

**User's Guide for the
Mississippi State Budget Generator
Version 6.0 for Windows**

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Getting Started

This document discusses the features of this version of the Mississippi State Budget Generator (MSBG), a modification of previous versions. Since several new features have been added to this version of MSBG, it is important to understand them before starting. In general, users should be familiar with the principles involved in developing crop and livestock enterprise budgets before attempting to use this program.

The sections of this document are also found in MSBG's Help screens, which may be accessed by selecting the Main Menu Help option, or by pressing the F1 key at various points within the program.

Overview

Enterprise budgeting and whole farm budgeting are tools used by farm managers to aid decision-making. The information derived from budgeting includes estimates of income, expenses, and net income for a specific enterprise or a whole farm plan. Budgeting allows the decision maker to systematically evaluate alternative plans "on paper" in an attempt to determine the plan which maximizes profits. Computerization of budgeting procedures increases the speed at which budgets may be developed and should improve the accuracy of income and cost estimates.

The Mississippi State Budget Generator (MSBG) is a Windows version of earlier developed programs [1, 2, 3]. It is a menu-driven computer program designed to calculate costs and returns for individual crop and livestock enterprises and whole farm plans on an annual basis.

This version of MSBG was designed to provide consistent calculation methods and ease of operation for the user. Five fuel types and up to 99 user-defined labor types may be selected in the budgeting procedures. Machinery "multipliers" of several types are provided to allow tractor usage to be a function of implement usage and to allow tractor fuel consumption to be modified based on the draft requirements of the implement being pulled. Labor "multipliers" are provided to allow powered machinery operator labor time to be a function of powered machinery time. Also, additional labor can be associated with individual specialized implements. Unallocated labor (or overhead labor) may be specified as a multiple of operator labor. Twelve different budget reports are available for viewing and printing the estimated costs and/or returns for an enterprise budget. Two enterprise budget reports may be saved as semicolon delimited files for use in spreadsheet applications. The use of operating input categories and residual cost items adds even more flexibility to the content and format of enterprise budget reports. Four reports are available for a whole farm plan.

MSBG requires a Windows compatible computer with Windows 95 or higher. The MSBG program and its associated data files are distributed in two forms (described in the Installation section below). MSBG is compiled in Visual FoxPro 7.0 [4].

The Help screens explain various components of MSBG and briefly describe how to create enterprise budgets and whole farm budgets. Users are encouraged to read the Helpful Hints and

Glossary sections before beginning. There is also a section that lists all the formulas MSBG uses to calculate income and cost values.

Installation

There are two ways to receive MSBG: on a CD or downloaded over the Internet. Installation for each method is described below. MSBG is distributed with the latest input and budget data files from the Department of Agricultural Economics at Mississippi State University. A shortcut file will also be created during the installation procedure and can be copied to the desktop for easier access to the program.

CD. Insert the distribution disk into the appropriate drive. From the Start button on the Windows desktop click Start, then click Run. Locate the CD drive and run (double click) the file named MSBG.exe. Click on this file and follow the instructions given by the setup program. The setup program will install MSBG v6.0 and all its associated files into a folder named MSBG60 (the number 60 refers to the version number).

Download from the Internet. Note the location on your hard disk for the download. After you have downloaded the program (MSBG.exe) to a disk location on your computer, locate the MSBG.exe file you downloaded from your Windows Explorer and run (double click) this file. Follow the instructions given by the setup program. The setup program imbedded within MSBG.exe will install MSBG and all its associated files into a folder named MSBG60 (the number 60 refers to the version number).

CAUTION: Do not change the name of the MSBG60 folder for any reason because MSBG requires this specific name to operate correctly. In addition, several other folders residing within the MSBG60 folder will be created during installation, and their names must never be changed.

Helpful Hints

There are ten data files that contain the names and related cost information for all the resources that the farm will use in the production of its enterprises. There is one file for the products that the farm will produce. The more accurate the information entered by the user, the better the cost and return estimates will be.

Users should make backup data files after each budget building session. These backup files could be very useful in the event that some unforeseen problem occurs with the data files.

The Operating Input Category file adds substantial flexibility for modifying budget reports for individualized needs. Carefully selected category names are especially useful in cash flow analysis. Considerable attention should be devoted to establishing a set of categories appropriate to the user's needs.

The enterprise budget routine requires selection of items that have been stored in the various input/product data files. Before building enterprise budgets, be sure that the necessary items have been entered in the input/product data files. Similarly, the whole farm plan requires

selection of previously created budgets. The user should be sure that all budgets desired in a whole farm plan have been created before attempting to obtain whole farm plan reports.

The Copy Budgets routine (accessed from the Utilities option on the Main Menu) may be used to create new budgets that are similar to existing budgets. The user may then edit the newly copied budgets using normal budget building procedures.

The user should be aware that the names of data items appear on reports exactly as entered. Thus, the user should be aware of the capitalization style used. One recommended style is to use upper case letters for the first letter in an item name (e.g., Roundup, Pioneer 95B42); lower case letters for units of measure (e.g., gal, bu); and all upper case letters for Input Category Names (e.g., SEED, FERTILIZER) and labor types (e.g., OPERATOR LABOR, IRRIGATION LABOR).

Main Menu

MSBG contains the following Main Menu options: Files, Inputs, Budgets, Whole Farm, Reports, Utilities, Options, About, Help, and Exit. A description of the function and operation of each of these options is given in the respective sections that follow.

Files

The Files option provides a drop-down menu that allows users to specify the data file sets that MSBG will use during the current budget building session. In addition, other file manipulation functions, such as combine budget data sets and delete data sets, are provided. Clicking on one of the items listed on this menu will cause MSBG to open dialog boxes or other user-input devices to allow the user to specify certain tasks related to input data sets and/or budget data sets.

Create New

This selection allows the user to specify a name for a new (empty of data) MSBG “data set.” The name of a data set is actually the name of the “folder” in which the various MSBG data files will be located. MSBG requires two types of data files to complete the enterprise budgeting activity: “input” data files and “budget” data files. MSBG input data files will contain information about various resources used to produce crop or livestock enterprises, while MSBG budget data files will contain specific information about each enterprise that might be produced. The budget data files (named by MSBG) within a particular budget data set (named by the user) will utilize information stored in the input data files (named by MSBG) within a particular input data set (named by the user). Therefore, the user should always be aware of the two data sets that MSBG has access to during each budget building session.

After selection of this menu item, two additional menu items appear: Input Data Set and Budget Data Set. Click on either of these items and a dialog box appears which requests a name for the data set. Data set names can be up to ten characters long, but cannot include blank spaces. Names should be descriptive of the data that will eventually be stored, such as a farm name, crop name, or data source name. Sometimes inclusion of the year in the name is helpful. Upon clicking the OK button in the dialog box, MSBG will create a new folder and all required (empty) data files. These data files are ready for data entry.

Open

This option allows the user to specify which data sets to use in the current budget building session. Both an input data set and a budget data set must be opened before any data can be accessed for entry, editing, or report generation.

Click on the Open menu item and a dialog box will appear. There are two data set types in MSBG: input data sets and budget data sets. First, select a drive letter by clicking one of the drive selection buttons. At initial installation, the MSU data files are installed on drive C:\. Drive C:\ is the default drive, but other drives (A, B, and D) may be used to store MSBG data files. Clicking on the spinner at the edge of the text boxes in this window will list the existing data sets located on the specified drive. Click on one data set of each type and then click OK.

The data files in the opened data sets are now available to the MSBG program during the current session.

Close

Selection of this menu item will remove all opened data files from memory. The user will not be able to alter any of the data files at this time. If the user wishes to continue the budget building session, then other data sets must be opened.

Save as

This menu option allows the user to copy the data files in a currently open data set to another location while leaving the original data files unchanged. This item is unavailable until data sets have been opened with the Open menu item. With the “Save as” menu item, the user will specify a new drive and /or data set name. After the files have been saved, the user may edit them without affecting the original data set.

Selection of this item leads to two additional items: Input Data Set and Budget Data Set. Click on either of these items and a dialog box appears which requires a drive selection and data set name. Data set names can be up to ten characters long, but cannot include blank spaces. Names should be descriptive of the data that will eventually be stored here, but different than the currently open data set if the new drive is the same as the currently open data set. Upon clicking the OK button, MSBG will save the entire contents of the currently open data files to the new drive and data set name. At this point, the original data sets will be closed and the new data sets will be open.

Combine

This item allows the user to merge two budget data sets into one new budget data set. The new budget data set will contain all budgets from both original data sets, but they will be renumbered in sequential order. Before using this feature, the user must close both data sets. In addition, only budget data sets that reside on drive C:\ may be combined.

Upon selection of this option, a dialog box will appear that allows the user to select two **existing** budget data sets to be combined into one new budget data set. The spinner in each of the first two text boxes should be clicked and budget data sets to be combined clicked and highlighted. A name for the new budget data set must be supplied in the third text box. Clicking OK will cause MSBG to merge the two budget data sets. The user may then open the new data set and continue the budget building session.

Note: The Utility option on the Main Menu has a feature that may be used to renumber budgets in a budget data set. In addition, the Budget option on the Main Menu allows a user to create new budgets in, or delete existing budgets from, a budget data set.

Import v5.x Files

In MSBG v5.x, the nine input data files and the three budget data files had a particular format. In MSBG v6.0, the format of these data files has been altered. Thus, any v5.x data files will need to be converted into the new format to allow MSBG v6.0 to access them correctly.

After clicking on the Import v5.x Files menu item, click on Input Data Set or Budget Data Set to obtain a selection box. Click the spinner and select the data set to be imported. Data sets residing in C:/MSBG99 are available for import. Provide the new name for the data set to be imported. The name can be the same as the import name. The content of the data files will be copied from the folder MSBG99 to MSBG02 and appropriate data structure changes will be made automatically. The original data files in the folder MSBG99 will not be affected in any way.

Note: The “Other Durables” file from MSBG v5.x will not be transferred into MSBG v6.0. The user will have to rebuild the new Single Durable Inputs file and/or create Durable Input Budgets as needed. Also, any “Other Durables” that had been selected in old budget files will not be transferred into new budget files. The user will have to reselect those items from the new Single Durable Inputs file.

Note: Any labor that had been specified as Additional Labor in old files will not be transferred into the new files. The user will have to enter appropriate labor types into the new Labor file and select them in the new Self-Propelled Machines and Implements files.

Delete

Deleting existing input and/or budget data sets is the preferred method of destroying any unwanted data files in MSBG v6.0. Again, two types of data sets can be deleted: input data sets and budget data sets. Users can simply delete unwanted data sets via this option.

After clicking the Delete option, click either Input Data Sets or Budget Data Sets. Then specify a drive and click on the data sets to be deleted. Clicking the OK will bring up a dialog box that requests confirmation of your choice. Clicking “Yes” will cause MSBG to remove all the data files in the specified data set folder from that location.

Note: Users should only use this Delete option when they are confident that the removed files will not be needed any more.

Exit

Clicking on this menu item will cause MSBG to close all opened files before terminating. Then Windows will resume control. This item is also listed as the last item on the Main Menu. MSBG may be restarted in the usual fashion for subsequent budget building sessions.

Inputs

The Inputs option provides a drop-down menu that allows users to access any of the eleven data files that comprise the “opened” input data set. Clicking on one of the items listed on this menu will cause MSBG to open a dialog box that allows the user to alter any data item residing in the selected file.

Clicking an item from the Inputs drop-down menu leads directly to a dialog box that allows the user to add, edit, or inspect data, or add and delete “records” in the selected file. A “record” is a computer term that represents the “numbered location” in which all data related to a particular

item is stored. That is, the data displayed on a dialog box is the data for one record in the data file. The user “moves” through the file one record at a time. Each dialog box functions the same for every data file with the exception of Universal Parameters, which will be discussed separately.

When accessing an “empty” file, the user must first “create” a new record for the file by clicking on the Add button, which is located at the bottom of the dialog box. The user will need to click the Add button to create a new record every time a new record is needed. Once records have been created, the user may access them by clicking one of the four buttons located at the bottom of the dialog box: Top, Next, Previous, and Bottom.

Once the user has access to a specific record (even a new, blank record), the user must click inside an edit box to gain access to that data item. Once there, the user may enter new data or alter old data. MSBG saves any changes automatically. Pressing the Enter key will move the cursor from one edit box to the one below it. Once a new record has been added to a file, it will remain a part of the file even if the user never entered any data there. Thus, a blank record (that may have been added by mistake) may need to be deleted; do this by clicking the Delete button at the bottom of the dialog box.

The Browse button on a dialog box will open a window that functions like a spreadsheet. The user may scroll through the whole file as a convenient way to inspect the data. Corrections to the data may be made in this window if necessary. **CAUTION:** Users should be very careful when directly editing data files since no checks or safeguards are provided to prevent erroneous data entry. Users can easily corrupt data using this feature unless they have a full understanding of the inner workings of the program. However, advanced users with that understanding may find this feature useful in some circumstances.

When a record is created, it is automatically assigned a record number. This number is normally hidden from the user, but is used by MSBG to access data for various computations. The user can remove a record by clicking the Delete button, but the record is actually only “marked” for deletion; that is, the user will not be able to see or access the record, but it will remain in the data file. Deleted records are never really purged (i.e., physically removed) from a data file because MSBG’s numbering sequence used to store and recall budget data would become corrupted.

Note: Suppose the user is building a budget and selects an item from one of the input data files to be a component of the budget. After the budget is built, the user goes to the input data file dialog box and deletes the input item from its file. This deletion will not alter the existing budget because the input item has not actually been removed from its input file; it has just been hidden from view. The user may think the deleted input item is no longer a part of the existing budget, but it will continue to remain in the budget and all computations related to it will remain unchanged. Extreme caution should be exercised not to delete an input item from its input data file if the item has been referenced in an existing budget. Deleting an input item will not cause a problem if it has never been selected to be in a budget. Since budget data files will specify and access many of the records from the eleven input data files, it is very important that the user maintain the input data files correctly.

Universal Parameters

The Universal Parameters file allows the user to specify prices of five types of fuel, annual interest rates on short-term operating capital and intermediate-term investment capital, and optional budget title extensions and footnotes. These data will be used to calculate fuel and interest costs in every budget report that is created with the current input data set. If a fuel price or interest rate needs to be changed, its new value may be entered in this file. Then, new budget reports would be created to reflect the new fuel prices and/or interest rates.

The user should note the units of measure for the five fuel types. An interest rate should, for example, be entered as 5.25 for five and one-quarter percent instead of 0.0525. If a fuel price or an interest rate is left blank, any computation using it will treat it as a zero.

The title extension is useful when a series of budgets will be produced that refer to the same general location or time period, such as “, Delta Area of Mississippi, 2003.” The user should remember to enter punctuation marks where appropriate and to use a desirable capitalization format. This information will appear on various reports exactly as it appears in its edit box.

Labor

This file is used to specify different labor types and wage rates. All machine driver labor defaults to the first record in this file, which has been entered as “OPERATOR LABOR.” However, the user may change this name if desired. The user may also select another labor type in the machinery files. Labor specified for “single durables” and “special labor” within the budget building process draws from this labor file as well.

Name/Type. The user may enter a name to represent a particular type of labor, or a specific person’s name.

Unit of Measure. This is normally “hour,” but could be some other unit.

Wage Rate. This is the payment per unit of measure. It will be use to compute labor costs in the budgets.

Comment. The user may enter any other information about this labor item that might be helpful to refer to in subsequent sessions. It will not appear in budget reports.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this labor item appear in these reports, the user should select “No.”

Tractors/Harvesters

This file holds data related to tractors, harvesters, and other powered machines that will be used to tow implements during field operations. The machine type must be identified (tractor or harvester). A tractor is capable of towing different implements. Some harvesting machines may be able to “tow” different headers, while others, such as cotton pickers, may not. MSBG gives the user the option distinguishing between a tractor and a harvester, and will report costs for both types of machines. If the harvesting machine will be used with different headers, the user will need to treat the headers as “implements” and enter their data in the Implements file. If a powered machine other than a tractor or harvester will be used to tow an implement, data for this powered machine should be entered in this file. Its costs will be included in either the tractor or harvester category, whichever one the user selects.

As the user enters the required data (described below), MSBG computes the machine's operating and ownership cost per hour and displays these values in a small table located on the right side of the dialog box. The sub-total of four expense items (labor, fuel, repairs and maintenance, and lease) is considered to be the machine's operating cost, while the capital recovery charge is considered to be the machine's ownership cost. (Labor and fuel costs use wage rates and fuel prices from the Universal Parameters file. The capital recovery charge uses the intermediate-term interest rate from the Universal Parameters file). Inspection of these per-hour cost values should help the user verify the data that has been entered and make necessary corrections to the data if necessary.

Data items for each machine are described below.

Name. Provide an identifier that describes the machine. It will appear on budget dialog boxes and reports.

Size. Usually the machine's horsepower, although MSBG does not use this value in any cost computations, so any identifier may be used here.

Fuel Type. Click the spinner and select one of the available choices.

Fuel Consumption Rate. The number of fuel units used by the machine per hour of operation.

Driver Labor Type. Click the spinner and select one of the available choices.

Driver Labor Multiplier. May be set to "1" to pay the driver only for the time that the machine is actually in operation, or some number greater than "1" in case the driver is to be paid for more time than is actually spent operating the machine. For example, entering "1.15" will cause MSBG to compute the driver's wages as being 15 percent greater than the time spent driving the machine. If this is left blank, MSBG will assume a zero and will compute wages for this driver to be zero.

Own or Lease. Select "Ownership Calculation" if the machine has been purchased. Select "Lease Calculation" if the machine has been acquired through some sort of short-term lease arrangement.

Purchase Price or Lease Amount. The purchase price is the amount paid (including any trade-in value) to acquire ownership rights to the machine. The lease amount is the expense incurred for the whole lease period.

Lifetime Repair & Maintenance. MSBG uses this value to compute the machine's expected expenditures (from the time of its acquisition until its disposal) that would normally be categorized as repairs or maintenance. For an "owned" machine, it is entered as a percent of the machine's purchase price. For a "leased" machine, it is entered as a percent of the machine's lease amount.

Annual Use. For an "owned" machine, this is the estimated time (in hours per year) that it will be placed in operation on the whole farm. For a "leased" machine, this is its expected total operation time (in hours) during its lease period.

Salvage Value. This is only for "owned" machines. The percent should represent the machine's expected disposal price as a percent of its purchase price.

Useful Life. This is only for "owned" machines. It is the expected time (in years) from initial purchase to disposal that an "owned" machine will be kept in operation. It is assumed that the machine will be disposed of at the end of the useful life and its salvage value will be treated as a cash inflow.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this machine appear in these reports, the user should select “No.”

Comment. The user may enter any other information about this item that might be helpful to refer to in subsequent sessions. It will not appear in reports.

Note: Percentages are expressed as whole numbers. For example, 75 percent is entered as 75.0, not as 0.75.

Self-Propelled Machines

This file holds data related to self-propelled machines (e.g., cotton pickers, hi-boys, etc.) that are used to perform field operations but that will not be used to tow implements. The costs of machines stored in this file will be categorized and reported as Self-Propelled Machines. If the user wishes a machine’s costs to be reported in the Harvester category, then its data should be entered in the Tractors/Harvesters file.

As the user enters the required data (described below), MSBG computes the machine’s operating and ownership cost per hour and per acre and displays these values in a small table located on the right side of the dialog box. The sub-total of four expense items (labor, fuel, repairs and maintenance, and lease) is considered to be the machine’s operating cost, while the capital recovery charge is considered to be the machine’s ownership cost. (Labor and fuel costs use wage rates and fuel prices from the Universal Parameters file. The capital recovery charge uses the intermediate-term interest rate from the Universal Parameters file). Inspection of these per-hour and per-acre cost values should help the user verify the data that has been entered and make necessary corrections to the data if necessary.

Data items for each machine are described below.

Name. Provide an identifier that describes the machine. It will appear on budget dialog boxes and reports.

Size. Usually the machine’s width (in feet or number of rows), although MSBG does not use this value in any cost computations, so any identifier may be used here.

Performance Rate. This is the expected time required by the machine to perform the field operation on one acre. It is measured as either acres per hour or hours per acre, whichever the user prefers. For example, if a machine can complete the field operation on four acres in one hour, its performance rate is 4 acres/hour, which is 0.25 hours/acre. After the user enters one of the measures and leaves that edit box, MSBG will compute and store the other measure. MSBG also has a Performance Rate Calculator that the user may access. It requires three data items: (1) the effective width (in feet) that is covered as the machine travels across the field (e.g., a 4-row cotton picker set for 30-inch rows would be measured as 4 times 30 inches divided by 12 inches, or 10 feet); (2) the speed as it travels across the field (in miles per hour); and (3) an efficiency rate (in percent) to account for time periods in which the machine is traveling below its normal speed (e.g., any time spent on in-field servicing or reductions in speed to make turns). The user may check the “Use this” box and MSBG will store this computed performance rate.

Fuel Type. Click the spinner and select one of the available choices.

Fuel Consumption Rate. The number of fuel units used by the machine per hour of operation.

Driver Labor Type. Click the spinner and select one of the available choices.

Driver Labor Multiplier. May be set to “1” to pay the driver only for the time that the machine is actually in operation, or some number greater than “1” in case the driver is to be paid for more time than is actually spent operating the machine. For example, entering “1.15” will cause MSBG to compute the driver’s wages as being 15 percent greater than the time spent driving the machine. If this is left blank, MSBG will assume a zero and will compute wages for this driver to be zero.

Additional Labor Type. This represents any other labor requirements, in addition to the driver, needed to operate the machine. If no additional labor is needed, leave this blank. Otherwise, click the spinner and select one of the available choices.

Additional Laborers. This is the number of laborers of the type specified in the previous data item. The number could be a whole number (such as 1 or 2) or a fraction of a number (such as 0.5 or 1.25). For instance, if one laborer can service two sprayers during a spraying operation, then each sprayer would require only one-half (or 0.5) of a laborer. If this is left blank, MSBG will assume a zero and will compute wages for the additional laborer to be zero.

Own or Lease. Select “Ownership Calculation” if the machine has been purchased. Select “Lease Calculation” if the machine has been acquired through some sort of short-term lease arrangement.

Purchase Price or Lease Amount. The purchase price is the amount paid (including any trade-in value) to acquire ownership rights to the machine. The lease amount is the expense incurred for the whole lease period.

Lifetime Repair & Maintenance. MSBG uses this value to compute the machine’s expected expenditures (from the time of its acquisition until its disposal) that would normally be categorized as repairs or maintenance. For an “owned” machine, it is entered as a percent of the machine’s purchase price. For a “leased” machine, it is entered as a percent of the machine’s lease amount.

Annual Use. For an “owned” machine, this is the estimated time (in hours per year) that it will be placed in operation on the whole farm. For a “leased” machine, this is its expected total operation time (in hours) during its lease period.

Salvage Value. This is only for “owned” machines. The percent should represent the machine’s expected disposal price as a percent of its purchase price.

Useful Life. This is only for “owned” machines. It is the expected time (in years) from initial purchase to disposal that an “owned” machine will be kept in operation. It is assumed that the machine will be disposed of at the end of the useful life and its salvage value will be treated as a cash inflow.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this machine appear in these reports, the user should select “No.”

Comment. The user may enter any other information about this item that might be helpful to refer to in subsequent sessions. It will not appear in reports.

Note: Percentages are expressed as whole numbers. For example, 75 percent is entered as 75.0, not as 0.75.

Implements

This file holds data related to equipment items (e.g., planters, disks, sprayers) that are used to perform field operations and are to be towed by tractors or harvesters. The costs of machines stored in this file will be categorized and reported as Implements. NOTE: Each implement will be attached to a specific powered unit from the Tractor/Harvester file, so data entry into that file should be completed prior to data entry into the Implements file.

As the user enters the required data (described below), MSBG computes the machine's operating and ownership cost per hour and per acre and displays these values in a small table located on the right side of the dialog box. Costs for the implement and the machine that tows it are computed. The sub-total of four expense items (labor, fuel, repairs and maintenance, and lease) is considered to be the machine's operating cost, while the capital recovery charge is considered to be the machine's ownership cost. (Labor and fuel costs use wage rates and fuel prices from the Universal Parameters file. The capital recovery charge uses the intermediate-term interest rate from the Universal Parameters file). Inspection of these per-hour and per-acre cost values should help the user verify the data that has been entered and make necessary corrections to the data if necessary.

Data items for each implement are described below.

Name. Provide an identifier that describes the implement. It will appear on budget dialog boxes and reports.

Size. Usually the implement's width (in feet or number of rows), although MSBG does not use this value in any cost computations, so any identifier may be used here.

Performance Rate. This is the expected time required by the implement to perform the field operation on one acre. For example, if an implement can complete the field operation on ten acres in one hour, its performance rate is 10 acres/hour, or 0.1 hours/acre. After the performance rate is entered in one of the edit boxes, MSBG will compute and display the other one. MSBG also has a Performance Rate Calculator that the user may access. It requires three data items: (1) the effective width (in feet) that is covered as the implement is towed across the field (e.g., an 8-row cultivator set for 40-inch rows would be measured as 8 times 40 inches divided by 12 inches, or 26.67 feet); (2) the speed as it is towed across the field (in miles per hour); and (3) an efficiency rate (in percent) to account for time periods in which the implement is traveling below its normal speed (e.g., any time spent on in-field servicing or reductions in speed to make turns).

Tractor/Harvester. The user must select one powered machine that MSBG will treat as the "default" machine to tow the implement. However, in the budget building routine, the user may override this "default" choice by selecting another powered machine to tow the implement.

Towing Unit Multiplier. This is used to determine the hours of tractor/harvester use in relation to the hours that the implement is in use. If a "1" is entered, the power unit use will equal the implement use. Entering a number such as "1.1" will cause power unit use to be 10 percent greater than the implement use. NOTE: If this is left blank, MSBG will assume it is zero and will not compute the operating costs of the powered unit.

Fuel Multiplier. This is used to determine the fuel consumption rate required by the implement in relation to the fuel consumption rate that was entered in the Tractors/Harvesters file. If a "1" is entered, fuel use will be equal to the rate in the Tractors/Harvesters file. Entering a number such as "0.95" will cause the fuel consumption rate to be 95 percent of the rate in the

Tractors/Harvesters file. NOTE: If this is left blank, MSBG will assume it is zero and will not compute the fuel cost of the powered unit.

Additional Labor Type. This represents any other labor requirements, in addition to the driver of the powered unit, needed to operate the implement. If no additional labor is needed, leave this blank. Otherwise, click the spinner and select one of the available choices.

Additional Laborers. This is the number of laborers of the type specified in the previous data item. The number could be a whole number (such as 1 or 2) or a fraction of a number (such as 0.5 or 1.25). For instance, if one laborer can service two planters during a planting operation, then each planter would require only one-half of a laborer. If this is left blank, MSBG will assume a zero and will compute wages for the additional laborer to be zero.

Purchase Price. The purchase price is the amount paid (including any trade-in value) to acquire ownership rights to the implement.

Salvage Value. The percent should represent the implement's expected disposal price as a percent of its purchase price.

Lifetime Repair & Maintenance. MSBG uses this value to compute the implement's expected expenditures (from the time of its acquisition until its disposal) that would normally be categorized as repairs or maintenance. It is entered as a percent of the implement's purchase price.

Useful Life. It is the expected time (in years) from initial purchase to disposal that the implement will be kept in operation. It is assumed that the implement will be disposed of at the end of the useful life and its salvage value will be treated as a cash inflow.

Annual Use. This is the estimated time (in hours per year) that the implement will be placed in operation on the whole farm.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this implement item appear in these reports, the user should select "No."

Comment. The user may enter any other information about this item that might be helpful to refer to in subsequent sessions. It will not appear in reports.

Note: Percentages are expressed as whole numbers. For example, 75 percent is entered as 75.0, not as 0.75.

Single Durable Inputs

This file holds data related to a wide variety of machines, equipment, and other durable inputs that are used in production but that do not perform field operations in the same manner as self-propelled machines or towed implements. This file might include items such as buildings, fences, grain storage facilities, and irrigation equipment. If a single durable input is selected in an enterprise budget, its costs will appear in various budget reports. Any direct cost item (fuel, labor, and repair and maintenance) will be reported in dollars per unit of measure of the durable input. Repair and maintenance will appear as a direct expense only if the durable input is "applied" to the enterprise. However, if the durable input is just "owned" (and not "applied"), then its repair and maintenance cost (if applicable) will appear as a fixed cost. As with other machines, any annualized capital recovery cost for a durable input is calculated and reported as a fixed cost in dollars per budget unit. NOTE: Users should give careful thought to the data items in this file because a durable input might not require entry of every data item.

Data items for each durable input are described below.

Name. Provide an identifier that describes the item. It will appear on budget dialog boxes and reports.

Application or Usage Unit of Measure. Different types of durable items can have different units of measure. For example, a building's usage might be "each" or "square feet," an irrigation pump may apply water in "acre-inches," and a truck's usage might be measured in "miles." The user should take great care in identifying an appropriate unit of measure since it will be referred to in several other places.

Operation Time per Unit (optional). This is an optional data item that, if entered, allows access to the next five data items. Some durable inputs (but not all of them) consume fuel and/or require labor while in operation. In order for MSBG to transform fuel and labor use per hour of operation into the item's application unit of measure, the user must enter either: (1) the time (in hours) required for the durable to generate one of its units, or (2) the number of units generated per hour of operation. After a value is entered (and another edit box is clicked), MSBG will compute and store the other value. MSBG will use this conversion factor to calculate fuel and/or labor cost per hour and per budget unit supplied later during the budget building routine.

Full Utilization Amount or Usage. This is the expected total amount of use across the farm, in units of measure per year. The full utilization amount will be used to calculate the item's annual capital recovery cost per unit.

Fuel Type. If the durable input consumes fuel, then click the spinner and select one of the available choices.

Fuel Consumption Rate. If the fuel type has been selected, enter the number of fuel units used by the durable input per hour of operation.

Labor Type. If the durable input requires labor, then click the spinner and select one of the available choices.

Labor Use Rate. If the labor type has been selected, enter the number of labor hours used by the item per hour of operation.

Purchase Price. The purchase price is the amount paid (including any trade-in value) to acquire ownership rights to the durable input.

Salvage Value. The percent should represent the item's expected disposal price as a percent of its purchase price.

Lifetime Repair & Maintenance. MSBG uses this value to compute the item's expected expenditures (from the time of its acquisition until its disposal) that would normally be categorized as repairs or maintenance. It is entered as a percent of the item's purchase price.

Useful Life. It is the expected time (in years) from initial purchase to disposal that the durable input will be kept in operation. It is assumed that the item will be disposed of at the end of the useful life and its salvage value will be treated as a cash inflow.

Comment. The user may enter any other information about this item that might be helpful to refer to in subsequent sessions. It will not appear in budget reports.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this item appear in these reports, the user should select "No."

Note: Percentages are expressed as whole numbers. For example, 75 percent is entered as 75.0, not as 0.75.

Operation/Activity Names

This file is used to store field operation names or production activity names that the user may select later in the budget building process. In addition, the “durable budget” building routine allows access to the names stored in this file. If these names are selected to be in a budget, it will appear in various reports instead of a machine’s name. The names stored here may provide a better description of the operation or activity than a machine’s name.

Operating Input Categories

This file is used to store names that will represent broad categories of commonly purchased items that are used in the production of crop or livestock enterprises (e.g., seed, fertilizer, herbicides, insecticides, etc.). A particular input item (e.g., Roundup) will be stored in the Operating Inputs file (later) and one Operating Input Category will be selected for each item in that file. The user should give considerable forethought to these category names since MSBG uses them in summarizing cost information on several budget reports. In addition, because category names will appear on reports exactly as entered, it is generally preferable to use upper case letters for category names and then use upper/lower case letters for specific operating inputs (to be stored in the Operating Inputs file).

Operating Inputs

This file is used to store data for purchased non-durable inputs such as specific types of seed, fertilizer, chemicals, and custom operations.

Name. The user may enter a name to describe the item. This name will appear in various reports.

Unit of Measure. This is the unit that will be used to price the item and will also be the item’s application rate later in the budget building process. Examples are: bu, gal, lb, cwt, and ton. Care should be taken to select an appropriate unit of measure for each operating input and to make sure that the input’s price corresponds to its unit of measure.

Price per Unit. This is the payment per unit of measure. It will be used to compute the input’s expense in an enterprise budget.

Category. This is the item’s category that will be used for cost summary purposes. Each new operating input is automatically given the first category available (from the category names previously stored in the Operating Input Categories file). The user should change the category, if necessary, by clicking the spinner and then clicking the correct category. If no categories have been entered into the Operating Inputs Category file, a category name “NONE” will automatically be created and assigned as the first available category. The user should complete the Operating Inputs Category file prior to entering data into the Operating Inputs file.

Cost Proportional to Yield? If the item’s use will change in proportion to the amount of the primary product produced (in a budget), then the user should enter a “Y.” In three MSBG budget reports, a range of yields will be calculated for the primary product, and MSBG will adjust the cost of this operating input for the different yields in the report. An example would be a “ginning fee” that is dependent on the amount of cotton lint produced. Usually, only post-harvest operating inputs that have the same unit of measure as the product will require a “Y” to this question. If the item’s cost is independent from yield, then “N” will be the correct answer.

Comment. The user may enter any other information about this input item that might be helpful to refer to in subsequent sessions. It will not appear in budget reports.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this operating input appear in these reports, the user should select “No.”

Residuals

This file allows the user to enter items that have a cost measured in dollars per budget unit (e.g., land, management, and overhead). These items are sometimes called “allocated cost items” because the item may represent an expense at the “farm level” that the user wishes to allocate to (i.e., assign to) the farm’s enterprises. The expenses of these items will be deducted from “returns above total specified expenses” in the Income-Cost tables. Four cost calculation options are available. The user must enter one of the calculation option numbers (1-4) and then enter either the appropriate cost or percentage.

Name. An identifier for this item.

Calculation Number Below. Enter 1, 2, 3, or 4, depending on the method to be used to compute the item’s cost.

1. Cost per Budget Unit. This would simply be a value per budget unit (e.g., \$75 per acre for land rent).

2. Percent of Income. MSBG will compute the cost after it has computed the total income for the enterprise.

3. Percent of Direct Expenses. MSBG will compute the cost after it has computed the total direct expense for the enterprise.

4. Percent of Total Expenses. MSBG will compute the cost after it has computed the total specified expense for the enterprise.

Comment. The user may enter any other information about this input item that might be helpful to refer to in subsequent sessions. It will not appear in budget reports.

Note: Percentages are expressed as whole numbers. For example, 25 percent is entered as 25.0, not as 0.25.

Products

This file is used to store data related to farm products that are to be produced and sold. The Budget Price is required. However, the other six prices are optional and are for use only in the “Returns at Selected Prices” budget report, which computes net returns for the enterprise at any of the six prices listed.

Name. The user may enter a name to describe the item. This name will appear in various reports.

Unit of Measure. This is the unit that will be used to price the item and will also be the item’s output rate later in the budget building process. Examples are: lb, bu, cwt, and ton. Care should be taken to select an appropriate unit of measure for each product and to make sure that the product’s price corresponds to its unit of measure.

Budget Price. This is the expected selling price per unit of measure. It will be used to compute the product’s income in an enterprise budget. The budget price could be equal to one of the following six prices if the user desires.

High Price. This is the price that could be possible under a very optimistic forecast for the current production period. It could also represent the highest price received over a recent historical period.

Contract Price. This is a forward contract price that could be available prior to harvest.

Futures Price. This is a futures contract price that might be used as a production hedge prior to harvest.

Average Price. This is a price that would tend to be within the range of the expected low and high prices. It could also represent an average over a recent historical period.

Loan Rate. This is the expected applicable loan rate for a government program crop.

Low Price. This is the price that could be possible under a very pessimistic forecast for the current production period. It could also represent the lowest price received over a recent historical period.

Comment. The user may enter any other information about this product that might be helpful to refer to in subsequent sessions. It will not appear in budget reports.

Appears in Input Report? Some MSBG reports are designed to be included in publications (normally as Appendix Tables). In the event that the user does not wish to have this product appear in these reports, the user should select “No.”

Budgets

The Budgets option provides a dialog box that allows users to access the files making up the budget data set. The dialog box is made up of five “tabbed pages.” Each page allows access to one portion of the enterprise budgets. The user will find it much more convenient to create and/or edit budgets **only** after the eleven input data files have been completed.

CAUTION: An “open” budget data set draws information from the “open” input data set during every budget building session. In any budget building session, the user should always be sure to open the appropriate data sets so that the budget information will be able to access the correct input files. MSBG stores the record numbers assigned to input data file items in the budget data files as the user selects the items. Use of data sets that don’t match will produce erroneous results.

The budget dialog box has five tabs for the user to access: Title, Products, Operations, Single Durables, and Durable Budget. The Title tab is displayed first. The budget identification number (automatically assigned by MSBG) will appear in the upper left box on this screen, but may not be changed here. The user may select any accessible tabbed section by clicking on the appropriate tab (at the top of the dialog box). After entering all data for one or more enterprise budgets, the user may proceed to the other options on the Main Menu.

Users can move from one budget to another using the buttons at the bottom of the Title page, or by using the spinner beside the Budget ID on each tabbed page. Movement to Products, Operations, Single Durables, and Durable Budget pages results in listings and data items related to the appropriately labeled budget.

Once on a page, the user may add, edit, or inspect data, or add and delete “records” in the selected budget. A “record” is a computer term that represents the “numbered location” in which

all data related to a particular item is stored. That is, the data that is displayed on a page is the data for one record in the data file. The user “moves” through the file one record at a time.

When accessing an “empty” file, the user must first “create” a new record for the file by clicking the Add button, which is located at the bottom of the page. The user will need to click the Add button to create a new record every time a new record is needed. Once records have been created, the user may access them by clicking one of the four buttons located at the bottom of the dialog box: Top, Next, Previous, and Bottom.

Once the user has access to a specific record (even a new, blank record), the user must click on a specific edit box to gain access to that data item. Once there, the user may enter new data or alter old data. MSBG saves any changes automatically. Pressing the Enter key will move the cursor from one edit box to the one below it. Once a new record has been added to a file, it will remain a part of the file even if the user never entered any data there. Thus, a blank record (that may have been added by mistake) may need to be deleted; do this by clicking the Delete button at the bottom of the page.

The Browse button on a page will open a window that functions like a spreadsheet. The user may scroll through the whole file as a convenient way to inspect the data. Corrections to the data may be made in this window if necessary. **CAUTION:** Users should be very careful when directly editing data files since no checks or safeguards are provided to prevent erroneous data entry. Users can easily corrupt data using this feature unless they have a full understanding of the inner workings of the program. However, advanced users with that understanding may find this feature useful in some circumstances.

When a record is created, it is automatically assigned a record number. This number is normally hidden from the user, but is used by MSBG to access data for various computations. The user can remove a record by clicking the Delete button.

Note: Suppose the user is building a budget and selects an item from one of the input data files to be a component of the budget. After the budget is built, the user goes to the input data file dialog box and deletes the input item from its file. This deletion will not alter the existing budget because the input item has not actually been removed from its input file; it has just been hidden from view. The user may think the deleted input item is no longer a part of the existing budget, but it will continue to remain in the budget and all computations related to it will remain unchanged. Extreme caution should be exercised not to delete an input item from its input data file if the item has been referenced in an existing budget. Deleting an input item will not cause a problem if it has never been selected to be in a budget. Since budget data files will specify and access many of the records from the eleven input data files, it is very important that the user maintain the input data files correctly.

Title

The Title page has some basic information that each budget will likely need.

Title 1. This is the first line that will appear on reports (maximum of 55 characters).

Title 2. This is the second line that will appear on reports (maximum of 55 characters).

Budget Unit. This is the unit of measure for the budget (e.g., acre, 100-cow herd). The user should take great care in selecting this because income and costs are computed for this unit.

Type of Budget: Enterprise or Durable Input. The user must select one of these. An enterprise budget requires field operations and/or durable inputs to produce a product. However, the user may only need to estimate the costs associated with a durable input item, which, in general, would be a more complicated asset than a single durable item (see the Single Durable Inputs file). For example, a grain drying facility, a cotton gin, or an irrigation system could be treated as a durable input and a budget for it could be produced. Once a durable input budget has been created, it may be used as an input into an enterprise budget if desired.

Beginning Cash Flow Month. It is common to let the last month in the cash flow report be the month in which income from the sale of the product(s) is received. Thus, the user should select the month **after** income is received to be the beginning cash flow month. MSBG will use January as the default initial cash flow month if the user does not specify another month.

Ending Interest Month. The default ending interest month is the last (12th) month of the cash flow report, which would be the typical situation. However, if the enterprise does not generate income, the user may wish to stop interest from being charged by entering an ending cash flow month that is prior to the 12th month in the cash flow report. If the beginning cash flow month and the ending interest month are set equal to each other, no interest on operating capital will be charged.

Unallocated Labor Multiplier. This is a parameter that will compute an additional labor cost above the cost accounted for in the actual operation of powered machinery on the farm. Often, the machine operators are paid for time spent on non-fieldwork tasks. One way to account for any “overhead” labor time is to use this multiplier. If a number greater than “0” is entered, the cost for this “extra” labor will be calculated as a proportion of the enterprise’s driver labor cost. For example, a number such as “0.5” will result in an unallocated labor cost equal to one-half of the total driver labor cost.

Residual Cost Items: Up to four of these may be entered in each budget. These are optional, but if desired, the user should click the spinner and select the correct choice from the Residuals input file. There are no quantities or times over associated with these cost items because these costs are simply computed on a per budget unit basis.

Products

To enter products that will be produced by the current enterprise, select the Products tab. If more than one product is to be sold, press the add button to obtain a blank screen for another product. The order of the products as they appear on this page and on various budget reports will be determined by the selling dates that are entered. The first product listed will be considered the enterprise’s primary product.

Date Sold. The user must enter the date at which the income from the product is expected to be received; this does not necessarily have to be the harvest date. The format is mm/dd/yy.

Product Item. The user should click the spinner and then click the desired product from the list box provided. The product item name and unit measure selected will be written to the list box.

Quantity Sold. The user should enter the expected quantity to be sold, in units of product per budget unit.

Operations

The Operations tabbed page is used to enter data related to field operations. All data listed on one page is considered to be a component of one field operation. Thus, the user should use the Add button to access blank pages for new field operations. The operations will be sorted based on the dates entered.

After entering the data described below, the user may wish to copy this data to one or more budgets. To do this, click the “OK” button and a dialogue box will appear to select any of the other budgets in this file. Click OK after selections have been made and this operation will be added to the selected budgets.

Date Performed: The user should enter the expected date (mm/dd/yy) that the operation will be performed.

Times Over. This is the number of times that the operation will be performed on one budget unit. Normally, this would be a “1,” but could be less than “1” to represent partial coverage, or greater than “1” to represent multiple trips over the field.

All of the following data items are optional.

Operation/Activity. Click on the spinner in the text box and a list of operation names drops down for your selection.

Implement #1. Click on the spinner in the text box and a list of implements drops down for your selection.

Implement #2. Click on the spinner in the text box and a list of implements drops down for your selection. This would be used if the powered unit will tow two implements at the same time. MSBG will use the performance rate of the slowest implement.

Tractor/Harvester. If an implement was selected, the previously matched tractor/harvester from the Implements file will appear here. The tractor/harvester for the current field operation may be changed without affecting the one specified in the Implements file. Click on the spinner in the associated text box and a list of tractors/harvesters will appear for your selection.

Self-Propelled. Click on the spinner in the text box and a list of self-propelled machines drops down for your selection.

The next items will also require the user to enter an application rate for each of the selected items. **CAUTION:** MSBG requires a quantity measured in the item’s unit per budget unit, for **one time over the field**. MSBG will multiply an application rate by the times over (specified by the user) to obtain the total quantity used per budget unit for this field operation.

Special Labor. Click on the spinner in the text box and a list of labor types drops down for your selection.

1st-6th Operating Input. Up to six operating inputs can be selected for each field operation. Again, text boxes are provided to select the appropriate input. Click on the spinner associated with an input item. The available choices will drop down and the user can click on an item from the list.

Another spinner is located beside each operating input text box. Click on that spinner and the list of input categories set up in the Categories file will drop down for selection. After clicking on one of the available categories, the first item in the alphabetized list of items within that category will appear. If that is not the desired item, click on the text box spinner to further refine the selection.

Remember to enter the application rate (per one time over) for each operating input selected.

Single Durables

Single durable items are specified for the current budget from this tabbed input screen.

Budget Allocation Date. The user must enter a date (mm/dd/yy) that will appear in subsequent reports.

Single Durable Name. The single durable item is selected from those previously defined in the Single Durable Inputs file by clicking the spinner and selecting the item.

The Fixed Cost Portion allows the user to enter data that MSBG will use to compute the annual capital recovery cost to be allocated to the current enterprise.

_____ **budget unit(s) serviced by this durable OR** _____ **single durable unit(s) used on/with one budget unit.** The user must enter one of these two values, whichever appears to be more appropriate. This value reflects the ratio of budget units to the durable, or durable units to the budget. Upon entering one value, MSBG will compute and store the other value.

Proportion of this durable allocated to this budget. If the durable item is used on more than one enterprise or durable budget on the farm, enter the amount (in percent) to allocate to the current budget. However, if the durable is used only on this budget, enter 100.

The Direct Cost Portion allows the user to enter data related to applications (if any) of this durable item. The user may enter the dates and amounts for up to eight different applications.

1st – 8th Application. The user must enter a date (mm/dd/yy) and an application rate (in units of the durable per budget unit).

Durable Budgets

The durable budgets tab allows the entry of a previously created durable input budget to be included in the current enterprise budget. This durable input will be treated as a single line item in various enterprise budget reports. Using a durable budget as an input into an enterprise budget is a way to consolidate several secondary or support items or operations into a line item cost for the current enterprise budget. The durable budget cost will be treated either as a capital recovery cost (i.e., a one-time expenditure that is spread out over a period of years) or as regular annual costs to be incurred in the current production period. If annual expenditures are selected, direct expense items in the durable budget will be accumulated into cost categories along with other items specified in the enterprise budget. Fixed costs will be reported as separate line items in budget reports.

Budget Allocation Date. The user must enter a date (mm/dd/yy) that will appear in subsequent reports.

Operation/Activity. The user must select a name from the Operation/Activity Names file. This name will appear in various budget reports and is required since the budget title assigned to the budget durable could be too long.

Durable Budget Title. The previously developed durable budget is selected from those previously created and stored in the open budget data set.

Calculation Method. The user must select the method of calculation. If capital recovery is selected, a recovery period (in years) must also be entered.

Capital Recovery Period. This is the number of years in which to compute the annualized capital recovery cost of this durable budget.

_____ budget unit(s) serviced by this durable OR _____ durable budget unit(s) used on/with one budget unit. The user must enter one of these two values; whichever is more appropriate. This reflects the ratio of the enterprise budget units to the durable budget unit, or the durable budget unit to the enterprise budget unit. Upon entering one value, MSBG will compute and store the other value.

Proportion of this durable allocated to this enterprise. If the durable budget item is to be used on more than one enterprise on the farm, enter the amount (in percent) to allocate to the current enterprise. However, if the durable budget item is to be used only on this enterprise, enter 100.

Whole Farm

Selection of this Main Menu item leads to a grid listing the available budgets within the currently open budget data set. The user should enter the number of budget units for each budget that will form the whole farm plan. MSBG will compute costs and returns for this whole farm plan and will produce various whole farm reports.

CAUTION: Durable input budgets (if any have been created) will also appear in this list. Typically, a user would have treated a durable input as a component of one or more enterprise budgets. If so, the user should leave the budget units for this durable input budget blank (or zero) because its costs would already be included as part of one or more enterprise budgets. However, if the durable input budget has not been specified as a component of an enterprise budget, the user may wish to enter the number of budget units for the durable input that will be used across the whole farm. If this is done, MSBG will treat the durable input's cost as a whole farm expense.

Reports

The Reports item on the Main Menu leads to a drop-down menu with five options for report generation. After selection of specific reports, the report can be sent to a printer, previewed on the screen, or sent to a text file. After MSBG has created the report, a message will appear requesting the form of output desired. Select the desired output by clicking the appropriate button. Reports printed to a text file will be located in the "C:\MSBG60\reports\" folder. The user will be requested to name the print file through a dialog box.

Budget Reports

The first option in the Reports Menu is used to obtain reports detailing costs and returns for one or more budgets. MSBG has twelve different budget reports available (plus two more designed for spreadsheet usage). Clicking Budget Reports from the Reports drop-down menu will result in a page that allows selection of budgets and one of the reports. The user may select one or more budgets by clicking on the budget title while holding the Ctrl key. After the budgets have been selected, the user must click on the desired budget report from the list on the right of the page. Only one budget report may be selected at a time. When the report is completed, the user may request another report by repeating these selection procedures.

The different budget reports are described below.

Technical/Cost Data for Field Operations. This report shows the amounts of operating inputs and hours of machinery and labor used in each field operation along with their associated cost estimates. This report is also useful for verifying the accuracy of the budget's data.

Technical Data for Field Operations. This report shows the amounts of operating inputs and hours of machinery and labor used in each field operation. This report is useful for verifying the accuracy of the budget's data.

Costs of Field Operations. This report shows each direct cost category and the total capital recovery cost for each field operation.

Income and Expenses. This report lists products first, followed by direct cost items and fixed cost items. In the direct expense section, each operating input category is listed followed by each operating input item. The price, quantity, and dollar amount of each item are listed. Other direct cost items are then listed. Fixed expenses are computed for implements, tractors, harvesters, and self-propelled machines. In addition, any other durable inputs that had a fixed expense will be listed.

Summary of Income and Expenses. This is a summary of the previous report. It lists the products first, followed by direct costs and fixed costs. Only the direct cost categories are listed.

Expenses. This report is similar to the Income and Expenses report, but lists only cost items.

Summary of Expenses. This report is similar to the Summary of Income and Expenses report, but lists only cost items.

Returns at Selected Prices. This report shows the net returns at prices that the user had specified in the Products file. These returns are based on the yield(s) specified in the budget. For budgets having only one product, returns are printed for any of the six optional prices that were entered in the Products file. However, computations for budgets that have more than one product may be slightly different. For example, a budget may contain both cotton lint and cottonseed as products. Cotton lint has a Loan Rate but cottonseed does not (i.e., its Loan Rate would have been left blank). In this case, MSBG substitutes the Budget Price of cottonseed for its missing Loan Rate when making the calculations for this report.

Monthly Income and Expense Flows. This report shows the cash inflows and outflows on a monthly basis. Each operating input category is listed. Net income and net income to date are listed. Fixed expenses are not listed on this report.

Returns for Price-Yield Combinations. This report lists returns above direct expenses and returns above total specified expenses for various price-yield combinations. Prices are incremented by 5 percent above and below the product's Budget Price while yields are

incremented by 10 percent above and below the yield specified in the budget. Any operating input costs that depend on yield are calculated and net returns will reflect these cost differences.

Breakeven Prices Above Direct Costs. This report lists returns above direct expenses and returns above total specified expenses for various breakeven price-yield combinations. A breakeven price for each yield increment is computed as the price that will cause returns above direct costs to be zero. Yields of the primary product are incremented by 10 percent above and below the yield specified in the budget. Any operating input costs that depend on yield are calculated and net returns will reflect these cost differences.

Breakeven Prices Above Total Costs. This report lists returns above direct expenses and returns above total specified expenses for various breakeven price-yield combinations. A breakeven price for each yield increment is computed as the price that will cause returns above total costs to be zero. Yields of the primary product are incremented by 10 percent above and below the yield specified in the budget. Any operating input costs that depend on yield are calculated and net returns will reflect these cost differences.

Semicolon Delimited Income and Expenses. This report is designed for spreadsheet usage. It is the Income and Expenses Report with text and numeric values separated by semicolons. If saved to a text file, it may be loaded into a spreadsheet for other purposes.

Semicolon Delimited Expenses. This report is designed for spreadsheet usage. It is the Expenses Report with text and numeric values separated by semicolons. If saved to a text file, it may be loaded into a spreadsheet for other purposes.

Whole Farm Reports

The second option in the Reports menu leads to the Whole Farm Reports selection screen, with four reports available. Users can click on one report at a time. Whole farm reports will use the number of budget units for each budget entered in the Whole Farm Main Menu option.

The four whole farm reports are described below.

Budget Titles and Units in Farm Plan. This report shows each budget and the units that were specified in the whole farm plan. This is useful for checking for accuracy and as a record of the plan when analyzing the other reports.

Summary of Income and Expenses. This report shows the products first, followed by direct expenses and fixed expenses. The direct cost for each operating input category is listed, followed by other major cost categories.

Monthly Income and Expense Flows. This report shows the cash inflows and outflows on a monthly basis. The direct cost of each operating input category is listed, along with other major direct cost categories. Total direct expenses and net income are listed for each month.

Resources Used in Farm Plan. This report lists the products produced and the quantities of resources used for the whole farm plan. The prices and dollar amounts required to purchase the operating inputs are listed. This table is useful for determining whether equipment ownership is adequate and to help manage operating input purchase decisions.

Input Reports

The third option in the Reports menu leads to the Input Reports selection screen, with reports for eleven input data files. These input reports differ from the input lists (provided in the next Reports menu option). Users can click on one input file for each report. These reports, designed

primarily for publication purposes, provide some machinery cost information and only some of the data that has been entered in an input file.

Input Lists

The fourth option in the Reports menu leads to the Input Lists reports selection screen. In these reports, the data contained in an input file is listed record by record for verification and reference purposes. Users can click on one input file for each report. Input lists can be generated for each of the eleven input files. Input lists contain the record number for each input item. MSBG maintains control of record numbers and stores them in the budget data files as the user selects items from the various input data files.

Budget Lists

The fifth option in the Reports menu leads to the Budget Lists selection screen. This report lists all the data in a budget data file record by record for verification and reference purposes. Users can click on one or more budget titles for the report.

Utilities

MSBG has several utility routines that may be useful. The first three allow the user to alter the way the reports are labeled. The next three allow the user to manipulate budgets in specific ways. The last one provides the “browse” screens for the eleven input files and allows the user to “undelete” one or more records in these files.

Note: It may be helpful if the user has a backup copy of the input and budget files prior to manipulation with these routines in the event that a mistake occurs.

Budget Report Order

MSBG automatically inserts an upper-case letter after the budget identification number on each of the fourteen budget reports (e.g., Table 12.B would correspond to budget number 12 and the “B” is for one of the reports). Entering a “1” by the desired report results in the letter “A”, a “2” is for “B”, etc. Use the numbers 1 through 14 and do not use the same number more than once.

Whole Farm Report Order

MSBG uses a number to identify each of the four whole farm plan reports. Do not use the same number more than once.

Input Report Order

MSBG uses a number to identify each of the eleven input reports. Use the numbers 1 through 11 and do not use the same number more than once.

Copy Budgets

This option allows the user to duplicate one budget at a time from those that already exist in the currently opened budget data set. This option is useful if the user desires to create a new budget that is similar to an existing budget. The copied budget will be stored at the end of the current budget data file. MSBG will assign a number to new budget equal to one plus the largest budget number in the opened budget data set.

After selecting the budget to be copied, click the OK button and the budget will be copied. Once a budget has been copied, the user may access it for additional editing in the usual manner.

Renumber Budgets

This option allows the user to assign different budget numbers to existing budgets. This option may be used to arrange the budgets in a desirable order. A data entry screen will appear that requests a new budget number for each of the existing budgets. Enter a new number or leave the original number unchanged. **CAUTION:** Do not enter the same budget number more than once because this will corrupt the numbering system used by MSBG.

Increase Dates One Year

This option will cause MSBG to increase product selling dates, field operation dates, and durable input dates in selected budgets by one year. This option is usually selected at the end of a year to allow this year's budgets to be used next year without having to manually alter the dates.

Browse/Undelete Input Files

This option is provided as a means of viewing the input data files in a spreadsheet format in an effort to understand and correct any data problems. Users are allowed to select one of the input data files and view it through a browse screen. Changes to data are stored automatically.

In the regular data-entry dialog box, users have the option of “deleting” a record. Deleted records are not actually removed from the database, but rather are simply marked as deleted records. On the browse screen, a deletion mark appears as a black box to the left of the record. Within this browse screen, the user may click on deletion marks to toggle them on or off (to delete or undelete records).

A useful option is provided to undelete all previously deleted records automatically.

CAUTION: Users should be extremely careful to avoid marking an item for deletion if that item has been used in previously developed budget data sets.

Note: Within this browse routine, all indexing (or alphabetizing) of records has been turned off. Therefore, the record order that appears in this section can be correlated directly to those prescribed by the program within the budget building section. That is, budget data files store the record numbers, not the names, of items from the various input data files.

Options

At present, the only option in MSBG is for selecting the wallpaper that appears as the background to the program. The available choices are listed in the selection box. Any wallpaper files (*.bmp) located in the “C:/MSBG60/work_data” folder will be available for selection from the list.

About

This item provides an identification screen for MSBG.

Help

Users can obtain the table of contents by clicking on the Main Menu Help option. From there, individual sections of the help file may be accessed. In addition, the user may press the F1 key to call up a specific help file.

Exit

Clicking on this Main Menu item will cause MSBG to close all opened files before terminating. Then Windows will resume control. MSBG may be restarted in the usual fashion for subsequent budget building sessions.

Formulas

All incomes and costs (\$/budget unit), with the exception of Residual Cost Items, are calculated by multiplying a price (specified as \$ per unit of measure) by a quantity (specified as the unit of measure per budget unit, usually an acre for crop enterprises). In the following descriptions, upper case letters are used to denote input data file variables while lower case letters are used to denote budget data file variables.

Tractors/Harvesters, Self-Propelled Machines, and Implements

Direct Expenses

Fuel:

P = price of fuel (\$/gal, \$/kWh, or \$/1,000 cu ft)
 t = times over
 PR = performance rate (hours/acre)
 TM = tractor multiplier
 FC = fuel consumption rate (gal/hour, kWh/hour, or 1,000 cu ft/hour)
 FM = fuel multiplier

price = P
 quantity = $t * PR * TM * FC * FM$ (for tractors/harvesters)
 quantity = $t * PR * FC$ (for self-propelled machines)

Labor:

W = wage rate of labor (\$/hour)
 t = times over
 PR = performance rate (hours/acre)
 TM = tractor multiplier
 LM = labor multiplier
 AL = additional laborers

price = W
 quantity = $t * PR * TM * LM$ (for tractors/harvesters)
 quantity = $t * PR * LM$ (for self-propelled machines)
 quantity = $t * PR * AL$ (for self-propelled machines and implements)

Repair and maintenance:

V = purchase price or lease amount (\$)
 R = repair and maintenance percent (percent of purchase price or lease amount)
 U = annual use (hours/year or hours/lease period)
 L = useful life (years)

t = times over
 PR = performance rate (hours/acre)
 TM = tractor multiplier

price = $(V * R * .01) / (L * U)$ (for owned machinery)
 price = $(V * R * .01) / U$ (for leased machinery)
 quantity = $t * PR * TM$ (for tractors/harvesters)
 quantity = $t * PR$ (for self-propelled machines and implements)

Fixed Expenses (for owned machines)

V = purchase price (\$)
 S = salvage value percent (percent of purchase price)
 L = useful life (years)
 U = annual use (hours/year)
 t = times over
 PR = performance rate (hours/acre)
 TM = tractor multiplier
 ITIR = intermediate-term interest rate
 CRF = capital recovery factor
 $CRF = ITIR / [1 - (1 + ITIR)^{-L}]$

Annualized capital recovery:

price = $\{[V * (1 - S * .01) * CRF] + (V * S * .01 * ITIR)\} / U$
 quantity = $t * PR * TM$ (for tractors/harvesters)
 quantity = $t * PR$ (for self-propelled machines and implements)

Durable Inputs

The user specifies the unit of measure for a durable input.

Direct Expenses

Fuel:

P = price of fuel (\$/gal, \$/kWh, or \$/1,000 cu ft)
 OT = operation time (hours/unit of measure)
 FC = fuel consumption rate (gal/hour of OT, kWh/hour of OT, or 1,000 cu ft/hour of OT)
 q = quantity of the durable applied (units of measure/budget unit)

price = P
 quantity = $OT * FC * q$

Labor:

W = wage rate of labor (\$/hour)

OT = operation time (hours/unit of measure)

LU = labor use rate (hours/hour of OT)

q = quantity of the durable applied (units of measure/budget unit)

price = W

quantity = OT * LU * q

Repair and maintenance:

V = purchase price (\$)

R = repair and maintenance percent (percent of purchase price)

L = useful life (years)

U = full utilization amount (units of measure/year)

q = quantity of the durable applied (units of measure/budget unit)

price = $(V * R * .01) / (L * U)$

quantity = q

Fixed Expenses

V = purchase price (\$)

S = salvage value percent (percent of purchase price)

L = useful life (years)

ITIR = intermediate-term interest rate

CRF = capital recovery factor

$CRF = ITIR / [1 - (1 + ITIR)^{-L}]$

BU = budget units serviced by the durable

PA = proportion of capital recovery cost to be allocated to the enterprise (percent)

Annualized capital recovery:

price = $[V * (1 - S * .01) * CRF] + (V * S * .01 * ITIR)$

quantity = $.01 * PA / BU$

Operating Inputs

Direct Expense

The user specifies the unit of measure.

P = price of input (\$/unit of measure)

q = quantity applied per one time over (units of measure/budget unit)

t = times over

price = P
 quantity = t * q

Interest on Operating Capital

STIR = short-term interest rate
 eim = ending interest month
 mop = month of operation
 quantity = direct expense of operation (\$/budget unit, as calculated by MSBG)

MSBG calculates the number of months (mth) for which to charge interest as follows:

If mop < eim, then mth = 1 + eim - mop
 If mop = eim, then mth = 1
 If mop > eim, then mth = 13 + eim - mop
 Thus, mth may range from 1 to 12.

price = STIR * .01 * mth / 12
 quantity = q

Income from Products

The user specifies the unit of measure.

P = price of product (\$/unit of measure)
 q = quantity sold (units of measure/budget unit)

price = P
 quantity = q

Glossary of Terms

Additional laborers – the number of laborers required for a field operation in addition to the tractor driver. Additional labor is associated with an implement and would be equal to zero if the operation requires only a tractor driver. The value for this item does not have to be a whole number.

Annual use – the estimated number of hours per year that the machine is expected to be used over the whole farm.

Budget generator – the computer program that uses data supplied by the user to produce enterprise budgets and whole farm budgets. Data are stored in files so that if changes in prices, quantities, etc. occur, new data may be entered and reports may be recalculated using the updated data.

Direct expense – the cash (out-of-pocket) cost of purchased or hired factors of production such as operating inputs, labor, fuel, repairs and maintenance, and interest on operating capital.

Durable input – factors of production that last more than one production period. Tractors, implements, and self-propelled machines have their own data files, but durable inputs that do not fit into one of these classifications may be entered into the Single Durable Inputs data file. In addition, the user may create a Durable Input Budget as a special type of budget.

Durable input budget – a special budget that captures the costs of durable inputs other than tractors, harvesters, self-propelled machines, and implements. This budget may be comprised of several individual durable items and/or field operations. After building this type of budget, the user may select it as an “input” into one or more enterprise budgets.

Enterprise budget – a method of listing resources used and products produced from one unit of an enterprise on a farm. Crop enterprise budgets are typically specified for one acre, while livestock enterprise budgets may be specified for a herd, a pond, or some other unit of measure. MSBG is particularly well suited for developing crop enterprise budgets.

Fixed expense – the cost of owning durable factors of production, such as machinery and equipment. MSBG calculates the annualized capital recovery cost for owned durable items.

Fuel multiplier – a number associated with an implement that is multiplied by the tractor’s base fuel consumption rate to obtain the fuel consumed for a particular field operation.

Intermediate-term interest rate – the rate of interest charged when calculating capital recovery for durable inputs.

Labor multiplier – a number associated with a powered machine that is multiplied by the machine’s operating time to obtain the operator’s labor time required for a particular field operation.

Operating input – purchased or hired factors of production such as seed, herbicide, custom hired services, etc.

Operating input category – a group of similar operating inputs; e.g., Bravo and Lasso would be categorized as HERBICIDES.

Parameter – a number used to calculate costs across all budgets. MSBG treats fuel prices and interest rates as parameters.

Performance rate – the expected time (measured either in hours per acre or acres per hour) that an implement or a self-propelled machine will take to complete a field operation. This should be the time that the machine is actually performing the operation and should not include any time in which the machine is not in use. The performance rate may be adjusted upward by some amount if the user wishes to account for time that the machine may be in use but not actually in the field. For instance, if a self-propelled machine, such as a combine, actually runs for 8 hours a day, but is in the field for only 7 hours, and it harvests 55 acres per day, then its performance rate is 55 divided by 8, or 6.875 acres per hour. This performance rate will capture the fuel and labor actually used during the day. MSBG has a “tractor multiplier” to account for this type of adjustment associated with towed implements.

Repair and maintenance – the estimated expenditures for upkeep over the life of the machine expressed as a percentage of its purchase price.

Reports – the output computed by MSBG that may be printed, viewed on screen, or sent to a text file. There are fourteen reports available for a budget and four reports for a whole farm plan.

Residual cost items – factors of production such as land, management, and general farm overhead. These cost items are not directly related to field operations. Costs are simply computed on a per budget unit basis.

Salvage value – the estimated value of a piece of machinery at the end of its useful life, expressed as a percentage of its purchase price.

Short-term interest rate – the rate of interest charged when calculating interest costs for purchased or hired operating inputs.

Tractor multiplier – a number that is multiplied by the implement’s performance rate to obtain the time the tractor is being used.

Unallocated labor multiplier – a number that is multiplied by the hours of operator labor per operation to obtain an estimate of overhead labor hours; i.e., labor time out of the field but still paid for.

Useful life – the estimated number of years that a piece of machinery is expected to be used.

References

- [1] Spurlock, S. R. and D. H. Laughlin, "Mississippi State Budget Generator User's Guide, Version 2.0." MAFES, Agricultural Economics Technical Publication No. 64, May 1987.
- [2] Spurlock, S. R. and D. H. Laughlin, "Mississippi State Budget Generator User's Guide, Version 3.0." MAFES, Agricultural Economics Technical Publication No. 88, May 1992.
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- [4] *Visual Fox Pro, Version 7.0*. Microsoft Corporation, 2001.