

Estimated Costs and Cultural Practices Series

Renting Pastures

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Pasture rental rates range from \$5 to \$30 per acre per year in Arkansas. The rate depends on the bargaining arrangement between the landlord and lessee and is based on many factors.

Most of the rental agreements in Arkansas are made on a per-acre basis. Other arrangements may be based on:

- A fixed rate per animal per month or per season. The Government Forest Service in some states rents land for \$2.04 per animal unit month.
- A fixed charge per animal hundredweight on pastures.
- A flat rate per pound of gain.
- A share of gain or profit.

Rental Value of Pasture

If pastures are rented, what is a reasonable charge per acre? The answer to this question depends upon the following four factors:

1. Condition of the forage species in the pasture

- Yield potential of the pasture
- Quality of the forage produced

If legumes are present, the pasture is usually of better quality than if only pure grass exists.

If poisonous plants are present, they may cause animal health problems.

If plant diseases are present, the forage quality is likely to be low.

If harmful insects such as fire ants are present, they may reduce both yield and quality of the forage, cause hay harvest problems and be a nuisance to livestock.

Tame grasses are generally of higher quality than are native grasses.

Weeds are likely to lower forage quality.

2. Condition of the soil

- Fertility – Rich soils are likely to grow healthy plants, and healthy plants produce higher yields of high quality forage. Properly littered fields may not require expensive commercial fertilizer applications to encourage yield.
- pH – Acid soils are less able to promote desirable legume growth.

3. Condition of fences

4. Other considerations

- Is water available throughout the year?
- Are handling facilities for cattle available?
- Are gates and roads located conveniently?
- What is the condition of neighboring pastures, cattle and dogs?
- Are hunters, recreational vehicles or railroads a problem?
- Is flooding a problem?
- Are slope, rocks, trees, etc., a problem in managing the pasture?
- How far from town is the land located?

Estimating Pasture Rental Value

Procedure #1

One simple way to estimate the rent value of an acre of pastureland is based on the assessed tax value of the land multiplied by an annual interest rate. This calculation involves the following equation:

$$(\text{assessed tax value/ac}) \times (8\%) + \text{considerations} = \text{Rent (\$/ac) per year}$$

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Example Calculation:

If the land is assessed at \$200 per acre and banks charge 8 percent for loans (or a return of 8 percent on investment is desired), then pasture rent is calculated as follows:

$$(\$200) \times (8\%) = \$16/\text{ac per year base cost}$$

Costs for desirable or undesirable items listed in items 1-4 earlier in this publication would be classed as considerations that would be added to or subtracted from this \$16 base cost to determine the final rent charge.

Procedure #2

A second way to estimate the rent value of an acre of pastureland is to determine the value of the forage produced per acre and assign a monetary value to the various factors listed above in items 1-4 that affect pasture value.

$$\text{Pasture value per acre} + \text{other considerations} = \text{Rent } (\$/\text{ac}) \text{ per year}$$

A first step is to determine the value of the forage produced on an acre. This may be done by using the local hay price and estimated forage yield per acre as a base. Forage yield estimates are given in county soil survey books. The county Extension office can show you these estimated yields for a given farm. These yield values are given in terms of animal unit months (AUM) of grazing. An animal unit month is defined as the amount of feed required to maintain one 1,000-pound animal for one month.

The following assumptions are made as an example:

1. Assumptions related to forage value.

- One ton of hay is valued at \$55.
- Estimated harvesting costs for small rectangular bales of hay:
 - Cutting hay \$8/ac
 - Raking hay \$5/ac
 - Baling hay \$13/ac
- Hauling hay – 35 cents per rectangular bale times 40 bales per ton = \$14/ac.
- Total harvesting costs = $(\$8 + \$5 + \$13 + \$14) = \$40/\text{ac}$.

2. Assumptions and definitions relating to forage production per acre.

- One 1,000-pound animal consumes and wastes 2.5 percent of its body weight in dry forage daily.

- One animal unit month (AUM) of forage is 25 pounds of dry matter per day x 30 days = 750 pounds dry matter.
- The AUM yield for various soils and various forage species given in the soil survey book for your county is acceptable. Your local Extension office can help you find this reference for AUM values.

Example Calculation:

Using the assumptions and yield values mentioned above, the value of the pasture forage produced on an acre may be estimated as follows:

1. From soil survey book determine AUM value/ac. (This example assumes 6 AUM per acre.)

2. Calculate the dry matter in 6 AUM.

- Assume one AUM = 750 pounds dry matter.
- Calculate annual per acre yield.
 $(6 \text{ AUM} \times 750 = 4,500 \text{ lb or } 2.25 \text{ tons per acre per year})$
- Assume each ton of hay has a value of \$55. This value consists of two factors – the forage value and its harvest cost.
- However, pasture forage has no harvest cost, so subtract the harvest cost from \$55.
 $(\$55 - \$40 \text{ harvest costs} = \$15 \text{ forage value})$
- Since each acre produced 2.25 tons (6 AUM), the forage value per acre per year is \$33.75.
 $(2.25 \text{ tons} \times \$15 = \$33.75/\text{ac per year base cost})$

In this example, forage produced as pasture on one acre has an annual value of \$33.75. That does not mean that each acre should be rented for that amount. The \$33.75 becomes a starting place to determine the ultimate charge. Forage consumed as pasture may not be equivalent to the quantity of hay harvested due to harvest losses, trampling, availability of pasture over the growing season, etc. Production may not be uniform, fences may not be adequate, poisonous weeds may be present or other factors may suggest that the renters should pay less. On the other hand, lime and fertilizer will be removed in animal tissue; fences, gates and equipment may be damaged by use. Therefore, the landowner may feel that he must charge more than the standard amount to get a fair return for his forage and be reimbursed for the wear and tear on his land and facilities.

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