Southern Iowa Grazing and Forage Budgets for Beef Cows

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Introduction

Southern Iowa soils and topography are conducive to pasture and beef cattle. The ISU McNay Research Farm is located in this region.

The McNay Research Farm has a beef cow herd used for research purposes. The cows and replacement heifers are grazed on predominantly improved cool-season grass pastures. There are approximately 300 spring-calving cows and 100 fall-calving cows. Grazing season is mid-April to mid-October, or about six months (180 days).

Materials and Methods

Animal units for the various beef cattle types are shown in Table 1. The McNay cattle inventory (herd) for 2016 and 2017 is shown in Table 2 and Table 3, respectively. In 2016 there were 504 head total (394 cows, 98 yearling heifers, and 12 bulls) (Table 2). In 2017, there were 479 head total (387 cows, 80 yearling heifers, and 12 bulls) (Table 3).

In 2016 and 2017, head of cattle multiplied by grazing days equals total grazing days, which when multiplied by the Animal Unit (AU) value for the type of cattle equals total AU days by type.

When all AU days are summed, the total AU grazing days for the farm for the season is generated. In 2016, there were 113,351 AU grazing days for the spring and summer season (Table 2). In 2017, there were 108,082 AU grazing days or 4.6 percent less (Table 3).

The McNay Farm has 690 acres of improved grass legume pasture plus additional unimproved pastures that include river bottom, timber, ditches, and lots. In 2016, the additional unimproved pasture areas were valued as the equivalent of 104 acres for a total of 794 acres of improved pasture equivalent. The additional unimproved areas were valued as the equivalent of 263 acres of improved pasture in 2017 for a total of 953 acres improved pasture equivalent.

Results and Discussion

For 2016, the 113,351 total AU grazing days divided by 794 acres equals 143 AU grazing days/acre. The 89,988 total grazing days divided by 794 acres equals 113 cow grazing-days/acre. The 2016 grazing season had rainfall throughout, which created longer and more balanced grazing.

For 2017, the 108,082 total AU grazing days divided by 953 acres equals 113 AU grazing days/acre. The 86,001 total grazing days divided by 953 acres equals 90 cow days/acre.

For the 2017-2018 winter feeding period, 112 acres of stockpiled fescue generated 72 grazing days/acre.

Table 1. Animal unit for beef cattle type.

Pair (1,200 lb cow + calf)	1.50
Two-yr old (1,000 lb cow + calf)	1.20
Yearling (750)	0.75
Dry cow (1,200 lb)	1.20
Mature bull (1,800 lb)	1.80
1,000 lb cow (3% intake)	1.00

Table 2. 2016 spring/summer grazing at ISU McNay Research Farm, Chariton, IA, including cattle inventory, grazing days, total grazing days, Animal Unit (AU), and total AU days.*

Type	Head	Days	Total days	Animal unit	Total AU days
Mature cow	114	183	20,862	1.50	31,293
Young cow	120	183	21,960	1.50	32,940
Two-yr. old cow	67	183	12,261	1.20	14,713
Yearling heifer	98	177	17,346	0.75	13,010
Fall calving cow	93	183	17,019	1.20	20,423
Bull (breeding season)	12	45	540	1.80	972
Total	**504**		**89,988**		**113,351**

*Grazing season April 10 to October 10.

Table 3. 2017 spring/summer grazing at ISU McNay Research Farm, Chariton, IA, including cattle inventory, grazing days, total grazing days, Animal Unit (AU), and total AU days.*

Type	Head	Days	Total days	Animal unit	Total AU days
Mature cow	76	183	13,908	1.50	20,862
Young cow	127	183	23,241	1.50	34,862
Two-yr old cow	64	183	11,712	1.20	14,054
Yearling heifer	80	183	14,640	0.75	10,980
Fall calving cow	120	183	21,960	1.20	26,352
Bull (breeding season)	12	45	540	1.80	972
Total	**479**		**86,001**		**108,082**

*Grazing season April 10 to October 10.