

## Bressner Pasture Grazing Report

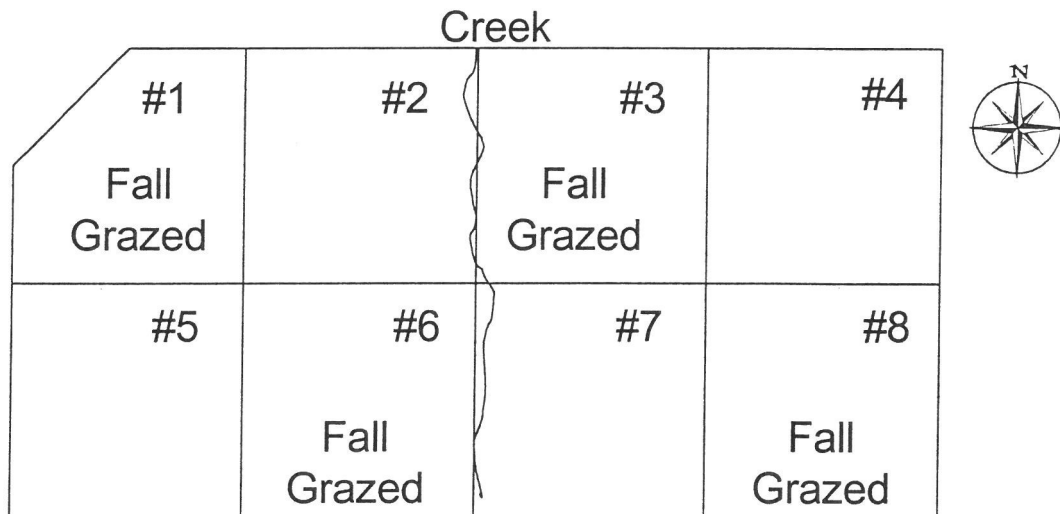
### Effect of Fall Grazing on Early Intensive Grazed Pastures: Plant Changes

Gary L. Kilgore  
K-State Research & Extension  
Crops and Soils Specialist, Southeast

#### Introduction

The effect of any grazing system on plant growth is very important. Ranchers wish to maximize animal performance and not reduce the composition or production of the grazed unit. So animals must be stocked with the number of animals based upon unit size, animal size, grass production, and length of grazing system.

#### Method and Materials



This study, conducted on the Bressner pasture, 2001 - 2004, involved stocking all 8 pastures with yearling steers from late April to July 15 (Early Intensive Grazing System). Four pastures were then restocked with yearlings each fall and grazed from 44 - 67 days completed in late October or November. The method to determine fall stocking rate is discussed in the preceding report by Dr. Frank Brazle. It had previously been determined that 800 pounds of forage dry matter per acre must be left after fall grazing to have enough fuel for a complete spring burn. *This stocking rate calculation is very important for this study.* One could stock too heavy and not get a complete burn the following spring. That would affect how cattle grazed and distribution of grazing the next year.

The amount of forage dry matter was determined by measurements in each pasture in early September of each year. Calculations were made and animals stocked accordingly each fall.

Range plant composition data was taken before the grazing trial began and again in June, 2005. The Step Point method was used to determine plant frequency in the clay upland range sites in each pasture. Over 1,000 points were used to evaluate plant makeup.

All data is presented in Tables 1, 2, and 3.

**Table 1. Range plant inventory, Bressner Pasture, 1998 and 2005**

Plant	Pasture Number - Year															
	1*		2		3*		4		5		6*		7		8*	
	98	05	98	05	98	05	98	05	98	05	98	05	98	05	98	05
Big Bluestem	33	36	32	38	45	40	38	38	40	45	37	29	40	43	49	39
Little Bluestem	19	14	16	11	11	12	20	14	17	14	18	15	16	19	8	10
Indiangrass	9	13	22	21	8	14	17	20	20	18	25	21	13	10	14	24
Switchgrass	29	31	14	17	18	20	13	19	10	12	8	16	8	10	13	20
Side Oats Grama	1	0	2	0.02	2	4	1	0	2	1	1	1	5	5	2	0
Sedges	2	0	1	.009	4	3	2	1	2	0	4	4	2	4	5	2
Total Perennial Grass	93	94	89	87	85	93	90	92	90	90	91	86	85	91	88	95
Total Perennial Forbs	3.1	2.9	6.8	0.9	7.5	3.4	3.0	2.0	6.4	5.0	3.6	9.5	8.7	5.0	1.0	2.0
Total Annual Forbs	1.8	1.0	1.8	1	3.6	1.5	4.5	1.5	1.6	2.0	1.8	2.4	3.8	2.1	4.5	3.9
	<b>% Basal Cover</b>															
Perennial Grass	18.4	23	16.1	18.0	27.6	25.1	20.2	21.0	17.7	19.4	21.2	18.1	18.6	18.0	18.1	19.1
Perennial Forbs	1.1	1.0	0.7	1.0	2.2	2.0	0.5	0.1	1.6	2.0	0.6	3.3	8.7	4.1	1.0	2.4
*Fall grazed, in addition to spring grazing																

**Table 2. Change in percentage composition - 1998 to 2005**

	Pasture Number							
	1*	2	3*	4	5	6*	7	8*
Plant	Change in %							
Big Bluestem	3	6	-5	0	5	-8	3	-10
Little Bluestem	-5	-5	1	-6	-3	-3	3	2
Indiangrass	4	-1	6	3	-2	-4	-3	10
Switchgrass	4	3	2	6	2	8	2	7
Side Oats Grama	-1	-1	2	-1	-1	0	0	-2
Total Perennial Grass	1	-2	8	2	0	-5	6	7
Total Perennial Forbs	-0.2	-5.9	-4.1	-1.0	-1.4	5.9	-3.7	1
	% Basal Cover Change							
Perennial Grass	4.6	2	-2.5	.8	1.7	-3.1	-0.6	1.0
Perennial Forbs	-0.1	0.3	-0.2	-0.4	0.4	2.7	-4.6	1.4
*Fall grazed, in addition to April - mid-July, 2001 - 2005								

**Table 3. Effect of grazing system in grass change, 1998 - 2005**

Fall Grazed	Total Perennial Grass	Total Perennial Forbs
1	4.6	-0.1
3	-2.5	-0.2
6	-3.1	2.7
8	1.0	1.4
Av	0.0	1.1
Not Fall Grazed		
2	2.0	0.3
4	0.8	-0.4
5	1.7	0.4
7	-0.6	-4.6
Av	3.9	-4.3

## Results

1. Stocking rate calculations proved accurate to provide forage for fall grazing and have enough fuel left for successful spring burn.
2. Fall grazing did not result in lower grass production the following year.
3. Total perennial grass composition did not change during the trial on the fall grazed pastures. However, there was a 3.9% increase in plant numbers in pastures not fall grazed.
4. Total perennial forbs increased by 1.1% in the fall grazed pastures and decreased 4.3% in the pastures not fall grazed.
5. Big bluestem grass decreased in 3 of the 4 pastures fall grazed. But switchgrass increased in all 8 pastures.
6. Pasture number 6 showed a 2.7% increase in perennial forbs (goldenrod and ironweed) when fall grazed. The other fall grazed pastures 1, 3, and 8 showed very little change.
7. There was some difference between pastures with same grazing treatment, but when averaged by grazing treatment, very little change in plant composition occurred.
8. Based upon this research and all the methods and materials used in this study, results indicate that ranchers in this region of Kansas can double-stock their pastures and follow up with limited fall grazing and not damage their rangeland.
9. However, guidelines must be used in determining fall stocking rates to ensure that the desired amount of fuel (native grass) is present for a successful burn the following spring.