

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 predominantly on 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 6 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 2018 and 2019 is shown in Table 2 and Table 3, respectively. In 2018, there were 482 head (393 cows, 77 yearling heifers, and 12 bulls) (Table 2). In 2019, there were 455 head (365 cows, 78 yearling heifers, and 12 bulls) (Table 3).

In 2018 and 2019, 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 2018, there were 105,248 AU grazing days for the spring and summer season (Table 2). In 2019, there were 93,059 AU grazing days or 11.5 percent less (Table 3). This was primarily due to the decreased cattle inventory.

The McNay Farm has 690 acres of improved grass legume pasture plus additional unimproved pastures that include river bottom, timber, ditches, and lots. In 2018, the additional unimproved pasture areas were valued as the equivalent of 327 acres for a total of 1,017 acres of improved pasture equivalent. The additional unimproved areas were valued as the equivalent of 439 acres of improved pasture in 2019 for a total of 1,129 acres improved pasture equivalent.

Results and Discussion

For 2018, the 105,248 total AU grazing days divided by 1,017 acres equals 103 AU grazing days/acre. The 82,559 total grazing days divided by 1,017 acres equals 81 cow grazing-days/acre.

For 2019, the 105,248 total AU grazing days divided by 1,129 acres equals 93 AU grazing days/acre. The 74,118 total grazing days divided by 1,129 acres equals 82 cow days/acre.

For the 2019-2020 winter-feeding period, 173 acres of stockpiled fescue generated 84 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. 2018 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	225	175	39,375	1.50	59,063
Two-yr-old cow	63	175	11,025	1.20	13,230
Yearling heifer	77	172	13,244	0.75	9,933
Fall calving cow	105	175	18,375	1.20	22,050
Bull (breeding season)	12	45	540	1.80	972
Total	482		82,559		105,248

*Grazing season April 23 to October 15.

Table 3. 2019 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
6 + yr-old cow	97	179	16,684	1.50	25,026
3-5-yr-old cow	97	167	16,199	1.50	24,299
Two-yr-old cow	44	167	7,348	1.20	8,818
Yearling heifer	78	173	13,494	0.75	10,121
Fall calving cow	79	179	14,141	1.20	16,969
Fall calving cow (trial)	48	119	5,712	1.20	6,854
Bull (breeding season)	12	45	540	1.80	972
Total	455		74,118		93,059

*Grazing season April 10 to October 10.