Chapter 14
Record-keeping

JJ Jones

Record-keeping is a very important part of any agricultural enterprise. By keeping both production and financial records, producers are better able to manage their operations. Without records, a producer will have a harder time determining progress made towards the operations' goals and objectives. This chapter discusses the methods of keeping records and what types of records should be maintained.

Record-keeping Methods

Two basic methods of keeping records are available to producers. These methods are hand-written (Figure 14-1) and computerized record-keeping programs. Each method has its advantages and disadvantages. Individual producers must determine which method fits their situation and resources. But neither system works if there is no consistency or regularity in how the records are maintained.

Hand-written Record-keeping

Hand-written record-keeping can be the simplest method. For hand-written record-keeping systems, producers can use a published workbook such as the E-908 Oklahoma Farm and Ranch Account Book or a simple ledger book. Either method requires periodic entry and summation. The major problem with a hand-written record-keeping system is that producers must manually summarize the records, which could lead to math mistakes or omissions.

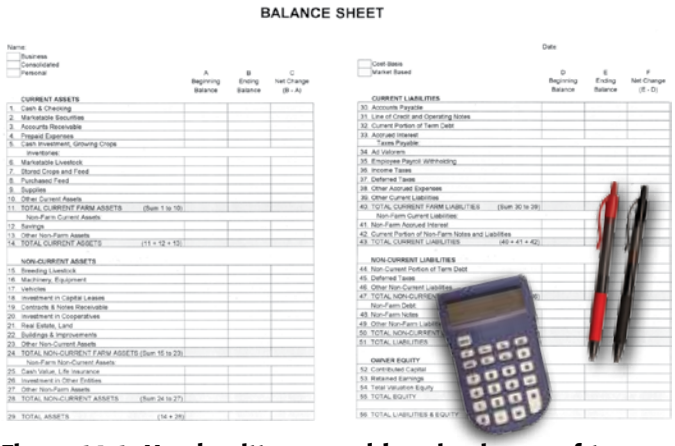

Figure 14-1. Hand-written record-keeping is one of two record-keeping methods available to producers.

Computerized Record-keeping

Computerized record-keeping systems are the more costly of the two systems. To use a computerized record-keeping system, a producer must own a computer and also purchase the necessary computer software programs. Producers must find a record-keeping software system that fits their needs and abilities. Both production and financial record systems are needed, but typically few computer programs do both. Because of this, producers may desire to use two different computer programs or a combination of computerized and hand written records.

If a producer is comfortable using spreadsheet programs, they could develop record-keeping programs using spreadsheet software such as Excel. By developing their own program, a producer can tailor the spreadsheet to meet their expectations and needs.

OSU had developed a spreadsheet package that will help producers maintain certain production records. To download this record keeping software visit the OSU Meat Goat website at www.meatgoat.okstate.edu.

Production Record-keeping Systems

Production record-keeping systems are limited in the number available, and many of the programs available are configured for pure-bred breeders (Figure 14-2). Although these programs can be used for commercial operations, the cost and the limited information gained from these programs may be prohibitive.

Financial Record-keeping Systems

Financial record-keeping systems are more readily available than production record-keeping systems because the financial records maintained for a meat goat operation are similar to other types of agricultural operations. Choosing a financial re-

Figure 14-2. Proper record-keeping allows producers to keep an accurate inventory of their herds.

cord-keeping system usually is done by personal preference. Several are available that produce similar reports and summary information. When choosing a program, producers should pick one they are comfortable using. Producers may want to check into what programs have workshops available to demonstrate how to use the program for agriculture. One such workshop is the Quicken for Farmers Workshop offered by the Oklahoma Cooperative Extension Service.

Quicken is a financial record-keeping system readily available at any office supply store and is typically priced less than $60. Quicken's interface is similar to a checkbook register and relatively simply to use. Quicken allows producers to categorize and group transactions for easy reporting. Quicken also allows producers to assign tax categories to transactions, which allows a producer to print tax schedules if necessary. Quicken can be as detailed or generic as a producer wants it to be. Quicken is not a true double-entry accounting software package. Producers needing this should investigate using QuickBooks.

Production Records and Measures

To keep good production records, each goat will need to be individually identified. Once all of the animals are identified, producers can keep track of births, matings, health programs and problems and removal from the herd (Figure 14-2). Animal identifications also help producers match up offspring with parents. All of these factors help producers make culling decisions in the future. For more information about animal identification, please refer to General Herd Management (Chapter 10).

Meat goat production measures are difficult to define, since no standard performance measures have been established. However, a few production measures do exist that can help measure the efficiency of the operation

Pregnancy Percentage

Pregnancy percentage is an indicator of breeding performance of the herd. Low pregnancy percentages can be an indicator of reproductive or health problems or poor nutrition.

Determining pregnancy percentage requires the use of a veterinarian or special pregnancy-detecting tools such as pregnancy blood testing. Being able to detect if a doe is pregnant means producers can make the decision to cull or rebreed that animal at an earlier time period than waiting until after the kidding season is through.

$$\text{Pregnancy } \% = \frac{\text{Number of exposed does diagnosed pregnant}}{\text{Number of does exposed}} \text{ X } 100$$

Kidding Percentage

Kidding percentage is a good indicator of breeding performance. Since goats have the ability to have multiple offspring, the kidding percentage can be greater than 100 percent. Most goat operations will need to maintain a kidding percentage of greater than 160 percent to remain profitable.

Kidding percentage is one of the more economic production factors. This number indicates the number of kids being produced, which is the product to be sold. The higher the percentage number, the more goat kids a producer has to offer at market.

$$\text{Kidding } \% = \frac{\text{Number of kids born (dead or alive)}}{\text{Number of does exposed}} \text{ X } 100$$

Kid Death Loss Percentage

Kid death loss percentage can be an indicator of problems with the herd's health program, the kidding environment, nutrition and the breeding program.

The kid death loss percentage number needs to

be as small as possible (less than 10 percent) to assure a profitable operation. A high kid death loss percentage reduces the number of marketable kids.

$$\text{Kid death loss } \% = \frac{\text{Number of kids that died (born dead or died after birth)}}{\text{Number of does exposed}} \text{ X } 100$$

Weaning Weight and 90-Day Adjusted Weaning Weight

Weaning weights are a measure of production for each female goat. Typically this is what producers are striving to recover as income from pounds of product. Recording weaning weights of the kids gives a measure of performance of their herd and recognizes individuals within the herd as either top or poor performance animals.

The 90-day adjusted weaning weight is a measure allowing producers to adjust the weaning weights of the kids produced based on certain production factors. Those factors include the number kids born and raised that were born to the dam. The age of dam is also an adjustment factor as well as the sex of the kids when weaned. These adjustments allow for each kid to be compared on an equal basis. The adjustment factors are listed in Table 14-1.

Contemporary Groups

A contemporary group is a set of meat goat kids born and raised together under uniform conditions. Performance testing for genetic evaluation requires factors like age, nutrition and location to be equal for all kids. Kids in a contemporary group are born within a 60-day period and managed together from birth to weaning. Dams also should be managed similarly to weaning.

Data from kids born outside the 60-day window or managed differently (e.g. show circuit, bottle babies, kept in separate pastures) are excluded from the group. Contemporary groups for kids weaned at three months old are planned 8 to 10 months earlier at the start of breeding. Breeding seasons no longer than 6 to 7 weeks ensure kids will be within the 60-day age range at weaning.

Because ages vary in a contemporary group of kids at weaning, weight comparisons can be biased. A 79–day-old kid cannot be expected to weigh as much as 112-day-old kid. Therefore, weaning weights are converted to a standard 90-day age basis. Two equations are used to generate 90-day weights.

Table 14-1. Goat 90 Day Weaning Weight Adjustment Factors.

Effect	*Group*	*Adjustment Value*
Litter Size		
born – raised	**1-1**	**1.00**
	1-2	**1.14**
	2-1	**1.04**
	2-2	**1.18**
	3-1	**1.08**
	3-2	**1.23**
	≥3-≥3	**1.27**
Age of Dam		
(years)	1	1.10
	2	1.09
	3+	1.00
Sex of Kid		
(weaned)	Buck	1.00
	Doe	1.11
	Wether	1.08

Source: http://sheepandgoat.com - David R Notter, PHD, Virginia Tech

First calculate average daily gain (ADG):

ADG = (Weaning weight-birth weight) / weaning age

Once average daily gain is determined, the second equation gives the 90-day weight:

90-Day Weight = (ADG X 90) + birth weight x litter adjustment x age adjustment x sex adjustment

When birth weight is not available, ADG cannot be determined. In the absence of birth weight records, the previous equations can be replaced with the following equation based on weight per day of age:

90-Day Weight = (Weaning weight / weaning age) X 90

Adjustments are made to 90-day weights because litter size and age of dam can affect weaning weight. On average, weaning weights decrease as litter size increases and young does wean lighter kids than mature does. Multiply 90-day weights by the appropriate correction values (Table 14-1) to get adjusted 90-day weights.

Bucks and/or wethers are typically heavier than doe kids, but sex of kid adjustments are not necessary if comparisons are made within single sex contemporary groups. Buck kids are compared

only to other buck kids and doe kids compared to other doe kids, etc.

Comparisons of the dam's production would however need these adjustment factors calculated to ensure a fair evaluation of performance between dams within a contemporary group. Table 14-2 shows example records for five does.

An additional step is generating weaning weight ratios. Within each sex group, individual kid weights are compared to the group average to produce ratios for relative evaluations. Ratios show the deviations of kid weaning weights from the contemporary group average. A ratio is calculated with the following equation:

Weaning Weight Ratio = (90-day kid weight / 90 day herd weight average) X 100

A ratio of 100 is equal to the group average. A kid with a weight of ratio of 122 is 22 percent heavier than the group average. Conversely, a kid with a ratio of 91 is 9 percent lighter than the group average.

Financial Records

Maintaining an accurate set of financial records is important for two reasons. The first reason is tax preparation. Operating a meat goat enterprise allows a producer to file an IRS Schedule F, Profit and Loss from Farming Form, as long as that enterprise is operated with the purpose of making a profit. The second reason is to measure the overall financial performance of an operation. The same set of records can be used to do both taxes and measure financial performance.

The types of financial records producers need to maintain can be broken down into four different groups: income, expenses, assets and liabilities.

Income

Income records are simply the amount of money received from the sale of any product or any services performed. When a producer sells a group of kids, the money received is considered income. Also, any money received from government agricultural programs is considered income. Money received from the sale of a capital asset such as a tractor or purchased breeding stock is discussed in the Assets section.

Expenses

The amount of money spent on items needed for the operation of the goat enterprise is expenses. Careful records of expenses need to be kept. Expenses include, but are not limited to, money spent on feed, fertilizer, seed, repairs, supplies,

Table 14-2 Example Records.

Performance Information	*Dam ID 30A*	*ID 201Z*	*ID 201Z*	*203A*	*202*
Dam Age	2	3	3	1	3+?
Kid ID	50C	5C	6C	7C	51C
Born - Raise	1-1	2-2	2-2	1-1	2-1
Birth Weight	8	7	5	6	8
Sex	Buck	Doe	Doe	Doe	Wether
Age at Weaning	91	85	85	90	89
Weaning Weight (ww)	60	55	52	45	58
90 D Adj ww	65	76	72	55	66
Ratio	97	114	108	83	99

90 Day Adjusted Weaning Weight Calculations

Kid 50C

60-8/91*90+8*(1.00*1.09*1.00) = 64.7

Kid 5C

55-7/85*90+7*(1.18*1.00*1.11) = 75.7

Kid 6C

52-5/85*90+5*(1.18*1.00*1.11) = 71.7

veterinarian expenses, taxes and interest. Money spent on capital purchases for items with a useful life greater than one year are not considered ordinary expenses, but rather, they are capital expenses. Capital expenses are amortized and depreciated over the life of that capital asset, as discussed in the Assets section. Examples of capital expenses would be breeding animals, tractor, fencing and feeders.

Assets

Assets include everything owned that has value, which includes but is not limited to, land, buildings, purchased and raised breeding animals, tractors, trucks, trailers, equipment, purchased and raised feed and money in checking, savings and investment accounts. The information needed to be maintained includes asset description, age, and value (cost and market). The asset list is used to build balance sheets, determine depreciation schedules, and evaluate the overall net worth of the operation. Extension Fact Sheets AGEC-971, Schedule of Assets, and AGEC-752, Developing a Balance Sheet, discuss in greater detail how assets are used for financial management of the operation.

Liabilities

Liabilities include everything that is owed, which includes, but not limited to, notes payable to banks, equipment dealers, car dealers and individuals. Plus money that is owed to agribusinesses and credit card companies. Information needed to be maintained includes principal balance, interest rate, payments (monthly or annual), and the length of a loan. Liabilities are used to develop balance sheets, determine interest costs and determine solvency of the operation. Extension Fact Sheet AGEC-972, Liabilities Schedule, discusses in greater detail how liabilities are used.

Financial Statements

Once a record-keeping system has been established, producers can then develop their financial statements. These financial statements are the balance sheet, cash flow statement and income statement.

Balance Sheet

A balance sheet is a summary of assets and liabilities of the operation. The balance sheet is one of the most frequently used financial statements for measuring a business' financial position. When applying for a loan, the first thing the lender will request a balance sheet be provided. An operation's net worth is determined by using a balance sheet. The net worth of the operation is the total dollar amount of assets minus the total dollar amount of liabilities. Extension Fact Sheet AGEC-752 discusses how to create and maintain a balance sheet.

Cash Flow

A cash flow statement measures the cash flow in and out of an operation. Cash flow statements can be done on an annual or monthly basis. Projected cash flows can be done for multiple years in the future. Cash flow statements reveal seasonal patterns of cash surplus and deficits and may suggest when cash is available for debt repayment. Extension Fact Sheet AGEC-751 discusses how to create a cash flow statement.

Income Statement

An income statement combines information from the balance sheet and cash flow statement. An income statement records the revenue and expenses from an operation. It can measure an operation's profitability. Extension Fact Sheet AGEC-753 discusses the methods of creating an income statement.

Once a set of financial statements have been created, calculation of financial ratios can be done to evaluate an operation's financial situation. Analysis of the financial statements and ratios reveal strengths and weaknesses of the operation. Extension Fact Sheet AGEC-237, Farm and Ranch Stress Test, discusses measuring a farm's financial stress level.

IFMAPS

Oklahoma farmers and ranchers can use the IFMAPS program to receive confidential farm business planning. IFMAPS' plans include budgets, cash flow statements, balance sheets, income statements, debt worksheets and financial measures. IFMAPS

support staff can help farm and ranch families identify and evaluate options to improve their financial situations. They also help the producer interpret the financial statements and ratios calculated. For information about the IFMAPS program, please contact the local county Extension educator or the IFMAPS center at 1-800-522-3755.

Conclusion

Both production and financial record-keeping systems are essential tools for any business. The records can be kept in a ledger or on a computer, as long as they are maintained on a regular basis. These records can help producers make production and financial decisions that could benefit the operation.

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