

## 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 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 2017 and 2018 is shown in Table 2 and Table 3, respectively. In 2017, there were 479 head (387 cows, 80 yearling heifers, and 12 bulls) (Table 2). In 2018, there were 482 head (393 cows, 77 yearling heifers, and 12 bulls) (Table 3).

In 2017 and 2018, 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 2017, there were 108,082 AU grazing days for the spring and summer season (Table 2). In 2018, there were 105,248 AU grazing days or 2.7 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 2017, the additional unimproved pasture areas were valued as the equivalent of 263 acres for a total of 953 acres of improved pasture equivalent. The additional unimproved areas were valued as the equivalent of 327 acres of improved pasture in 2018 for a total of 1,017 acres improved pasture equivalent.

#### Results and Discussion

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 grazing days/acre.

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 the 2018-2019 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. 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             | 203        | 183  | 37,149        | 1.50        | 55,724         |
| 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            |
| <b>Total</b>           | <b>479</b> |      | <b>86,001</b> |             | <b>108,082</b> |

\*Grazing season April 10 to October 10.

**Table 3. 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            |
| <b>Total</b>           | <b>482</b> |      | <b>82,559</b> |             | <b>105,248</b> |

\*Grazing season April 23 to October 15.