



# Cattle Producer's Handbook

Range and Pasture Section

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## Calculating Fair Pasture Rental Rates

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One of the more difficult decisions while negotiating a pasture rental agreement is determining a rate that is fair for the parties involved. The reason it is hard to figure out what a pasture rent is worth is there are many factors that contribute to its value. Local supply and demand, pasture quality, what is included in the lease, and landowner-tenant history can all affect rental price.

In this fact sheet we present several options for calculating a starting point for pasture rental rates based on commonly available information. The options we describe should be viewed as general guidelines with actual rental rates being negotiated on a case-by-case basis taking into account both land and livestock owner considerations and other situation-dependent factors that can influence rental prices.

### Tenant Considerations

The tenant should calculate what he/she can afford to pay for rent, taking into account consideration of current livestock markets, available alternative feed sources, etc. Benefits of renting pasture for the livestock owner might include an opportunity for expansion or meeting short term forage needs without capital investment.

### Landlord Considerations

The landowner's goal is to cover the property taxes, cost of fence repairs, water costs, insurance, and the interest on his/her investment. The landlord will have difficulty covering all ownership costs with pasture rental payments in many cases. However, renting pasture can still be advantageous to the landowner with potential benefits including property care and offset of ownership costs without owner participation.

### Factors Influencing Rental Rates

Supply and demand are the most important factors in determining rental rates. Rents may be low if there is a large amount of pasture available in an area and few ranchers are looking for additional pasture. Conversely, if available pasture is limited and local demand is high, rents may be higher. Prolonged drought and large rangeland wildfires are common factors in the West that can markedly affect pasture availability and demand.

Pasture rental rates also can be influenced by alternative land uses, such as commercial hay, corn, potato, or wheat production. If this is the case, rates need to be competitive with the production value of those crops. Quality of pasture forages, the presence of livestock facilities and their condition, and the availability of water all affect pasture rental rates.

Division of responsibilities between the landowner and the tenant also needs to be considered when negotiating rental rates and should be well understood by both parties and put into writing before turnout. In most cases, the tenant is responsible for livestock maintenance activities such as monitoring livestock, checking water systems, and providing salt and minerals. However, rental rates based on rate of gain can provide incentive for the landowner to contribute responsibility to livestock maintenance. Land related activities, such as fence repairs, weed management, fertilizing, and reseeding, are negotiable and need to be reflected by making the appropriate adjustments to the rent.

All of the above factors described in this section can affect pasture rental rates on a case-by-case basis. Therefore, options for setting pasture rental rates described in the following section should be regarded as starting points for negotiations.

**Table 1. Animal units (AU) equivalent for each class of livestock and livestock types.**

Livestock class and type	AU value	Number/AU
<b>Cattle:</b>		
1,000 lb beef cow-calf pair	1.00	1.00
1,100 lb beef cow-calf pair	1.10	0.91
1,200 lb beef cow-calf pair	1.20	0.83
1,300 lb beef cow-calf pair	1.30	0.77
1,400 lb beef cow-calf pair	1.40	0.71
Calves by themselves older than 3 months	0.30	3.33
Weaned calves to yearlings	0.60	1.67
Yearling cattle (600-800 lb)	0.70	1.43
2-year old dry cattle (800-1,000 lb)	0.90	1.11
Mature bull	1.30	0.77

### Options for Setting Pasture Rental Rates

Landowners and livestock owners currently use various options to set pasture rental rates. These range from annual leases of the pasture(s) to being calculated on per head, month, pounds gained, acre, or animal unit month (AUM) basis.

#### Animal Unit Methods

AUM is defined as the amount of forage or feed required to sustain a 1,000-pound cow with calf at her side for 30 days. See Table 1 for animal unit conversion factors for different classes of cattle. Results of any of the formulas shown below should be considered a starting point. The landowner and livestock owner would then negotiate price based on expectations, past experience, and other considerations.

#### 1. Hay value and pasture quality

Animal unit conversion factor times the average hay price per ton out of the field times pasture quality factor = rate per head per month.

Where:

A = AU conversion factor (Table 1)

B = Hay price per ton

C = Pasture quality factor (Table 2)

A x B x C = Pasture charge per head per month

**Table 2. Pasture quality factor.**

Pasture quality factor	Description
0.12	Unimproved, poor condition
0.15	Fair to good permanent pasture
0.18	Very good permanent pasture
0.20	Excellent meadow—grass and legumes
0.22	Lush legume pasture

As an example, let's consider a 1,200-pound cow with calf at side grazing very good permanent pasture when the value of hay is \$100 per ton:

$$(A) \quad (B) \quad (C) \\ 1.20 \text{ AU} \times \$100/\text{ton} \times 0.18 = \$21.60 \\ \text{quality} \quad \text{per} \\ \text{factor} \quad \text{month}$$

#### 2. Hay value per ton divided by 8.5 (rule-of-thumb forage equivalent) multiplied by the animal unit = rate per animal unit per month.

Using the same cow-calf pair and the same hay price as earlier:

$$(\$100 / 8.5) \times 1.2 = \$14.12 \text{ per AUM} \\ \text{as a starting point}$$

#### 3. Corn value per bushel multiplied by 2.2 (rule-of-thumb forage equivalent) multiplied by the animal unit = rate per month. Again using the same animal as earlier:

$$\$7.50/\text{bu} \times 2.2 \times 1.2 \text{ AU} = \$19.80 \text{ per AUM} \\ \text{as a starting point}$$

#### Per Acre Methods

Though not largely popular nor encouraged, there are some producers and landowners who still operate under these types of pasture rental agreements.

1. **Rent per acre per season**—Rental of pasture by the acre is the simplest mathematical way to rent pasture. However, renting pasture by the acre has potential environmental issues depending upon desired condition of pasture post grazing and other predetermined factors that need to be discussed before entering into a season-long lease. Quality of pasture (carrying capacity), supply, and demand are the main factors for determining rental rate per season.

2. **Percentage of land value**—Another rule-of-thumb that is often used is that seasonal rental rates should be equivalent to 3.5 to 6 percent of current market value of the pasture land. If the estimated land value is \$1,500 per acre:

$$4.5\% \text{ of } \$1,500 = \$67.50 \text{ per acre for the grazing} \\ \text{season } (\$67.50/5 \text{ months} = \$13.50 \text{ per acre per} \\ \text{month}).$$

#### Based on Gain—Stocker Cattle

When establishing pasture rental rates based on gain, the landlord and tenant need to establish base values for cost of gain, expected gain, number of grazing months, and per head/per month anticipated costs.

Where:

A = Pasture charge per head per month

B = Grazing season—number of months

C = Reasonable expected gain during grazing period (pounds)

To illustrate how this might work, one of the previous examples might calculate a pasture rental rate for a yearling steer at \$14 per head per month.

$A \times B = \text{Seasonal cost}$

$\$14/\text{mo} \times 6 \text{ mo} = \$84 \text{ per head}$

The cost of gain calculation is based upon an expected gain during the grazing season. Expected gain can vary depending on age, sex, and class of animal being grazed as well as the use of growth promoting implants, health, and parasite load of the cattle.

$(A \times B) / C = \text{Cost per pound of gain}$

$(\$14 \text{ per month} \times 6 \text{ months}) = \$0.42 \text{ per pound}$   
   / 200 lb   of gain

Instead of the landlord charging \$14 per month or \$84 for the grazing season, he/she could simply charge \$0.42 per pound of gain. Therefore, if the actual gain is greater than 200 pounds, say 240 pounds, then the landowner would receive \$100.80/head for the grazing season.

However, if the gain was less, say 175 pounds, the landowner would receive only \$73.50/head. This calculation method protects the tenant from high cost of poor gain as well as providing the landowner with additional income if the cattle perform better than expected.

A satisfactory method of weighing cattle in and out should be agreed upon in advance. Generally, cattle are weighed on the truck with a 2 to 3 percent pencil shrink.

## Summary

Supply and demand are the most important factors affecting pasture rental values. Other factors such as pasture quality, water availability, working facilities, and fences are also important when determining pasture rental rates. Livestock owners need to know their costs of production in order to determine what they can afford to pay for pasture. Landowners also need to know their costs associated with owning their property. An agreement that is fair to both the landowner and tenant can be negotiated when risk, reward, responsibilities, and length of contract are all understood and communicated.

All rental agreements should be in writing outlining what is agreed to by landowner and tenant and should be negotiated and signed before turnout. The written agreement helps each party better understand and remember what has been agreed to. Sample contracts can be found online with a simple search, or you can work with your personal legal counsel.

## For Further Reading

Fisher, J., and D. Mangione. 2006. Establishing a Fair Pasture Rental Rate. Ohio State Univ. Exten. Fact Sheet FR-8-06. Ohio State Univ.

Sedivec, K. 1996. Determining Pasture Rental Rates. North Dakota State Univ. Exten. Fact Sheet R-1092. North Dakota State Univ.

