

DAIRY SHEEP ENTERPRISE BUDGET

SUGGESTIONS for USE (Version 1.1)

Introduction

Welcome to the **DAIRY SHEEP ENTERPRISE BUDGET (version 1.1, July 2004)**. This computer program was written in Microsoft Excel 2000 for the Emerging Agricultural Market Team, University of Wisconsin-Extension. The program format and methodologies used are the outgrowth of a long series of enterprise budgets and other budgeting work carried on at the University of Wisconsin–Madison by Cooperative Extension farm management specialists over the past four decades. Cooperative Extension farm management and other subject matter specialists along with College of Agricultural and Life Sciences faculty members were involved in this budgeting work.

General Suggestions

It is **strongly suggested** that the user first read these “Suggestions for Use” very carefully. Then a copy of the program should be made and stored in a safe place. The program can then be installed on the hard disk or alternately kept as a working copy on another floppy disk. This working copy can be used to enter example input data to see how the program operates. Be sure to keep at least one extra blank copy of the program to use as a current working copy.

An example budget is shown on the worksheet entitled *Dairy Sheep Example*. To become better acquainted with the program, it is suggested that the user put the example entries into the worksheet entitled *Dairy Sheep Budget Test*. In that way users can better see how the program handles the input data and how the input data results in the output data format. **Important: Input data should only be entered in the yellow shaded areas of the worksheet.**

The budget format as well as the entry section might seem at first look to be very long and complex. However, it is not! The reason for all the potential entries is that the program has been designed to serve many different types and kinds of users as well as varying kinds of dairy sheep and sheep enterprises. Thus, several kinds of entries and output sections must be made available to serve this very broad group of potential users. Most users will only use a fraction of the program input cells. Creating a multi-use dairy sheep budget format necessitated having many entry possibilities to accommodate the various potential users. Each user can select the entries that best fit their situation.

Contents of the Program

The program was written using Microsoft Excel 2000 with the Workbook format using a separate worksheet for each budget. These sheets can be accessed by clicking on the appropriate worksheet tabs. The sheets and tabs are as follows:

Intro. This is a brief statement that directs the user to this “Suggestions for Use” publication on how to best use the program.

Dairy Sheep Budget Example. Clicking on this tab brings up an example budget for users to study and help them understand the program.

Dairy Sheep Budget Test. Clicking on this tab brings up a blank budget so that users can make entries (preferably from the example budget) to become familiar with the program input and output. They then can enter their first version of their own budget here.

Dairy Sheep Budget #1. Clicking on this tab brings up a blank budget format so that users can make their own entries and build their own budget. Users may want to test variations of their “test budget” here.

Dairy Sheep Budget #2. Clicking on this tab brings up another blank budget format so that users can make their own entries and build a second budget for comparison.

Having extra blank budget formats enables users to build more than one budget so that comparisons can be more easily made. Also users can change a crucial variable(s) so that they can readily measure the impact of specific change(s) on the results. This helps answer the “What If?” questions so important in budgeting.

Enterprise Budgets

An enterprise is a single business undertaking for the purpose of making a **profit** to help enhance the **solvency** and **liquidity/cash flow** characteristics of a business so as to provide funds for adequate family living and savings over time as well as to maintain the physical plant of the business. Enterprise budgets are the building blocks of a total farm budget. An enterprise budget is a way to examine both the physical and economic characteristics of a specific enterprise. **Note:** the enterprise budget will use the *accrual basis*—that is **both cash and non-cash** costs and returns will be used. The enterprise budget is not a substitute for a detailed record system or farm business analysis. It is not designed to make any income tax, business arrangements or estate planning recommendations. Nor should it be viewed as a guide to social or environmental policy. An enterprise budget is not a partial budget and is not designed to be used in that way, but may provide data for a partial budget and ultimately test the effectiveness of a partial budget decision. Enterprise budgets are an aid to short run, long run and transitional budgeting along with helping users analyze the economic and physical characteristics of a specific enterprise. An enterprise budget should help users make better informed business decisions about managing their overall farm business.

In the budgets the term “slaughter lamb” is used for sheep raised primarily for meat purposes. The terms “breeder” or “production” sheep are used for sheep used primarily for furnishing breeder stock for the increase of sheep populations, while slaughter lambs are used primarily for consumer table use or direct consumption. The term “cull” refers to dairy sheep that

have reached the end of their productive lives. These “breeder” or “production” type sheep are sometimes referred to as “capital” sheep as opposed to the “slaughter” or “meat” type sheep.

Selecting Enterprises to fit your farm

Selecting appropriate enterprises is one of the most important planning tasks for a farm business manager. Dairy sheep production in the U.S. is very small and a relatively new enterprise. The dairy sheep flock manager must understand that they are dealing with more than one enterprise because besides the milk, the sheep are producing slaughter lambs and wool. Marketing is also a separate enterprise and because of the low numbers of producers, there is not a big market for sheep’s milk. The producer may have to process their own milk before they will be able to sell it.

There are three general types of enterprises—*competitive*, *complementary*, and *supplementary*. Most enterprises are *competitive* ones. That is they *compete* for resources. *Competitive* enterprises *compete* for economic resources such as land, labor, capital and management. Increasing the level of one enterprise reduces the resources required to have another *competing* enterprise. Most farm enterprises are competitive. For example, raising market hogs *competes* for the corn needed to feed out market lambs. Raising capons *competes* for corn that can be fed to growing ducks. In crops, corn grain *competes* for the acres required to be used in a soybean enterprise. Labor used for milking sheep is not available for shearing sheep.

A *complementary* enterprise adds to another enterprise when resources are limited. A *complementary* enterprise is one that increases its output while at the same time increases the output of another enterprise within the same farming system. The addition of legume hay into a crop rotation that includes corn is an example of a *complementary* enterprise if corn production either increases or remains constant. *Complementary* enterprises are extremely rare and only exist for a very few combinations.

A *supplementary* enterprise neither competes with nor adds to the production of another enterprise. Typically, supplementary enterprises utilize resources with low **opportunity costs** (explained below). For example a small flock of sheep or a few beef cows might use some small pasture acreage that has no alternative use and might otherwise go unutilized or underutilized. These *supplementary* enterprises may have use for some existing facilities and labor that would otherwise go unutilized or at least underutilized. Similarly a few dairy sheep might supply some food for the table. Much of their feed requirements could be met by scavenging feed. They would only require minimum additional feed and would *supplement* the farm income and not compete for any resources that might be profitably used in another enterprise. Resources not utilized by other enterprises are still treated as inputs in the supplementary enterprise. But the opportunity cost (explained later) of these inputs would be low or zero. The supplementary relationship ends as that enterprise becomes larger and starts competing for farm resources.

The budget format in this program allows users to show any of the three types of enterprises for a specific dairy sheep enterprise. Most enterprise budgets will be in the competitive mode.

Opportunity Cost

Opportunity cost is a very important economic concept for budget users to understand. Briefly, it is defined as the value of the output that was not produced because inputs were used for different purposes. In other words, opportunity cost is the value of a product not realized because resources were shifted to an alternative use. Managers can look at the opportunity cost concept in other ways. If a grower has to borrow money at an interest rate of 6%, that is the cost of capital. However, if the manager has an existing supply of capital that could be invested in the business and earn 10%, then the opportunity cost of that capital is 10%. Similarly, skilled labor during peak labor times has a much higher opportunity cost than during slack times. So, opportunity cost is the value of a scarce resource in its best alternative use.

Structure of an Enterprise Budget

The enterprise budget can be broken into several distinct parts. The first part is a description of the enterprise. This is followed by six sections. The first section shows the “Receipts” (both cash and non-cash) from the enterprise including any multiple products. These would include such things as milk from a dairy sheep enterprise or meat sales and cull ewe sales from a sheep enterprise. This is followed by the two parts of the second section entitled “Variable Costs” that includes (1) “Feed Costs” and another entitled (2) “Dairy Sheep Costs” for all the non-feed variable costs. Note that these costs can be also viewed as ongoing operational costs that are incurred when production takes place and can include both cash and non-cash costs. The third section shows the “Fixed Costs” for the buildings and equipment as well as for the capital (dairy or brood) sheep used in the enterprise. “Total Costs (excluding labor and management)” are shown in the fourth section. This is followed by the fifth section showing “Total Costs excluding and including a management charge.” The sixth section, “Returns”, looks at the returns over feed costs, returns over all variable costs, returns to labor and management, and returns to management on a per sheep (the producing unit), and per pound basis (the unit of production).

Building an enterprise budget

Here are the steps in building an enterprise budget. We will go into much more detail about actual entries in the next section.

Describing the enterprise

The first step is to develop a detailed description of the enterprise. This description could include the kind of dairy sheep (breed) involved, the size or scale of the enterprise, the buildings and equipment used, the health system to be used, the feeding regime to be followed, the technology used, any specific production practices followed, source of the labor supply and the time period of the budget. Special care must be given to selecting the appropriate time period for the budget. Some enterprises such as a dairy sheep flock will have a budget that encompasses a time period more than a whole year. Other enterprise budgets, such as feeding out a flock of lambs, will be substantially less than a year. Provisions have been made in the budgeting process to accommodate these

differences. See the directions for making these entries in the “Making the Input Entries” section below.

Selecting coefficients of production

The second step is to select the appropriate coefficients of production. These coefficients could include such things as pounds of gain per animal, amount of feed disappearance per pound of gain, rate of gain, cwt. milk per ewe, death losses, etc. Budget makers need to consider the level of production coefficients used consistent with the type of technology described. If new technologies are expected to be used, then the coefficients of production consistent with those technologies are the appropriate ones to be used.

Selecting prices

The next step is to select the appropriate *absolute* and *relative* prices for the inputs put into the enterprise and the outputs obtained from the enterprise. Absolute prices pay the bills, relative prices aid in the selection of appropriate enterprises and/or enterprise combinations. If the absolute price of corn is \$0.07 per pound and the absolute price of a cwt of sheep’s milk is \$30.00, producers will want to produce corn and not milk sheep. The relative price of corn vs. sheep’s milk guides enterprise selection between corn production and sheep milk production. If the price of corn and sheep milk both decline to less than the variable cost of production over several production periods, then producers might elect to go out of both the corn and sheep milk business because the absolute prices of their outputs will not allow them to recover their variable costs let alone their fixed costs. Great care must be used in making assumptions about price levels and relationships while building a budget.

Income

Income from all sources must be entered. This includes both cash and non-cash income. All sources of income must be used to obtain a valid budget. Some enterprises are multiple product enterprises. All those sources of income should be entered. This could also include “other” and “miscellaneous” non-specific items of income such as government subsidies, refunds, or any other income items not listed in the specified income sources.

Costs—Fixed and Variable

The cost part of the budget is divided into two parts—“Variable” and “Fixed.” The variable costs can be broken into two main parts—“Feed Costs” and “Dairy Sheep Costs.” Variable costs are only incurred when production takes place. Fixed costs go on regardless if production takes place or not. The fixed cost sections show the ownership costs of “Production Permanent Buildings,” “Portable Production Buildings,” “Production Equipment,” “Processing Buildings,” “Processing Equipment” and “Capital (purchased and raised) Dairy sheep.” Remember *capital* sheep are the replacement ewes and rams and the milking sheep whose primary purpose is milk production. It is crucial to distinguish between the variable and fixed cost parts of the budget as that will affect how

users would interpret the budget.

Some costs might fall into either or both categories. Labor is an example. If the labor already exists on the farm it is a fixed cost to the business. For example, if the operator is at the production unit all the time, that person's labor is "fixed" to that operation. If, however, that person could be (or is) gainfully employed at some other location, then that labor resource becomes a variable cost. Labor hired in is a variable cost.

Fixed costs generally are **D**epreciation (wear and tear along with functional and/or economic obsolescence), **I**nterest, non-use related **R**epairs, **T**axes and **I**nsurance—The **DIRTI** five! Poor spelling, but a good way to remember these very important costs. Those five DIRTI costs go on regardless if production takes place or not. The fixed costs of depreciation and interest are handled in the budget as the **Capital Recovery Charge (CRC)** using the **Capital Recovery Factor (CRF)**. The **CRF** is a combination of the depreciation and interest taking into consideration the time value of money. The **CRF** is also called an amortization factor. This is all laid out for users at the bottom of the input section. All that needs to be done is to follow the instructions on what to enter and where to enter it.

Calculating the fixed costs using the capital recovery charge

Calculating the fixed costs is the most difficult part of the budgeting process! It is a two-step process. The program does all the calculations for the user. To help the user better understand the process, we will describe the method used in making these calculations.

The first step consists of placing a value on the **capital** asset such as a building, a piece of equipment, a capital flock of dairy sheep, etc. The second step consists of calculating the **annual** cost for each of the fixed assets. Several pieces of information are required to do this. The user will need to supply the: (1) current *beginning value* of the asset as it enters the business; (2) the expected *salvage value* (if any) for the asset when it exits the business; (3) the expected *useful life* of the asset in the business and; (4) the *opportunity cost of capital* (e.g., an interest rate). **All of these variables (except salvage value) must be used in the program!** Placing the beginning value on equipment, livestock and new facilities is relatively easy. But many producers use older facilities. These values are more difficult to determine. The dollar amount to use for an older building can be determined by using an estimate of its value. That value might approximate the cost of the recent and/or expected improvements plus the cost of remodeling or other repairs to put the building in the needed functional condition. Some users may want to use the amount the building contributes to the market value of the farm real estate.

Fixed assets are divided into two groups. The first group is assets that generally depreciate in value over time due to wear and tear as well as functional and economic obsolescence. This includes most buildings, laying and breeding poultry, dairy and breeding livestock, and equipment. The depreciating fixed asset's costs consist of an allowance for the loss in value, an opportunity charge for the cost of capital invested (interest—the cost of renting money), and annual charges for repairs (non-use related such as roof replacement), taxes and insurance.

The second classification of assets—typically land—appreciates in value. In the case of an appreciating asset, the interest rate selected would be the regular cost of capital minus the percent annual estimated appreciation rate of the asset. For example, if the cost of capital was 8% and the asset was expected to appreciate at the rate of 3% per year, the interest rate selected would be 5% (8% - 3% = 5%).

The capital recovery charge can only be computed after (1) the beginning value of the asset, (2) the opportunity cost of capital, the expected lifetime and (3) expected salvage value of the fixed assets is determined. The opportunity cost of capital will depend on the user's liability/asset or debt/equity position. If the fixed asset is financed by borrowing money, users should take the interest rate being paid to the lender as the cost of capital. If the user is supplying their own capital, an interest rate equal to that of a return from relatively risk free investments such as Treasury bills could be used.

The capital recovery charge (**CRC**) is found by first computing the annualized loss in value of the fixed asset. This is accomplished by multiplying the loss in value of the fixed asset (its beginning value minus salvage value) by the capital recovery factor (**CRF**). This factor is also called an amortization factor and can be found in tables. The capital recovery factor or amortization factor formula is as follows: Capital Recovery Factor or Amortization Factor =

$$\frac{i(1+i)^n}{(1+i)^{n-1}}$$

where i = the interest rate or opportunity cost of capital and n = the number of years or length of the planning horizon. The capital recovery charge (**CRC**) is the sum of the annualized loss in value and the interest charge.

Here is an example of how the calculation works. Suppose there is a fixed asset with a beginning value of \$12,000 and a salvage value of \$2,000, resulting in a depreciable balance of \$10,000. Also, suppose the selected interest rate is 8% and the estimated useful life is 10 years. By going to the table or using the capital recovery factor (**CRF**) formula above, a **CRF** of 0.149 is determined. That factor times \$10,000 equals a \$1,490 **annual** charge to cover *depreciation and interest* costs every year for the ten year life of the asset. An annual interest charge on the \$2,000 salvage value is added to the \$1,490. At 8% that interest amounts to \$160 (8% * \$2,000) annually for a total of \$1,650 (\$1,490 + \$160) for annual interest and depreciation. \$1,650 / \$12,000 = 13.75% as an annual percentage charge. To that amount a percentage of beginning cost is added to cover non-use related repairs, taxes and interest—the **RTI** of the **DIRTI 5** fixed costs. Suppose the total of the repair, taxes and insurance annual costs amount to 3.5% of the beginning value. This 3.5% is added to the 13.75% for a total of 17.25% (3.5% + 13.75%). Thus, the annual fixed charge for the **DIRTI 5** for the \$12,000 fixed asset is \$2,070 (\$12,000 * 17.25%). This is the annual fixed cost charge.

Users should note that the program does all these calculations when the appropriate beginning value, salvage value, interest rate and expected length of life are entered along with the

RTI percentages. The final percentage calculation is then made and automatically taken to the fixed cost section of the budget for the user.

Returns

The returns section shows the return (cash and non-cash) over feed costs, return over all variable costs, return to labor and management, and return to management on a per sheep, per pound and per gallon basis. In the long run, the manager wants to recover all costs and have a return to management. In the short run, the manager wants a positive return over all variable costs. If variable costs cannot be recovered, there is no use in producing!

The budget returns section shows the monetary returns to the basic production unit—the milking sheep (production and slaughter) and to the unit of production—cwt of milk or pounds of meat produced. Also percentages of costs and returns are shown. This can aid users in the interpretation of the budget results.

Making notes about assumptions

The final step is to make appropriate notes as to the methods and assumptions used in constructing the budget. The assumptions used are crucial as to final results of the budget.

Making Input Entries Into The Budget

General suggestions

First read through this part of these directions to get an idea of what is required for the many various entries. Then scroll down to the bottom of page two of the program to the input entries section. Only make input entries in the **yellow shaded areas** of the input section. Users should be careful to only use those assumptions that are realistic and appropriate for their specific situation. On some cells, users will notice a small red triangle in the upper right corner. By putting the cursor on the triangle the user will notice a small dialog box appear with a message specific to that cell. These are there to help users interpret and better understand the budget. We strongly advise users to make use of this feature.

There are two general columns in the Input form—“Assumptions Used in the Budget” and “Suggestions for Entering Data.” The titles of these columns should give users some general direction as what would go in these columns. The suggestions column should help many users to obtain the information needed to make appropriate entries for their situation.

Extreme caution must be taken to make sure that the **all** costs and returns (cash and non-cash) are entered. Also do not make the mistake of entering things twice. The program has been designed to help users avoid these problems, but it is possible to enter things twice or not at all. Users must be very vigilant in making their entries.

Description of enterprise (Lines 100—109)

This description could include the kind of dairy sheep flock involved, the size or scale of the enterprise, the buildings and equipment used, the feeding regime followed, the technology used, any specific production practices followed, source of the labor supply, the time period of the budget, or any other appropriate descriptors of the enterprise. It should give the user and/or the reader of the budget a good basic understanding of what kind of dairy sheep enterprise the budget is showing. Readers should be able to easily understand the scope of the budget and the methods of production being used. In some cases a separate detailed explanation up should be prepared.

Capital items (Lines 110-125)

In this section, enter the requested information about the various capital items used in the enterprise. These would include such capital (fixed) assets as buildings, machinery, equipment and production (milking and brood) sheep. Enter the monetary value (opportunity cost) of raised sheep. This can be estimated by using the “farm gate value” (what the sheep could be sold for on the farm) of these sheep. The percentage of death for the **capital** sheep is calculated in line 124. Do **not** enter any lamb information in this section. This section should only be used for **capital** items used in the enterprise. Fixed cost information in the budget is generated from this input material.

Time period of the enterprise budget (special instructions for Line 122)

Some dairy sheep enterprises may not fit neatly into a calendar year. Therefore, figuring the fixed costs possibly might seem to be a more difficult and complicated procedure. However, setting up some general rules and procedures can make the task easier and should help the user to better interpret the output of the program.

If the enterprise budget is more or less than one year, try following these suggestions. In the input section “capital items” after the “description of the enterprise” note the line “Time period of the budget (in years)” This is **line 122**. **A number must be entered in this cell (B122)!!** Many users will want to enter “1” in that cell of the input until they decide on a better or more appropriate entry.

Here are some ideas to help users decide the length of the budget period they will want to have in their specific enterprise budget. Always remember that fixed costs go on no matter if the fixed asset is used or not used. So if you have an enterprise that will last for 9 months or 0.75 of a year, the use of 1 year would be the appropriate length of time **unless** those fixed assets would be **used** by and thus could be **charged** to another enterprise for the remaining 3 months or 0.25 of a year. Those dairy sheep enterprises involving capital type sheep such as milking and meat flocks will generally have length of enterprise periods of over one year. In that case a number of over “1” should be used. Another situation would be a batch of feeder lambs that would terminate in a several months. Be careful to include the down time the fixed assets have until another enterprise picks up the use and the costs of those fixed assets. If a dairy sheep flock will use the fixed asset facilities for one lactation period or 284 days, and then moved to a dry lot and the barn used for another

enterprise, then the length of the budget period is 284 days or 0.78 years for that dairy sheep enterprise. In most cases, the dairy sheep barn will be used all year for purpose of sheltering the flock and in that case a 1 year period will be used.

So there are three main time period scenarios users need to consider for their enterprise budget. They are: (1) less than one year (for those using fixed assets that can and will be used by another enterprise for the remaining part of the year), (2) one year (for those that are one year long or do not have an alternative use for the fixed facilities for the rest of the year) and (3) over one year (for those that have a use for the fixed assets for more than a year, including down time until another enterprise takes over the use of the fixed assets). Users will have to select which of these time frame scenarios best fits their situation.

Capital items and worksheet for the calculation of the capital recovery *factor* (CRF) and the capital recovery *charge* CRC) (Lines 199—218)

Budgeting capital items and calculating fixed costs is generally the most difficult part of the budgeting process, so we will start with it and get it out of the way! Users would be well advised to read up on the time value of money, interest rates, the concepts of value and money, the capital recovery *charge* and capital recovery *factor*, economic (not income tax) depreciation due not only to wear and tear but to functional and economic obsolescence, as well as the characteristics of fixed costs. It is not the function of these “Suggestions for Use” to present these important economic concepts in any detail. Many farm management publications are available to users to obtain this vital background information. We will try to guide the user through the process of making reasonable and appropriate entries into the program to fit their situation.

There are five kinds of fixed costs: (1) depreciation, (2) interest, (3) repairs–non-use related, (4) taxes–property, and (5) insurance. These costs are incurred even if no production takes place. These are not “nice” costs—they are “dirty” costs. They are sometimes called the *DIRTI 5*—not good spelling but a good way to remember the **five** fixed costs. Remember that these costs go on no matter if the asset is used or not or if the asset is only used for a fractional part of the year. See the discussion above “Time Period of the Enterprise Budget.”

To calculate the fixed costs users should supply the following information: (1) the beginning value of the fixed asset, (2) the estimated salvage value if any, (3) the estimated years of useful life in the enterprise, (4) the interest rate to be charged on the fixed asset, (5) the interest rate to be charged on the salvage value, (6) the average annual percentage of beginning asset value to be charged for non-use related repairs, (7) the average annual percentage of beginning asset value to be charged for property taxes and (8) the average annual percentage of beginning asset value to be charged for insurance. **Note 1: Items 1, 3, and 4 must be entered** for any capital asset that is entered for the program to properly work. Use item (2) “salvage value”, only when appropriate. If “Salvage Value” is used then Item 5 or the interest charge on the “salvage value” must also be used. *Items 6, 7, and 8* should be used if the user will have costs associated with these variables. Remember *Item 6* is for non-use related repairs to the fixed asset. All use related repairs are to be entered in the repair and maintenance section of the variable operating costs called “repairs and maintenance” above.

The beginning capital asset values are entered in the “Capital Items” section on the first several input lines (lines 110-125). Be sure to use realistic values and prices appropriate for the budget and the farm situation. Enter the beginning number of capital sheep (purchased and raised) and the ending number of capital sheep (purchased and raised) along with the appropriate beginning cost and/or value per sheep for the purchased and raised capital sheep. The income from any sales of capital sheep is to be reported in the “Income Items” section below. Thus, any death losses are accounted for by either lack of income and/or the costs associated with those sheep that were lost.

The time period of the budget (line 122) should also be entered as discussed in “Time Period of the Enterprise Budget” above. In some cases this will be less than a full year or over a full year. Enter this information in a decimal, not fractional form. For example, 12 weeks is 0.2308 years ($12/52 = 0.230769$). The percent of death loss of the capital sheep is calculated for you. The other required capital item information is found at the end of the input section in the “Worksheet for Calculating the CRC (Capital Recovery Factor) and RTI (Repairs, Taxes and Insurance)” Lines 199-218. Now proceed to that section.

The beginning values (Col. B, Lines 210—216) have been automatically brought down based on the above information. Next enter the “Salvage Value” (Col. C) if any. Remember this is **not** an income tax program, but is an economic program. Estimate if there will be any marketable alternative use for the asset when it leaves the business. In many cases salvage value will be small or nonexistent. The “Years of Life” (Col. D) is the user’s best estimate of how long the asset will be useful in their business before it is disposed of and/or replaced due to wear and tear and/or economic and functional obsolescence. The next two columns call for an interest rate entry. “Interest rate Charged” (Col. E) should reflect the interest being paid or desired for any dollars invested. This enables the program to calculate the capital recovery *factor* or *amortization factor*. That factor recognizes both depreciation and the time value of money. The second interest rate (Col. F) is **only** used to compute the capital use charge for the money remaining in the salvage value, if any.

The next column, “Percent Non-use Related Repairs” (Column A Lines 211—215) is used to calculate the on going repairs that a fixed asset requires, regardless if it is used or not. Repairing foundations, re-roofing buildings, painting exteriors, etc. are examples of this. Note the red triangle in the upper right corner of these cells. It is there to assist users in finding the correct line matching the asset information entered directly above. The “Percent Insurance” (Col. B) and “Percent Property Taxes” (Col. C) columns are to be used for entering the percent of “Beginning Value” that these two items will require. One could take last year’s insurance bill and divide it by the “beginning value” amounts to come up with percentage number. Do **not** enter these values in the operating expense section as we want to keep the fixed and variable cost information separate.

Percentage repair costs for buildings might range from 3%-15% of beginning value while the figure on machinery and equipment might fall in the range of 5%-20%. These percentages will be highly dependent on the original condition of the assets, the level of use along with the general care the asset receives over its useful life. For the tax and insurance percentages it is best to average the last 2-3 years property tax and insurance bills and divide those numbers by the beginning value to

arrive at an appropriate percentage rate.

From this information, the program will calculate the fixed costs that are shown in Section III “Fixed Costs.” The CRC (capital recovery charge) and RTI (repairs, taxes, insurance) data is automatically moved to that section. Also the percent death loss for capital birds is calculated. We are now finished with the fixed cost section and can move on to the other data input.

Feed costs and (BIPP minus EIS) (Lines 136—153)

The feed section of the variable cost section is to be used exclusively for feeds—home grown and purchased. The home grown feed inputs should be valued at their “opportunity cost” so as to reflect only the economic impact of the specific enterprise under consideration. For example, home grown corn should be priced at its “farm gate value” or “opportunity cost.” If the corn could be sold at the farm for \$0.035 per pound, the dairy sheep enterprise using that corn should be charged that price. Corn obtained from others should be priced at its purchase price. Pasture should be charged at the going rate for annual rental rates for land in a forage crop. Harvested forage can be estimated by weighing sample bales or making cubic measurements of the storage facility.

Assumptions about feed consumption should be based on actual feed disappearance not on estimates based on feeding trials or other types of measured experiments. **Disappearance** is the crucial word for budgeting purposes. ***Disappearance = (BIPP - EIS) or Disappearance equals (Beginning Inventory + Production + Purchases) minus (Ending Inventory + Sales).*** This is a vital equation! Disappearance of feed includes what the cats, rats, wind, or sheep received. We want to measure what disappeared not necessarily just what the sheep actually consumed. Remember an enterprise budget is **not** a ration balancing program, nor a nutrition study. The budget only wants to measure physical disappearance and the value or cost of that disappearance.

The feed section is set up to allow the user maximum flexibility in entering feed information. There are several lines (specify) that allows the user enter their own titles for feeds. These flexible lines, along with the titled lines should cover most situations. In Column A, users can enter the specific feeds being used. Most users will only use a few of the available lines.

Income Items (Lines 154—164)

All cash and non-cash income and physical amounts sold are to be entered into this section. All sources of income must be used to obtain a valid budget. Some enterprises are multiple product output enterprises. All of those several sources of income should be entered. This would include “miscellaneous” and “other” non-specific items of income. Most users will only be using 2-4 lines of this section. A dairy sheep producer will have “Milk” sales but they may also have sales of “cull ewes,” “feeder lambs,” “wool,” etc. Be sure to enter both the “Price per Unit” and “No. of Units” information.

Physical information (Lines 126—135)

This section collects information concerning only the **slaughter** or **non-capital** sheep. Users should enter relevant numbers concerning the beginning and ending number of sheep, cost (for purchased sheep) of purchased sheep, or value (for raised sheep) and the weight of these sheep at the beginning. The number of purchased slaughter lamb, cost of purchased slaughter lamb, market value (opportunity cost) of raised slaughter lamb, the information on sheep sales (number of sheep and weight) and the monetary value of sheep sold and/or consumed are to be entered in this section. The only monetary values to be entered in this section are for the beginning cost of purchased sheep to be entered in cell B127 and the value (opportunity cost) of raised sheep to be entered in cell B129.

In cell B127 enter the cost per sheep of sheep purchased for slaughter purposes such as feeders. In cell B128 enter the number of these sheep. In cell C128 enter the per sheep weight (in decimals) of these purchased sheep. The per sheep market value (opportunity cost) of raised slaughter type sheep should be entered in cell B129. The number of raised slaughter sheep should be entered in cell B130 while the weight per sheep (in decimals) should be entered in cell C130. These slaughter purpose sheep should be viewed as “feeder sheep” or the sheep that are brought into the enterprise for the purpose of growing out to a marketable weight. The number of sheep “sold” or “consumed” is a calculated number based on the number of sheep entering the enterprise through purchase or through being raised on the farm and the number of sheep reported as sold, consumed or remaining in inventory. In cells B131 and B132, enter the numbers of raised and/or purchased sheep that were sold, consumed, or remain in inventory.

In cells B131 and B132 enter the data for the sheep that were remaining in inventory. For slaughter sheep enterprises it is highly unlikely that there would be sheep left in inventory. Most slaughter enterprise budgets would start with zero inventory and end with zero inventory. The slaughter sheep would be brought into the feeder/grower enterprise as lambs and fed out and then sold (or consumed) by the time enterprise was completed. Thus, there likely would only be sales (or consumption) of raised lambs and/or purchased lambs reported on these lines. But be sure to include the sales numbers of lambs along with the consumed and remaining inventory lambs in the ending inventory number for both raised and/or purchased sheep. This is important to get the correct production data for the enterprise. In cell B133 enter the average weight for the sheep that were sold, consumed, or left in inventory.

Reporting the number of sheep can be a bit tricky, it will depend on the size of the enterprise! But by carefully thinking through the number of sheep entering the enterprise, the number of sheep actually sold (or consumed) and the number of sheep left (if any) at the end of the enterprise, users should be able to make the appropriate sheep number entries.

The percentage death loss of the non-capital or slaughter sheep is automatically calculated and reported in cell B134. This is for your information only and will not appear in the output section.

Labor information (Lines 165—179)

The labor information gathers data about both *paid* and *unpaid* labor as well as dividing the

labor used into three distinct usage categories—*production, processing, and marketing labor*. Labor used for producing milk or meat is considered “production labor” while labor used for processing the milk or meat is called “processing labor.” “Marketing labor” (not marketing cost items) hours (if applicable) could be entered here if not included in the “production” labor hours above or included in the “overhead labor” calculation.

Some labor is paid “hired” labor. All costs associated with that labor including perquisites (fringe benefits) should be entered on the hired labor lines. Unpaid labor charges are the “opportunity cost” of labor (generally family) that is available but not on the regular payroll. The local going farm wage rate is a good guide as to what to use for this estimate. On farms that have more formally organized business arrangements, it is safe to assume much or all of the labor is “hired” by the “farm organization” and thus is called “hired labor.” Also on many farms family members are paid a wage and therefore should be treated and recorded as hired labor. The amount of labor hours used can be gathered from the wage statement given to hired workers. Unpaid labor hours should be estimated based on a daily time log. Do not forget to enter some time for “overhead” labor hours. This would include such items as professional reading, attending meetings, writing advertising, record keeping, filing taxes, tending to legal matter, making selling and purchasing decisions, etc. In many cases, 10%-15% of the regular labor hours can be added to the total labor use to cover these items.

Generally professional farm managers charge a percentage rate (generally 2-5%) of the farm gross and/or the calculated “value of farm production” for providing the management input into the farm business. Therefore, there is a line to enter that percentage management charge (that is **not** represented in any of the labor charges) on that line. Some users may want to account for the management input in the labor entries. But recognition of management costs should be made someplace in the budget.

Other operating expenses (Lines 180—197)

These “Other Operating Expenses” are all the *non-feed* variable costs associated with this specific dairy sheep enterprise. The line titles and suggestions for use statements should give users some guidance in making the most of the appropriate entries. Also use the “balloon” suggestions from the red triangle in the upper right hand corner of the cell involved for some extra guidance.

Note that every user has their favorite terminology for the several cost items involved in any specific enterprise. We could not put every one of them in because of space limitations. But we are sure that innovative and creative budgeters would find a category in the list they are not using. They then could use that line to put in their own favorite category entry there, recognizing that the line title would be incorrect, but they would understand what it meant. That could be noted in the footnotes in the budget.

Utility, power, and fuel costs, especially milk house expenses, are a significant cost for many producers. Lines 189 and 195 accommodate these cost items. Users can decide where they wish to include these costs and enter them there. Line 191 is for “use-related” repairs only. These are

variable costs and only occur if production takes place. The “non-use related” repairs are to be entered in the fixed costs section.

Some guidance might be helpful as it relates to the slaughter sheep. Most of the data for these sheep is captured on lines 126-135 and is carried to the appropriate parts of the budget automatically. Note that cell B192 “slaughter sheep purchased” is a calculated number and that cell is **not** shaded yellow and thus no entry should be made there. The “raised slaughter sheep” data also comes from lines 126-135 and is transferred automatically to the appropriate parts of the budget.

The cost and number of the beginning (purchased and raised) slaughter sheep is calculated from information gathered directly from lines 127, 128, 129, and 130. It is then shown in the completed budget under “Dairy Sheep Costs (other variable costs)” on the lines entitled “slaughter sheep (purchased) cost” and “slaughter sheep (raised) cost.”

While it is not necessary to make an entry in cell B197 to make the program run, it is important that most users make an entry here. A certain amount of the business working capital is tied up in the production of the enterprise and therefore the business should be charged for the use of that capital. The interest rate to be used for the operating capital (that is, the interest charged for the dollars of variable costs used in the production process) should be entered in this section in cell B197. If the money is borrowed, use the interest rate being paid. In other cases use the “opportunity cost” of the capital being used.

The death loss information needs some further explanation. The percentage death losses have been computed and are shown as percentage numbers in the entry part of the budget in the “Capital Item” and “Physical Information” section of the input. The cost of these losses is reflected in the costs incurred while there is no corresponding income stream. Thus, by including the costs with no income stream, the cost of the death losses are accounted for in the budget. The death loss percentage computation allows users to see the death loss percentages.

Footnotes to the budget (lines 219-226)

This space should be used to enter any explanatory information relating to the budget. In some case additional separate pages might be very useful in explaining the budget.

Using the enterprise budget

The enterprise budget shows the farm manager several things. First, it shows the **profitability** characteristics of that enterprise and assists the manager in enterprise selection. Obviously managers do not want to select enterprises for their farm businesses that do not show profitability over the long run. The enterprise budget can also show the **liquidity/cash flow** characteristics of the enterprise. If the enterprise is profitable it has the potential to improve the manager’s **solvency** position over time. Most importantly, it shows if the enterprise can have a positive return over variable costs in the

short run. If an enterprise cannot cover variable costs, it should not be attempted. If an enterprise has good profitability characteristics over the long run and can cover something over variable costs in the short run it might be a good idea to continue it. Enterprise budgets can be used to build total farm budgets and to help construct partial budgets and transitional budgets. It also can be used to help guide effective record keeping.

The percent costs and returns shown in the budget should help the user analyze enterprise cost and return characteristics of each budget item. Three crucial questions to be asked about cost and return items are: Is it important? Is it controllable? Can something be done about it quickly or, in other words, what about the timeliness of the action? For example, labor certainly fits these criteria. It is the single largest cost in most dairy sheep operations. The manager controls the milking regime. And a change in the milking will show itself in performance quite quickly. This type of analysis can help managers improve the profitability of the operation.

Returns are shown on a production unit (per sheep) basis and a unit of production basis (per unit) basis. The returns are grouped into several categories: (1) total or gross receipts; (2) return over feed cost; (3) return over all variable costs; (4) returns to labor and management; (5) returns to management. With the assembled data the manager could very easily make some other calculations and let the residual returns flow to some other variable that was important to their operation.

It should be noted that the returns per sheep data used the beginning number of capital sheep in the dairy sheep operation. Returns per unit of output was calculated using actual production numbers based on the number of units of milk sold.

Summary

Enterprise budgets are the building blocks of a total farm budget and are also useful as an analytical tool. The budgets can be used for many purposes to enable the farm manager make better decisions about more effective and efficient management of a dairy sheep enterprise. Careful use of enterprise budgets can provide data for better farm business decision making.

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