

Cow-Calf Grazing Lease Records to Measure Productivity, Income and Costs

Measuring lease productivity for landowner (lessor) and tenant (lessee) and their income and costs provides valuable information not only to negotiate lease terms but to encourage favorable grazing resource management.

Cow-Calf grazing leases are commonly based on acres of land or Animal Unit (AU) that account for grazing requirements for different categories of cattle (See appendix A). The spreadsheets-based records accommodate acre or AU leases or a combination of AU and Acre leases for a property. **All record spreadsheets measures are reported for acres, AUM and by head.**

Lessees often have multiple leased properties. A spreadsheet is provided to assist in summarizing this data. Use the AUM record reports to evaluate each lease and the total ranch.

Cow-calf monthly and annual grazing record and reporting and reports are as follows:

Acre or AUM Spreadsheet Record and Reporting

- a. Acre Based Lease Record
- b. AUM Based Lease Record
- c. Lessee Multi-Lessor Record

Reports from Acre or AUM Record Include:

- A. AUM Summary
- B. Monthly Income and AUM Summary
- C. Cattle AUM Summary by Category
- D. Lessee Maintenance Expenses Paid
- E. Lessor Net Income Calculation or Lessee's Costs

A more data intensive record requirement a monthly cattle inventory data but also generates the cattle reconciled cattle for the lessee. (Cattle Inventory see appendix B).

Lessee Monthly Cattle Inventory Based Lease Record

Lessee Cattle Inventory Lease Reports

- A. Land Inventory and Use
- B. Monthly AUM Summary
- C. Cattle Inventory Based AUM Summary by Category
- D. Monthly and Annual Lease Cost Based on AUMs
- E. Lessee Maintenance Expenses Paid
- F. Lessee Total Cost Summary Calculation
- G. Monthly Reconciled Cattle Inventory

Data Requirement for Spreadsheet Alternatives Records

All record alternatives do require acres of land involved and lease payment paid by the lessee or tenant. The monthly record does require number of head by category of cattle grazing or using the land area monthly. For acre lease cattle head number by category data is used to calculate animal unit months (AUM). Spreadsheets worksheets are provided to organize and record monthly data to be transferred to the record spreadsheet. This is the same data required to calculate monthly payments or to monitor stocking rate.

The record spreadsheet also records the maintenance costs covered by the lessee. Terms of sharing costs are spelled out in the written lease.

For lessee that have multiple lessors it is important to have reports by lessor.

For a lessee recording data with the cattle inventory this not only provides lease information but provides the cattle monthly inventory essential for measuring reproduction performance and data for preparation of financial statements.

Adjusting Lease AUM to Measure Grazing AUM

For annual acre leases the AUMs will differ for actual grazing AUM for the months that cattle are on the land but are fed hay and feed fed. This adjustment is made in summary AUM production report.

Grazing Lease Cost and Net Income Calculator

A summary spreadsheet is provided the summarized income and expenses to calculate annual net income. This report reflects the lessor's property tax and maintenance and management costs. Shared costs by the lessee are also reported in the lease net income calculator.

Appendix A: Definition: Animal Unit Months*

Grazing plans and stocking records can use Animal Unit Months (AUMs) to describe the carrying capacity of a pasture. This is a common system used to standardize the forage needs of cattle and the forage available to measure grazing land productivity or needs for planning purpose or to measure productivity. Grazing leases priced by AUM require the monthly cattle head by category to calculate the monthly payment by the lessee.

In this system, a 1,000 lb. animal is considered 1 AU making a 600 lb. animal 0.6 AU and a 1,200 lb. animal 1.2 AU. A 1,200 lb. cow and 300 lb. calf would be 1.5 AU.

Furthermore, 780 lb. of air dried grass is considered 1 AUM. This means a 1,000 lb. animal would consume 780 lb. of air dried forage (approximately 90% of the moisture removed) in one month's time.

Using the suggested alternative grazing record spreadsheets require recording monthly head of cattle by their AUM to measure productivity and also to monitor stocking rate. This information facilitates the prevention of overstocking for protection of the grazing land resource. Historical AUM use should be part of the lease negotiations and communications for both parties.

*University of Nebraska Lincoln “Sustainable Pasture Usage – Understanding AUMs (Animal Unit Months)”, Institute of Agriculture and Natural Resources (<http://inar.unl.edu>), May 2013

Appendix B: Monthly Beef Cattle Inventory – Head Day and AUM Calculator and Lease Cost and Evaluation

Objective

To have accurate financial statements and production performance the business must have accurate cattle inventories. Number of cattle need to be maintained through use of a monthly-reconciled inventory as provided for in the spreadsheet.

Before using this spreadsheet, it is good to recall the basic inventory equation and review definitions.

Basic Inventory Equation

The basic formulas for reconciliation of cattle numbers are as follows:

1. Ending Inventory = (Total In – Total Out)
2. Total In = (Beginning Inventory + Purchases + Transfers In + Change in Category + Births + Longs in Count)
3. Total Out = (Sales + Transfers Out + Change in Category + Consumed + Death + Shorts in Count)

Definitions

Category is used to define a specific group of animals. This is particularly useful from a production standpoint (i.e., breeding cows, replacement heifers, herd bulls, etc.) See the suggested categories and classifications that follow.

Classification refers to the reproduction phase and/or growth, sex, or production stage (i.e., exposed, open, pregnant cows, or weaned steers). See the suggested classification that follows.

Change in Category is when an animal changes categories and/or class as they move through reproduction or production (i.e., open cows move to exposed or weaned steers move to stockers).

Transfers are used to keep cattle moved between enterprises, herds, or business divisions that do not really generate sales revenue. Examples include weaned calves that are transferred into the replacement category from the cow-calf herd and cows that are brought in from another herd.

Shorts in Count is normally used in larger operation to reconcile inventories. One-way to think of shorts is that they are cattle that cannot be accounted for through one of the normal decreases

in inventory (i.e., deaths, sales/transfers out). These are cattle that are missing at the time of counting inventory and are not assumed dead or permanently lost.

Longs in Count is used in larger operations when cattle are rounded up and inventory numbers do not match. An example of longs in count is cattle that get mixed when a fence is broken. Information on longs is useful in identifying extra cattle in the wrong inventory group. Longs are cattle in the inventory that cannot be accounted for through one of the normal increases in inventory (i.e. purchases or transfers in).

Summary sheet records shorts and longs by month this should be monitored closely. If shorts and longs are similar then losses are not occurring. If shorts exceed longs this would indicate errors in counts or losses of cattle.

When the animal unit months **equivalents (AUM)** is input (see line 49 in the **January sheet for the breeding herd and September for yearlings or stocker cattle** a graph of AUM is presented. The spreadsheet also calculates the **head days by category** of cattle based on the average of the beginning and ending inventories by month. End of year head days are a good base for allocation of production costs between categories of cattle.

Suggested Cow-Calf Ranch Categories and Classes

The actual categories used in the inventory must fit the individual’s situation and what the owners and managers desire. Below are some suggestions that can be helpful.

Category*	Classification
1. Breeding Cows	Exposed, Open, Pregnant, Calved
2. Replacement Heifers	Exposed, Open, Pregnant, Calved
3. Cull Cows	Open, Pregnant
4. Nursing Calves	
5. Worked or Branded Calves	- Bulls - Heifers - Mixed Sex
6. Weaned Calves	- Bulls - Heifers
7. Stocker, yearlings or feeder cattle	- Steers - Mixed Sex
8. Herd Bulls	- Purchased or raised

*Separate categories can be set up for purchased and raised cattle for IRS accounting purpose.

According to the IRS tax inventory data requirements that are used to comply with the IRS data requirements, the inventory of purchased stock must be kept separate from raised breeding stock or retained calves. Purchased breeding stock is recorded on the business depreciation account

so the depreciation schedule can be updated. Recall that the book value of purchased cattle is the purchase cost minus accumulated depreciation.

For stocker, yearlings and feeder cattle the cattle can be identified by sex and well as source or production and marketing to be employed. Purchased cattle need to be recorded separate from raised cattle for IRS reporting. A separate inventory for non-breeding cattle should be maintained to better facilitate recording data and communications.

The end of year summary report can be used to record inventory valuation information to assist in preparation of the business balance sheet.

Months are linked but the shorts and longs must be monitored.

The graph of AUM and head shows the inventory throughout the year. The AUM per head is defined in the inventory first sheet of the year (see line 49).

Head days are calculated each month based on the average inventory by category. In the summary **the months to include in the report need to be specified**. Head day is a very good number to use to allocate fixed costs between production categories of cattle.

The graph shows a monthly inventory by month. The **user identifies the months** to include in these graphs in the summary page. The graph is not meaningful for months.

The reason months must be selected for reporting is that ending and beginning months are connected across all months. Defining the report month in the summary sheet (head day and Inventory value sheet) will give the correct months to include in summary head day, head of cattle and AUM reports in Graphs.

Reference: Grazing Record Spreadsheet

University of Nebraska – Lincoln – UNL BEEF

Grazing Record Spreadsheet for Documentation and Planning

<https://beef.unl.edu/cattleproduction/grazing-records-spreadsheet-documentation-planning>