

Record Keeping

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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 impending federal 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. We will discuss the differences in the two systems and outline the information that could be included in each.

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 and in the face of varying challenges. 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 (a list of software programs is provided later in this section). CHAPS (Cow Herd Appraisal and Performance Software) is the program supported by the University of Kentucky, and the software can be purchased through the University of Kentucky Cooperative Extension Service.

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

There are many reasons for keeping financial records, from having the information required to file taxes at the end of the year to archiving information for use in 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 understand what their unit costs of production are and how their management decisions and the performance of their cattle can impact those numbers 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 section, and sample data collection tools are available in Table 11-3.

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.

Table 11-1. International year/letter code designations.¹

E 1995	P 2004	Z 2012
F 1996	R 2005	A 2013
G 1997	S 2006	B 2014
H 1998	T 2007	C 2015
J 1999	U 2008	D 2016
K 2000	W 2009	E 2017
L 2001	X 2010	F 2018
M 2002	Y 2011	G 2019
N 2003		

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

A recommended on-farm ID system is the International Year/Letter Code Designations, as proposed by the Beef Improvement Federation (Table 11-1).

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 example, R001 and R002 might be used to indicate the first and second calf born in the year 2005. 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 also rule out the possibility of duplicate identification to a certain extent and will help the producer to realize and 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. Two 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.
- Putting an ear tag in one ear and the corresponding tattoo in the other.

With these methods, when a cow inevitably loses a tag, she still 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 unknown, mouth the cows, or estimate as close as you can (see Section 6, "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 11-2.

Table 11-2. Breed codes.

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

Table 11-3. Suggested cow-calf (cc) and stocker/backgrounder (sb) production records.

cc	sb	Production Records	cc	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			

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

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:

1. 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.
2. Proper identification of calf and matching with female (required). If calf identification is not done at birth, it must be done prior to weaning. If done at some time other than birth, an easy way to match calves with cows is to separate all the calves from the cows for a few hours and then turn them back together. Generally they will nurse immediately and can be matched easily in this manner.
3. 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.
4. 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:

1. Individual weaning weight and date (essential).
2. Weight and condition score of the cow (very useful).
3. 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.
4. Management code (essential). This is a code associated with the CHAPS (Cow Herd Appraisal Performance Software) computer program and accounts for anything unusual about an individual calf (for example, where a calf was one of a twin and whether that calf was raised as a twin or a single, or to record the number of months a calf had been on creep feed).

5. Contemporary 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.
6. Frame score (hip height) and calf grade are optional entries.

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:

1. Individual yearling weight and date (essential).
2. Sex of calf (essential).
3. Contemporary 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.

The information in this section corresponds with the Cow Herd Appraisal Performance Software (CHAPS), a record-keeping program developed by the North Dakota State University Extension Service and supported by the University of Kentucky Cooperative Extension Service.

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 postweaning 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.

The Value Added Target Marketing (VATM) program is a program where the calves are generally sold at weaning or after backgrounding and tracked with an electronic tag through the

harvest process. The producer pays a fee and all the data collected along the way is accumulated, processed, and sent back to the producer.

Record-Keeping Systems

A computer is not required to maintain accurate farm records. 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 computerized spreadsheet, or software program. The University of Kentucky supports two computer-based programs: Cow Herd Appraisal Performance Software (CHAPS) and Standardized Performance Analysis (SPA). Additionally, a producer can obtain a Beef Integrated Resource Management (IRM) calendar or a pocket record book to keep records. 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.

Production Record-Keeping Systems

Cow Herd Appraisal Performance Software (CHAPS)—A computer program that enables producers to track beef cattle production from conception to carcass, yielding information about performance and genetic information at all levels of production. CHAPS data can be used to make changes within a herd so cow-calf producers can track the performance of cows and bulls, thus improving genetic performance.

This program will provide the producer with multiple herd reports, including a herd analysis with reference to each individual animal's production information such as adjusted 205 weights, adjusted 205 ratios, and a lifetime progeny report for cows including most probable producing ability (MPPA) scores.

Although CHAPS is a computer-based program, producers without access to a computer, or those who prefer to have it done by someone else, can make use of the Custom Processing Service. The Custom Processing Service enables producers to send in their paper-based records (records can be in paper form, Microsoft® Excel work sheets, or even in a pocket record book). For a minimal fee, these records will be processed in the CHAPS program, and the reports generated will be mailed back to the producer (all information is considered confidential). For more information, call the Kentucky Beef Network at (859) 278-0899.

CattlePro™—A beef cattle records management and performance analysis software. The program is available in six different editions for both purebred and commercial breeders. More information on this program can be found at www.bowmanfarms.com.

Cow Sense®—A management tool designed for cow-calf operators who wish to analyze each individual cow as a profit center. Four different options are created to match the specific operation and management goals. An online database is available. For more information, go to www.midwestmicro.com.

Web-Based Systems—Some breed associations provide online programs that producers can use to keep records. Requirements vary for using these systems. Check with your breed association to see if it offers this service.

Financial Record-Keeping Systems

Standardize Performance Analysis (SPA)—The SPA program is a workbook-based financial record-keeping tool, developed by the National Cattlemen's Beef Association and the Cooperative Extension Service in order to assist producers in analyzing their herd economic and production records in a uniform manner.

The SPA program targets efficiencies and deficiencies within a cow-calf or backgrounding herd and focuses on measuring financial performances of the cow-calf, hay, and pasture enterprises. This program will help producers determine their cost of production by looking at out-of-pocket expenses as well as opportunity costs of their beef operation. The SPA analysis will provide producers with enterprise-specific data that can easily be incorporated into their operation and used to increase their profitability.

Some of the SPA program highlights include information such as returns to cow-calf enterprise, cost for cow-calf enterprise, forage production cost, pasture summaries, summary of investment per breeding cow, summary of investment per pasture acre, and total capital investment per cow.

This is a free service and program, supported by the University of Kentucky. For more information or to obtain a workbook, call (859) 278-0899. Once completed, the workbook can be mailed in, and the computer-generated financial analysis will be returned to the producer (all information is considered confidential).

It is important to realize that the SPA program is an in-depth financial analysis of the beef operation and should be considered as a financial tool regardless whether the producer has any other financial record-keeping programs (such as Quicken® or the Kentucky Farm Record Book). These programs (Quicken and Kentucky Farm Record Book) are mostly whole farm analysis and will not provide the producer with an in-depth cow-calf or backgrounding financial analysis.

Quicken®—A computerized record-keeping program that allows producers to categorize their income and expenses and run reports using that information. The University of Kentucky Department of Agricultural Economics Web page has farm categories that producers can download and use in their programs. If you are interested in attending a Quicken workshop, call your local Extension agent for Agriculture and Natural Resources.

Kentucky Farm Record Book (Brown Book)—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 as a producer's Schedule F tax form.

Production and Financial Record-Keeping Systems

Microsoft® Excel Spreadsheet—Producers can use Excel 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, Excel will not run specific reports like other programs.

Table 11-4 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 11-4. 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	
Rental Value of Grazing and Hay Land	
Human Resource Information (Hired and Family)	
Allocated Cash Costs	
Feed Used by Herd (Raised and Purchased)	
Cattle Sales	
Cattle Purchases	
Grazing Resources (Pasture, Cornstalk, Stockpile)	
Hay Production and Market Value	
Supplement Used by Herd	