	\$ 0.05	\$ 163.73	\$	63.23
	\$ 0.04	\$ 130.98	\$	30.48
	\$ 0.03	\$ 98.24	-\$	2.26
Cost/ac \$	50.25			
Average lbs/ac				
Yield Increase	4,050.82 lb/ac			
6,674.03	\$ 0.06	\$ 243.05	\$	192.80
	\$ 0.05	\$ 202.54	\$	152.29
	\$ 0.04	\$ 162.03	\$	111.78
	\$ 0.03	\$ 121.52	\$	71.27
Average lbs/ac				
2,623.22				

Promesse Timothy

Cost/ac \$	100.50			
Average lbs/ac				
Yield Increase	2,346.62 lb/ac		Net Return/ac	
5,050.14	\$ 0.06	\$ 140.80	\$	40.30
	\$ 0.05	\$ 117.33	\$	16.83
	\$ 0.04	\$ 93.86	-\$	6.64
	\$ 0.03	\$ 70.40	-\$	30.10
Cost/ac \$	50.25			
Average lbs/ac				
Yield Increase	223.06 lb/ac			
2,926.58	\$ 0.06	\$ 13.38	-\$	36.87
	\$ 0.05	\$ 11.15	-\$	39.10
	\$ 0.04	\$ 8.92	-\$	41.33
	\$ 0.03	\$ 6.69	-\$	43.56
Average lbs/ac				
2,703.52				

Rival Reed Canary Grass

Cost/ac \$	100.50			
Average lbs/ac				
Yield Increase	2,551.84 lb/ac		Net Return/ac	
4,657.55	\$ 0.06	\$ 153.11	\$	52.61
	\$ 0.05	\$ 127.59	\$	27.09
	\$ 0.04	\$ 102.07	\$	1.57
	\$ 0.03	\$ 76.56	-\$	23.94
Cost/ac \$	50.25			
Average lbs/ac				
Yield Increase	3,185.33 lb/ac			
5,291.04	\$ 0.06	\$ 191.12	\$	140.87
	\$ 0.05	\$ 158.27	\$	109.02
	\$ 0.04	\$ 127.41	\$	77.16
	\$ 0.03	\$ 95.56	\$	45.31
Average lbs/ac				
2,105.71				

