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# Southern Iowa Grazing and Forage Accounting for Beef Cows at the ISU McNay Research Farm

## RFR-A16141

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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 was set at 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 2015 and 2016 is shown in Table 2 and Table 3, respectively. In 2015, there were 486 head (381 cows, 93 yearling heifers, and 12 bulls) (Table 2). In 2016 there were 504 head (394 cows, 98 yearling heifers, and 12 bulls) (Table 3). The grazing system used was a moderate rotational program with new pasture available every week to two weeks.

In 2015 and 2016, 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 2015, there were 103,417 AU grazing days for the spring and summer season (Table 2). In 2016, there were 113,351 AU grazing days, or 9.6 percent more than in 2015 (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 2015, the additional unimproved pasture areas were valued as the equivalent of 225 acres for a total of 915 acres of improved pasture equivalent. The additional unimproved areas were valued as the equivalent of 104 acres of improved pasture in 2016 for a total of 794 acres improved pasture equivalent.

### Results and Discussion

For 2015, the 103,417 total AU grazing days divided by 915 acres equals 113 AU grazing days/acre. The 80,506 total grazing days divided by 915 acres equals 88 cow days/acre.

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.

**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. 2015 spring/summer grazing at ISU McNay Research Farm, Chariton, Iowa, including cattle inventory, grazing days, total grazing days, Animal Unit (AU), and total AU days.\***

| Type                   | Head       | Grazing days | Total days    | Animal unit | Total AU days  |
|------------------------|------------|--------------|---------------|-------------|----------------|
| Mature cow             | 99         | 183          | 18,117        | 1.50        | 27,176         |
| Young cow              | 102        | 183          | 18,666        | 1.50        | 27,999         |
| Two-yr. old cow        | 72         | 183          | 13,176        | 1.20        | 15,811         |
| Yearling heifer        | 93         | 111          | 10,323        | 0.75        | 7,742          |
| Fall calving cow       | 108        | 183          | 19,764        | 1.20        | 23,717         |
| Bull (breeding season) | 12         | 45           | 540           | 1.80        | 972            |
| <b>Total</b>           | <b>486</b> |              | <b>80,586</b> |             | <b>103,417</b> |

\*Grazing season April 15 to October 15.

**Table 3. 2016 spring/summer grazing at ISU McNay Research Farm, Chariton, Iowa, 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            |
| <b>Total</b>           | <b>504</b> |      | <b>89,988</b> |             | <b>113,351</b> |

\*Grazing season April 10 to October 10.