



# Beef Cattle Library

## Beef Cattle Sciences

### Calculating Fair Pasture Rental Rates <sup>1</sup>



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#### Determining Rental Rates

Every spring questions arise pertaining to what current pasture rental rates are, and how to calculate a fair rental price. Supply and demand is the most important factor in determining rental rates, and since there is not a commercial market for pasture, setting a price for pasture rent often becomes a matter of bargaining. If there is a large quantity of pasture available in an area and few ranchers are looking for additional pasture, rents may be low. Conversely, if available pasture is limited and local demand is high, rents may be higher.

Extension Agents are always hesitant to set rental rates. They often talk with local County assessor's offices, as Assessors offices often conduct rental rate surveys to more accurately assess local property taxes. This is an excellent place for people to begin the process of determining local pasture rental rates.

Often pasture rental rates are influenced by alternative land uses, such as commercial hay, corn, potato, or wheat production. If this is the case, pasture rental 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 have an effect on pasture rental rates.

Division of responsibilities between the landowner and the tenant need to be considered when negotiating rental rates. In most cases, the renter is responsible for production activities such as

checking livestock, checking water systems, and providing fly control, salt and minerals. Land related activities, such as fence repairs, weed and brush control, and fertilizing and reseeded pastures, are typically negotiable. However in most cases, it is the responsibility of the renter to repair fences with the landowner providing the materials.

#### Landowner Considerations

The landowner's goal is to cover the real estate taxes, cost of fence repairs, insurance and the interest on his/her investment. However, since pastureland typically sells for a higher price than its earnings can support, the landowner may be only able to cover his out-of-pocket expenses.

#### Livestock Owner Considerations

The renter should calculate what he/she can afford to pay for rent, taking into consideration current livestock markets, available alternative feed sources, etc. The following guidelines are just guidelines and need to be ground-truthed for a particular area and situation. The livestock owner needs to know what price he/she can afford based on his/her projected budgets and returns. Additional responsibilities in the rental agreement such as fixing fences, fertilizing, pasture rotations, irrigating etc. need to be reflected by making the appropriate adjustments to the rent.

1. This document is part of the Oregon State University – Beef Cattle Library. Published in November 2011. Prior to acceptance, this document was anonymously reviewed by two experts in the area. For further information, please visit the Beef Cattle Sciences website at <http://beefcattle.ans.oregonstate.edu>.

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### Options for Setting Pasture Rental Rates

There are various options that landowners and livestock owners currently use to set pasture rental rates. These range from annual leases of the pasture(s) to being calculated on a per head, month, pounds gained, acre, or Animal Unit Month (AUM) basis. 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 – Animal Units). Calculating pasture rents on an AUM basis addresses animal consumption and grazing months, based on forage quality and quantity. Pasture rent formulas may be more accurate and precise when land capability and forage yield are known and considered. Yearling cattle pasture rent is often based on average daily gain and a set price is charged per pound of gain.

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

Livestock Class and Type	Animal Unit (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 over 3 months	0.30	3.33
Weaned calves to yearlings	0.60	1.67
Yearling cattle (600-800 lbs)	0.70	1.43
2-year old dry cattle (800-1000 lbs)	0.90	1.11
Mature Bull	1.30	0.77
<b>Sheep:</b>		
Mature ewe with lambs	0.20	5.00
Weaned lambs to yearlings	0.12	8.33
Mature ram	0.25	4.00
<b>Goats:</b>		
Mature doe with kids	0.17	5.88
Weaned kid to yearling	0.10	10.00
Mature buck	0.22	4.55
<b>Mature Horse</b>	1.50	0.67

### Formulas for Calculating Pasture Rent

1) **Animal Unit Methods**

a. **Hay value and pasture quality**

Number of animal units times the average hay price out of the field per ton times pasture quality factor = rate per head per month.

**Where:**

A = Number of Animal Units – AU Conversion Factor (see Table 1).

B = Hay price per ton.

C = Pasture Quality Factor.

**Table 2.** Pasture quality factor.

C = 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

$$A \times B \times C = \text{Pasture charge per head/month.}$$

This example works well for irrigated pasture and will most likely over estimate non-irrigated range rental rates. As an example, let's consider a 1200-pound cow with calf at side grazing excellent meadow – grass and legume pasture when the value of hay is \$100 per ton:

$$1.20 \text{ AU (A)} \times \$100/\text{ton (B)} \times .20 \text{ quality factor (C)} = \$24/\text{AUM.}$$

This is a starting point, the landowner and livestock owner would then negotiate price based on expectations, past experience, and other requirements.

b. **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:

$$(\$100 / 8.5) \times 1.2 = \$14.12 \text{ per AUM.}$$

Again simply a starting point, depending on the AUM cost maybe we have under/over estimated the value of our hay.

- c. **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:

$\$7.5/\text{bu} \times 2.2 \times 1.2 \text{ AU} = \$19.8 \text{ per AUM}$   
as a starting point.

## 2) Per Acre Methods

Though not largely popular or encouraged there are some producers and landowners who still operate under these types of pasture rental agreements.

- a. **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 prior to entering into a season long lease. Quality of pasture (carrying capacity), supply, and demand are the main factors for determining rental rate per season.
- b. **Percentage of cropland value.** This varies by region, geography and agronomic capabilities of your cropland. On average, pasture ground is valued at 70% of cropland values. Pasture rental rates are then figured at the same percentage of comparable cropland rents.
- c. **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% of current market value of the pasture land. If the estimated land value is \$1,500 per acre:

$4.5\% \text{ of } \$1,500 = \$67.5 \text{ per acre for the grazing season}$   
 $(\$67.5/5 \text{ months} = \$13.5 \text{ per acre per month}).$

## 3) Based on Gain – Stocker Cattle

When establishing rental rates of pasture 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 formulate a pasture rental rate for a yearling steer at \$10 per head per month.

### **A x B = Seasonal Cost**

$\$10 \text{ per month} \times 6 \text{ months} = \$60 \text{ per head.}$

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, as well as forage quality.

### **(A x B) / C = Cost of Gain**

$(\$10 \text{ per month} \times 6 \text{ months}) / 200 \text{ lbs.} = \$0.30$   
per pound of gain.

Instead of the landlord charging \$10 per month or \$60 for the grazing season, he/she could charge \$0.30 per pound of gain; this might be considered the break-even price. If the actual gain is greater than 200 lbs, say 240 pounds, then the landowner would receive \$72/head for the grazing season, however if the gain was less, say 175 lbs, the landowner would only receive \$52.5/head. This protects the tenant from high cost and poor gain as well as providing the landowner with additional income if the cattle perform better than expected.

Feeding a creep feed, or grain could increase the average daily gain and could increase stocking rates, but it also increases the cost of production. When forage resources are limiting production and growth new alternatives should be considered such as moving cattle to new pastures.

## 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. The livestock owner needs to know what his/her costs of production are in order to determine what he/she can afford to pay for pasture. The landowner also needs to know his/her costs associated with owning their property. An agreement that is fair to both the landowner and tenant can be negotiated when risk, reward and responsibilities are all understood.

All leases should be in writing outlining what is agreed to by landowner and tenant, and should be negotiated and signed prior to turnout. The written agreement helps each party better understand and remember what is agreed to. Sample

contracts can be found online with a simple search or you can work with your personal legal council.

### **References**

Establishing a Fair Pasture Rental Rate, J. Fisher, and D Mangione. The Ohio State University Extension, Extension Fact Sheet FR-8-06.

Determining Pasture Rental Rates, K, Sedivec. North Dakota State University Extension, Extension Fact Sheet R-1092, May 1996.