

Record Keeping for Management Decisions

Darrh Bullock and Kenny Burdine

The area of beef cattle management that usually gets the least attention is the task of collecting, maintaining, and utilizing records. Records are important on many different levels and should serve as the centerpiece of any good management program. The level of record keeping practiced on a farm often defines the level of success that the operation can expect to achieve. Even the best operational managers can consider only a limited number of factors into each decision they make, whether short or long term. The ability to review historical information and use it in the decision-making process is the single factor that separates the premier managers from those who just “do a good job.”

Most beef producers collect some level of records, and this function takes many forms. This can be as simple as a notebook or calendar in the pickup truck or using a pocket record book and transferring the data to a computer program. In any system, this first level of data collection is very important and is the key to having good information for decision making in the future. However, most producers never take the data they have collected and put it into a form that will help them make decisions that will impact the long-term viability of the business. For instance, most producers keep some form of calving records, but few carry through to calculating weaned calves per cow exposed, much less develop them into a system that can track the lifetime productivity of individual cows in the herd. Most producers keep up with out-of-pocket costs on an annual basis, but few can track how those costs impact the cost of production over time.

In this age of changing business structures throughout the beef industry and potential federal or marketing programs that may require some level of record keeping, it is important for managers to

take the task of record keeping just as seriously as the day-to-day production tasks. Many producers are marketing cattle into systems that view cattle individually and establish market value on their individual merit. These types of systems continue to grow and impact the value of all cattle in the system. A potentially greater challenge/opportunity to cattle producers is the possibility for federally regulated compliance to marketing and disease-control programs. This will require some level of record keeping on the part of producers. In either scenario, a good record system puts the producer at a distinct advantage in the marketplace and protects that producer against any potential liability that may be created in such a system.

Record systems fall into two basic categories: production and financial. These two systems can operate independently of each other to a point, but to be truly meaningful and useful, they should work together as part of the overall farm management program. The differences in the two systems will be discussed and the information that could be included in each will be outlined.

No matter why the beef producer chooses to keep records, there is no question that a quality system of collecting, maintaining, and analyzing records can elevate the ability of any manager to a level much higher than those who operate without information. In the end, the decision is one of operating the farm and the beef enterprise as the businesses they are and protecting that business.

Record Systems

Production Records

Most beef producers maintain some form of production records. The production record system should be the system that maintains the information associated with the performance of the cattle and the production of the land. This is the

easy piece to put together since we are dealing with numbers such as rolls of hay off a field or weight of a calf at weaning.

The real challenge in most production record systems is taking the information that is collected on a day-to-day basis and putting it into a form that can be utilized for decision making. Many tools are available to make this task simpler, such as pocket record books and the Integrated Resource Management (IRM) calendar. These tools are designed for use in the everyday setting for recording the events that take place and when and where they happen. For many producers, this is the end of record keeping, and this initial record-keeping tool is filed away and considered the long-term record. This scenario is all too common and is a basic form of record keeping, but how useful are those records? In the context of the business, they are not very useful because they give no means of comparing performance from year to year. Taking those initial records and putting them into some system that allows for their analysis is the step that often is missed. Many different systems exist for providing this service. Computer software is available for archiving and analyzing this information.

Moving to this level of performance record keeping will allow the beef producer not only to look at what is currently taking place within the cow herd but, more importantly, to look at how management changes (nutrition, health, breeding, etc.) impact the performance of the herd. Analysis of the long-term records can help to pinpoint weak areas in the management program and aid in identifying individual animals that fail to perform at profitable levels.

Financial Records

Many reasons exist for keeping financial records. When asked, many producers will often cite the filing of taxes as the primary reason they keep records. Other

producers might reply that records are required by the lenders they work with. However, a third reason to maintain good financial records is to have information that can be used for making management decisions. Each of these is an important function of the financial records system and, whatever system is used, it should most certainly satisfy the needs of each of these areas.

Similar to the challenge in the production records arena, most producers keep the records necessary to file taxes; however, once those taxes are filed, the records serve no purpose other than to support and defend the business in the event of questions relative to the tax return. In most operations, these basic tax records are the foundation—and are often adequate—to establish a system that will go far beyond filling out a tax form. They allow the producer to analyze the information and make use of it to improve the overall profitability of the business. Producers who know their unit costs of production and how their management decisions affect profitability are equipped to improve the performance of their business. Without the ability to look at these numbers objectively with all factors considered, it is impossible to make sound decisions that positively impact the direction of the beef enterprise as a business.

Suggestions for information required for basic and advanced systems are discussed later in this chapter, and sample data collection tools are available in Table 12-1.

Getting Started

Identify Each Cow in the Herd

When assigning a visual ID to an animal in your herd, a producer should give some thought to an overall plan to avoid duplication of IDs. Also, most production record-keeping software will not recognize and allow the use of duplicate IDs within a herd.

A recommended on-farm ID system is the International Year/Letter Code Designations, as proposed by the Beef Improvement Federation (Table 12-2).

The International Year/Letter Designations for animal ID works by designating an internationally recognized letter for each year of birth. This option is very easy to use in conjunction with numbers. For

Table 12-1. Suggested cow-calf (cc) and stocker/backgrounder (sb) production records.

Cow Information		Calf Performance	
cc	Cow ID	cc	Birth Weight
cc	Birth Date (Approximate)	cc	Weaning Date
cc	Sire/Dam Record/Breed	cc	Weaning Weight
cc	Vaccination Schedule and Dosage	cc	Management Information (Creep/Twin/Etc.)
cc	Health and Treatment	cc	Yearling Weight
cc	Registration Information	cc	Slaughter Weight (if retained)
cc	Date Entered and Exited Herd	cc	Hot Carcass Weight (if retained)
Cow Performance		cc	Ribeye Area (if retained)
cc	Sire Mated	cc	Backfat Thickness (if retained)
cc	Pregnancy Test Results	cc	% Kidney, Pelvic, Heart Fat (if retained)
cc	Calving Date	sb	Weight at Purchase/Weaning—Date Purchased
cc	Calf ID	sb	Weight at Sale—Date Sold
cc	Calf Sex	sb	Rate of Gain
cc	Calving Difficulty	Other Records and Documents	
cc	Culling Date	cc	Beef Quality Assurance Program
cc	Reason for Culling	cc	Replacement Program
Sire Information		cc	Animal Inventory
cc	Sire ID	cc	Receiving Records
cc	Birth Date	cc	Purchasing Records
cc	Breed	cc	Sales Receipts
cc	Registration Information	cc	Feed Bills
cc	Date Entered and Exited Herd	cc	Feeding Records
Sire Performance		cc	Acreage Inventory
cc	Expected Progeny Differences (EPDs)	cc	Site Maps
cc	Scrotal Circumference	cc	APHIS VS Forms
Calf Information		sb	Beef Quality Assurance Program
cc	Calf ID	sb	Animal Inventory
cc	Birth Date	sb	Receiving Records
cc	Calf Sex	sb	Purchasing Records
cc	Breed	sb	Sales Receipts
cc	Vaccination Schedule and Dosage	sb	Feed Bills
cc	Health and Treatment	sb	Feeding Records
cc	Date Entered and Exited Herd	sb	Acreage Inventory
sb	Calf ID	sb	Site Maps
sb	Calf Sex	sb	APHIS Requirements
sb	Breed	sb	Transfer of ID System
sb	Vaccination Schedule and Dosage	sb	VS Forms and Records
sb	Health and Treatment		
sb	Date Entered and Exited Herd		

example, E001 and E002 might be used to indicate the first and second calf born in the year 2017. When a heifer transfers to the cow herd, she can keep her ID, and new cows entering the herd can also be assigned an ID with their birth year letter code preceding their new individual ID.

Using this internationally accepted and recognized system promotes uniform identification throughout the industry and also puts a logical, uniform ID system in place on the farm. Using this proposed system of identification will reduce the possibility of duplicate identification and help the producer determine the age

of an animal (down to the birth year) at one glance.

The type of identification depends on the individual producer. Any combination of identification that is readable from a short distance and permanent is acceptable. Some methods that work well are:

- Putting identical ear tags in each ear of the cow. If one is lost, replace it as soon as possible.
- An option for one tag is an EID (Electronic Identification).
- Putting an ear tag in one ear and the corresponding tattoo in the other.

- Freeze brands are permanent and a good option for dark hided cattle if done properly.

With these methods, when a cow inevitably loses a tag she can be identified. The identification of individual animals with a unique ID within a particular farm has several benefits such as the ability to trace each sire's and dam's progeny and evaluate their performance in terms of birth weight, birth weight ratio, adjusted 205-day weight ratio, EPDs, and the accuracy of EPDs.

Determine the Age of the Cows in the Herd

If records are not available, mouth the cows or estimate as close as you can (see Chapter 7, "Health and Management Techniques"). Weaning weights are adjusted based on the age of the cows; therefore, the more accurate your estimates are, the more accurate the adjusted weights will be.

Record the Breed of the Cows

If unknown, estimate the breed based on appearance. If she appears to be predominantly of one breed, list her as a cross of that breed (e.g., Angus cross, Charolais cross, etc.). If breed composition cannot be determined, list the cow as a crossbred. This record is not essential but can provide information on how particular breeds perform in your environment.

The use of breed codes is often recommended. A number of breed codes, as suggested by Beef Improvement Federation (BIF) guidelines, are listed in Table 12-3.

A total of four letters can be used to denote crossbred cows or calves. Always list the breed type of the sire first and breed type of the dam second. For example, if a calf had an Angus sire and his dam was a Simmental, list the calf as ANSM. Refer to the BIF guidelines for additional breed abbreviations.

Breeding Season

Take a Breeding Inventory

List all cows and heifers exposed through either natural service or artificial insemination (AI). Record all AI information, including identification and breed of the bull(s), tag number of the cow, and

Table 12-2. International year/letter code designations.¹

P	2004	A	2013	K	2022
R	2005	B	2014	L	2023
S	2006	C	2015	M	2024
T	2007	D	2016	N	2025
U	2008	E	2017	P	2026
W	2009	F	2018	R	2027
X	2010	G	2019	S	2028
Y	2011	H	2020	T	2029
Z	2012	J	2021	U	2030

¹ The letters I, O, Q, and V are not used.

date of insemination. For natural service, record bull identification and breed, identification of the cows exposed to that bull, and the dates when the bulls were turned out and removed. This information is extremely important in determining the reproductive performance of the herd such as pregnancy percentage, pregnancy loss percentage, calving percentage, calf death loss percentage and weaning percentage (calving and weaning percentages are based on the number of females exposed to the bull), and calving distribution, as well as important production performance measures such as pounds weaned per exposed female.

Pregnancy Test

Pregnancy information assists in identifying which females did not conceive so that culling options are available sooner. Also, this information helps determine when pregnancy problems are occurring. If a large number of females pregnant at the pregnancy test do not calve, losses during pregnancy due to disease or malnutrition likely are occurring and can be corrected.

Calving Season

Observing calving can provide useful information to help avoid calving losses. Information obtained at calving is essential to good record keeping and includes:

Calving date (required). The exact date may not be known if cattle are not checked daily, but estimates within three days are acceptable. Calving date is important to calculate weight per day of age where weaning weight and weaning date have been recorded.

Proper identification of calf and matching with dam (required). If calf identification is not done at birth, it must be done prior to

Table 12-3. Breed codes.

AM	Amerifax
AN	Angus
AR	Red Angus
BB	Belgian Blue
BF	Beef Friesian
BG	Belted Galloway
BM	Beefmaster
BQ	Buelingo
CA	Chianina
CH	Charolais
CO	Continental
DS	South Devon
FV	Fleckvieh
GD	Golden Dakota
GV	Gelbvieh
HH	Horned Hereford
HP	Polled Hereford
LM	Limousin
MA	Maine-Anjou
MG	Murray Grey
MX	Crossbred
SA	Salers
SB	Brown Swiss
SG	Santa Gertrudis
SH	Scotch Highland
SM	Simmental
SP	Polled Shorthorn
SS	Scotch Shorthorn
SU	Braunvieh
TA	Tarentaise
TL	Texas Longhorn
WB	Welsh Black
XX	Crossbreeds

weaning. If done at some time other than birth, an easy way to match calves with dams is to separate all the calves from the dams for a few hours and then turn them back together. Generally they will nurse immediately and can be matched easily in this manner.

Calving ease score (very useful). The scoring system is:

- 1-Unassisted
- 2-Easy pull
- 3-Hard or mechanical pull
- 4-Caesarean section
- 5-Abnormal presentation

If unobserved but no problems apparent, score a 1.

Birth weight (useful). If unknown, BIF recommends using 70 pounds for females and 75 pounds for males, which is the value used by most computer programs to calculate 205 adjusted weight if birth weight is omitted. Where birth weight

and weaning weight for an individual animal have been recorded, the average daily gain for that calf can be calculated.

Weaning

Production records are of little value without weaning weights. If you do not own scales, many county organizations have them available. Check with your county Extension agent for more details. The following information can be collected at weaning:

- Individual weaning weight and date (essential).
- Weight and condition score of the cow (very useful).
- Sex of the calf (essential). If the calf is castrated prior to weaning, record as a steer; if castrated at weaning, record as a bull.
- Contemporary group code (essential). All calves raised under the same conditions receive the same contemporary group code. If a group of calves (or their dams) gets preferential treatment, it should get a different contemporary code. Producers who have spring- and fall-calving herds should use different contemporary group codes for each herd.

It is important that all animals born, whether dead or alive, are recorded and taken into consideration when the herd is being analyzed. Also, record any abortions and calf death losses, and make sure to record that information on the specific cow's lifetime history.

Yearling

If calves are to be kept through a year of age, whether to market at that time or be retained as replacements, additional records can be beneficial. The following information is needed:

- Individual yearling weight and date (essential). If weaned calves are purchased, a beginning and end weight and date will need to be recorded.
- Sex of calf (essential).
- Contemporary group code (essential). Same as with weaning weights.

Many producers might find other information useful. If so, this information should be recorded. Production goals of each operation are different, and records should reflect those goals.

Performance records are only beneficial if they are incorporated into management-making decisions. Records must be recorded accurately, analyzed, and interpreted. From the interpretation, informed decisions on selection and management practices can be made. These decisions become more economically sound if financial information is available and can be incorporated.

Feedyard and Carcass Performance

Gaining information on your cattle based on feedyard and carcass performance is often more difficult. Most Kentucky producers sell their calves at weaning or after backgrounding, and once sold, no more information is available to the producer. This situation is unfortunate because it does not allow commercial producers the opportunity to improve the post-weaning genetics of the herd, and if the herd already has high feedyard and carcass performance, the producer may be selling the calves for less than their true value. Without obtaining feedyard and carcass performance information, it is impossible to determine the value of future calf crops. Several options are available for Kentucky beef producers to obtain feedyard and carcass information; county-based feedout programs and the carcass data collection service by the Kentucky Department of Agriculture. Several Kentucky Cattlemen have been sending cattle to the Tri-County Steer Carcass Futurity Cooperative (<http://www.tcscf.com/index.html>) with great success on collecting feedlot and carcass data. Producers are using the information to change the genetics of their herds to capture added value. Another service that is available is the Kentucky Department of Agriculture's Beef Carcass Grading service. This service is available to beef producers to assess the USDA Quality and Yield grades of their cattle that are fed out at home.

Record-keeping Systems

A computer is not required to maintain accurate farm records, but is advised for more complex systems. Producers need to choose a record-keeping method that works best for them, whether it is a notebook on the dash of the truck, a comput-

erized spreadsheet, or software program. A list of record-keeping programs can be found below. Keep in mind that these are not the only programs available for record keeping. Breed associations and other groups may have other programs that will work better in your situation. A very useful source of information on various computer record keeping options is an Oklahoma State University publication entitled *Cow-Calf Production Record Software* is available at the following link: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1926/CR-3279web15.pdf>.

Financial Record-keeping Systems

Specialists with the University of Kentucky Farm Business Management program (KFBM) are excellent resources for financial recording keeping expertise for the beef operation. Information about this program is available at <http://www.uky.edu/Ag/KFBM/>. Many programs for financial record keeping (Quicken®, Quickbooks®, and Kentucky Farm Record Book, for example) are primarily whole-farm based and will not provide the producer with an in-depth cow-calf or backgrounding financial analysis. Quicken® and Quickbooks® are both computer-based, and the Kentucky Farm Record Book is paper-based.

Quicken® and **Quickbooks®** are computerized record-keeping programs that allow producers to categorize their income and expenses and run reports using that information. They are also compatible with checking and credit card accounts and easily allow for producers to separate their farm expenses by enterprise using categories and sub-categories. Categories and subcategories can allow users to complete beef enterprise or herd analysis as long as the expenses and incomes are allocated and categorized appropriately. The University of Kentucky Department of Agricultural Economics Web page has a list of farm categories that producers can access. Search for "Quicken Categories" on the Ag Economics web page.

Kentucky Farm Record Book (Brown Book) is a hand record-keeping system for keeping farm cash costs. The book allows the producer to record cash income and expenses, sale and purchase of capital items, labor expenses, and withholding

transactions. Once completed, this information will serve to help complete the producer's Schedule F tax form.

Beef Enterprise Budgets can be found at <http://agecon.ca.uky.edu/files/extbudgetbeef200829.xls>. Budgets for cow/calf enterprises, replacement heifers, steer backgrounding, and summer grazing can be downloaded and utilized. These spreadsheets can be customized to a cattleman's specific needs.

Production and Financial Record-keeping Systems

Microsoft® Excel Spreadsheet—Producers can use Excel or other spreadsheet software to set up a worksheet that will allow them to keep all their records. A producer can insert formulas into the columns to create summaries and calculate information such as average daily gain or days to weaning, total income or expenses, and much more. However, spreadsheets will not run specific reports like other programs.

Table 12-4 shows suggested financial records that need to be kept to determine the cost of production of a herd. A typical cow-calf operation consists of several different enterprises so it is important to keep records on each one.

The examples listed in this table are not inclusive of all records and documents that may be needed to comply with all marketing and disease-control programs.

Table 12-4. Suggested financial records.

Cow-Calf	Stocker/Backgrounder
Number of Females Exposed to Bulls	Dominant Breed in Herd
Calving Distribution	Dominant Pasture Utilization
Calves Born Alive	Opening and Closing Inventories
Calves Born Dead	Current Market Value of All Cattle
Calves Lost Nursing	Cattle Sales
Total Calves Weaned	Cattle Purchases
Average Actual Weaning Weights	Deaths
Average Calf Age at Weaning	Raised Hay Inventory
Average Weaning Weight Per Cow Exposed	Equipment and Building Depreciation
Replacement Rate and Average Weight	Short and Intermediate Loan Summary
Breeding Cattle Deaths	Grazing and Hay Land Acres
Dominant Breed in Herd	Rental Value of Grazing and Hay Land
Dominant Pasture Utilization	Rental Value of Grazing and Hay Land
Opening and Closing Inventories	Human Resource Information (Hired and Family)
Current Market Value of All Cattle	Allocated Cash Costs
Raised Hay Inventory	Grazing Resources (Pasture, Cornstalk, Stockpile)
Equipment and Building Depreciation	Hay Production and Market Value
Short and Intermediate Loan Summary	Feed Used by Herd (Raised and Purchased)
Grazing and Hay Land Acres	Cattle Sales
Rental Value of Grazing and Hay Land	Cattle Purchases
Human Resource Information (Hired and Family)	Grazing Resources (Pasture, Cornstalk, Stockpile)
Allocated Cash Costs	Hay Production and Market Value
Feed Used by Herd (Raised and Purchased)	Supplement Used by Herd