

OSU Enterprise Budget Software Basic User's Guide

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OSU Enterprise Budget Basic User's Guide

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INTRODUCTION

The OSU Enterprise Budget software is designed to facilitate the development of budgets that are appropriate to a geographic region. Users are allowed to override defaults with their own values to totally customize the budget if their experience and farm records indicate different values and production practices. Our intent is to provide software that is flexible and user-friendly, with default values that are reasonable for items that are difficult to calculate, for example, per acre machinery costs for a specific crop. Additionally, the software is to serve as an educational tool and resource. Links to many references are provided, such as OSU fact sheets and current reports, Oklahoma Agricultural Statistics Service data, and, in some cases, expert opinion. Where possible, web-links are built into the spreadsheets to provide users who have Internet access direct links.

The farm size, cropping plan, and machinery inventory are important determinants of crop budget costs. Eight production regions were developed (Figure 1) and a “typical” farm unit for three sizes of farms (small, medium, and large) was specified to use in developing budget default values. Each production region contains comparable soils, cropping mixes, yield potential, and cultural practices. Farm sizes were defined from Agricultural Census data. Cultural practices and tillage operations were developed through several sources, including consultations with state and area Extension specialists, and a machinery survey of producers. MACHSEL (Kletke and Sestak), a machinery selection spreadsheet template, was used to estimate the costs for a particular machinery complement on a given size farm in a region. Machinery cost estimation is based on equations (some in modified form) from the American Society of Agricultural Engineers (ASAE).

In the spreadsheets, numbers can be entered specified with many values to the right of the decimal point (for example, 1/3 could be entered as 33.3333333%). However, some cells are formatted so that zero, one or two values to the right of the decimal place appear in the form (exact values may still be viewed in the cell label at the top of the screen). Calculations in the spreadsheets will be based on the exact value entered whether or not it appears in the form. For the summary page, values are rounded to the nearest two decimal places and/or cents.

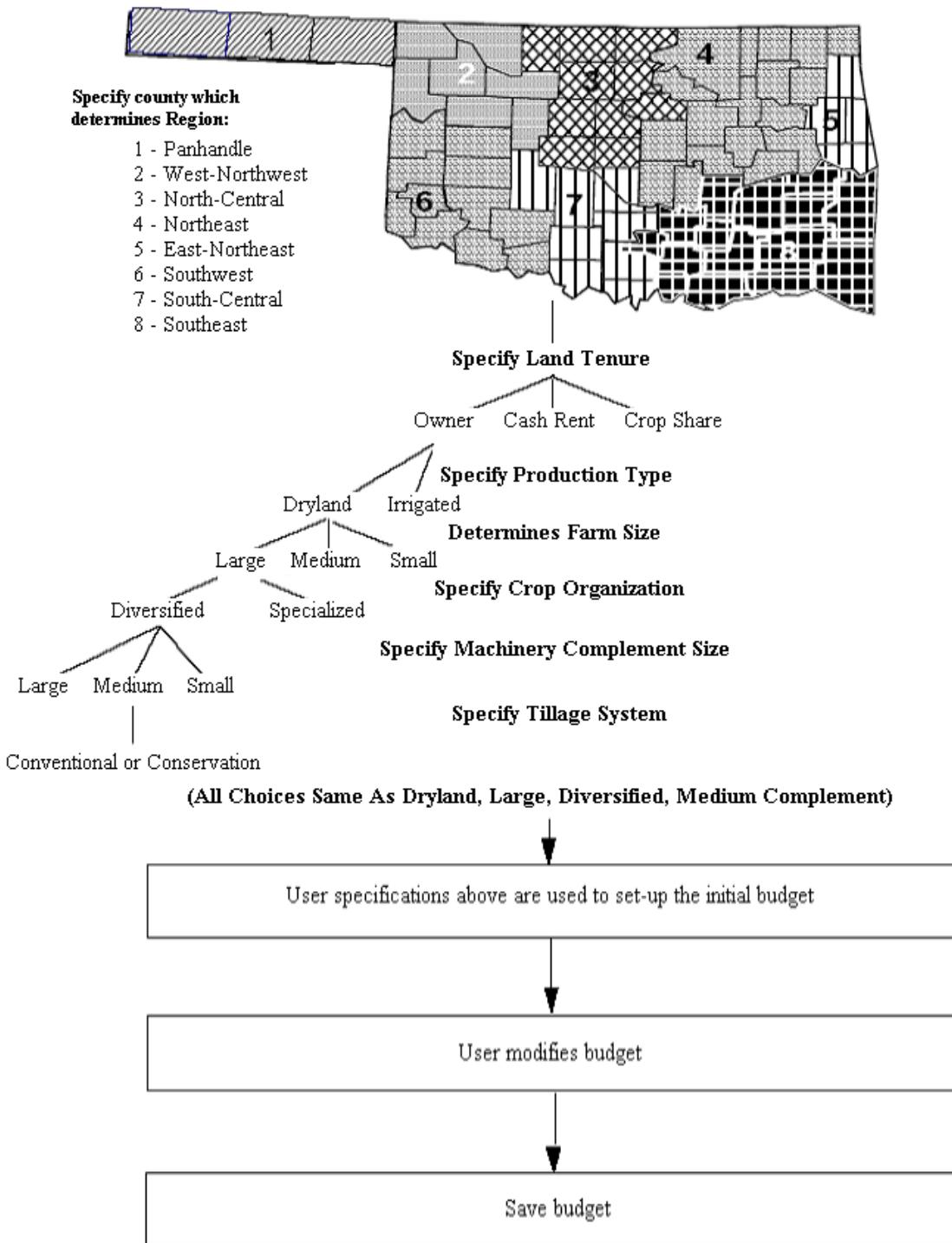
Three descriptions will be used in this guide to emphasize the appropriate use of the software and repercussions of misuse of the software:

Warning: Information concerning a procedure or computer setting that may cause software/hardware problems if not followed correctly.

Caution: Information about a procedure that may cause inaccurate data to be introduced into the financial estimates if not used correctly.

Note: Information that requires other special emphasis.

Figure 1 - Flow of enterprise budget



SOFTWARE INSTALLATION

We recommend that you copy the Enterprise Budget files to the hard drive of your computer for use. This will ensure that any customized budgets will not be saved over the original budget templates.

Online Users

Budget files may be accessed at: http://www.agecon.okstate.edu/budgets/user_login.asp

An alternative is from the OSU Agricultural Economics Department's home page (<http://www.agecon.okstate.edu/>, click on Extension, Farm Management and Finance, Budgets, and User Login at left). Type your login and password that were provided via email.

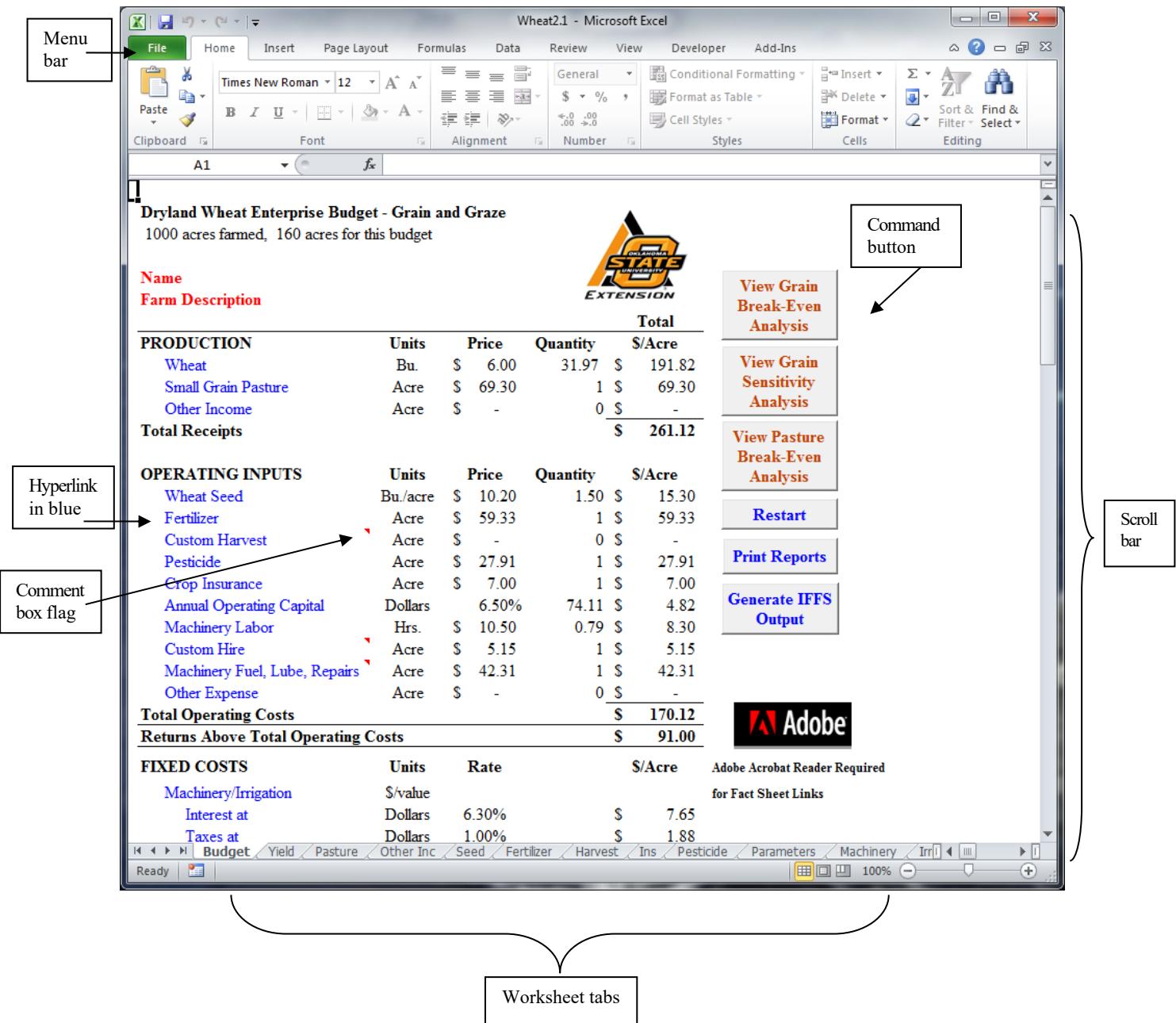
GETTING STARTED

The OSU Enterprise Budgets are Excel-based spreadsheets. Each budget is an Excel workbook with multiple worksheets within the workbook. To use a budget, you will need Excel 2010 (or a later version). Open Excel by clicking on the Excel icon. Users will see *File* on the upper left-hand corner of the screen. Click on it and then click *Help*.

Terminology

Figure 2 shows the tabs for worksheets in the wheat budget and identifies terms used in this guide.

Figure 2. Terms Used in User's Guide

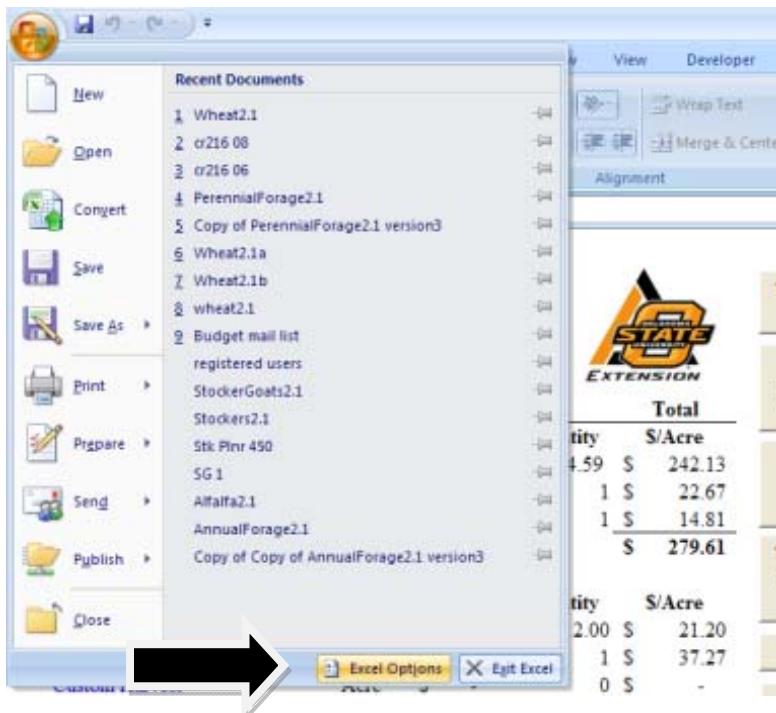


Command button fonts are color-coded. A blue font indicates a decision task via popup form. Orange fonts are information references and black fonts are generally location links.

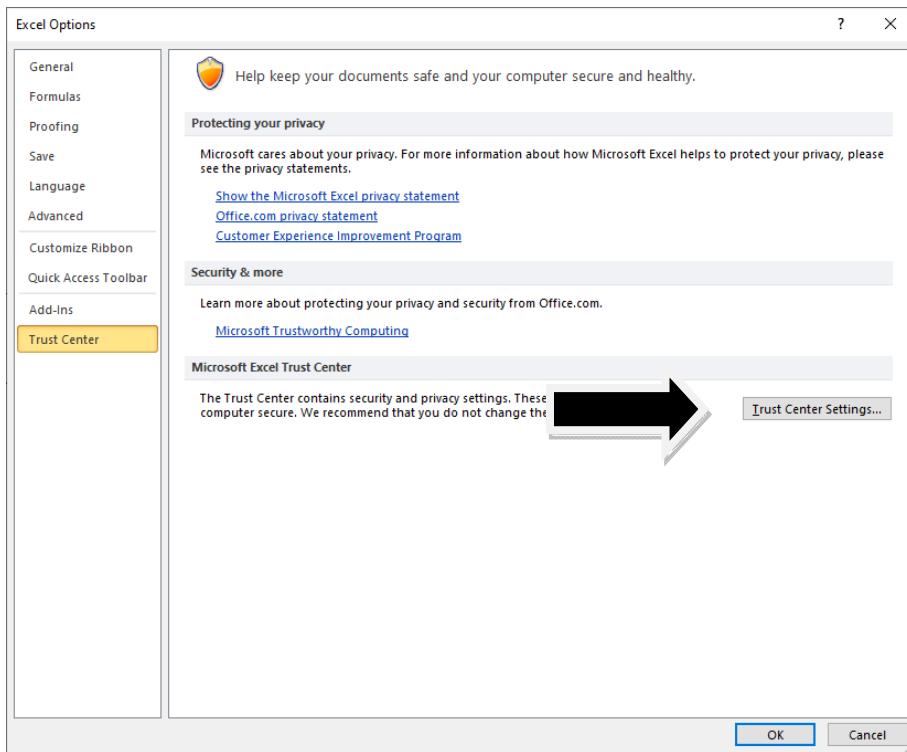
SOFTWARE OPERATION

Macro Settings

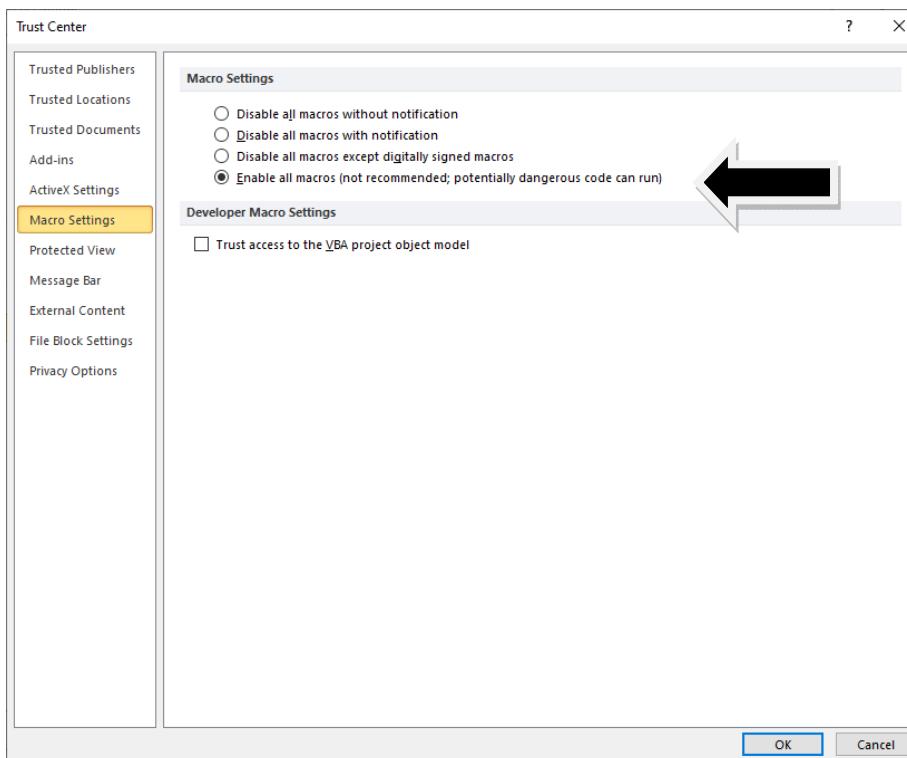
Your computer may have a few settings to adjust before the enterprise budgets will function properly. For the macros to operate, the macro security must be set prior to opening a budget file. In Excel 2010 and later versions, click on *File* on the upper left-hand corner of the screen and then *Options*.



Click *Trust Center* and then *Trust Center Settings*.



Click *Macro Settings*, choose *Enable all macros*, and click *OK*.



Load a Budget File.

In Excel 2010 and later, click *File* on the upper left-hand corner of the screen, *Open*, locate the OSU Budgets (or the directory in which you copied the Enterprise Budgets) and then click on a *selected file name*.

The Start-Up Form

When a budget file (or workbook) is opened, a form appears which allows you to specify information used to calculate the base budget. A wheat budget start-up form is shown below:

OSU Wheat Budget Opening Menu

Enter Basic Budget Information

Name of the Producer	<input type="text" value="Name"/>
Description of the Farm	<input type="text" value="Farm Description"/>
Total acres farmed (crop & pasture)	<input type="text" value="1000"/>
Wheat acreage in this budget	<input type="text" value="160"/>
Is this budget for:	<input type="text" value="Grain & Winter Graze"/>
Choose the county where most of your operation is located.	<input type="text" value="Garfield"/>

Is this land you:

Own Cash Rent \$/Acre
 Share Rent Percent Yours

Choose share rent party: Land Owner Tenant

Do you want to prepare a dryland or irrigated budget? Dryland Irrigated

Choose farm organization ? Specialized Diversified

Choose machinery complement size ? Small Medium Large

Choose the type of tillage system ? Conventional Tillage Lo-Till Crop Rotation
 No-Till Continuous

Be sure to update data in supporting worksheets to ? match the scenario described above.

[About Enterprise Budgets](#) [OK](#) [Cancel](#)

An indication of the size of farm (crop and pasture) and enterprise is needed to estimate non-harvest and harvest default machinery and equipment costs. And, in the alfalfa budget, estimated stand-life must be entered for use in determining the number of years over which establishment costs are prorated.

For small grain budgets, the way the wheat is to be used must be identified, for example, wheat for grain and winter grazing, wheat for grain only, or wheat for grazing only. Specifying the county determines the initial yield based on Oklahoma Agricultural Statistics Service reported averages for the county or region.

Note: *Other County* is the appropriate choice for operations outside of Oklahoma. The statewide average yield for Oklahoma and the north-central production region (defines the machinery cost structure) are the default settings. *Other State* and *Other Country* are additional choices in the goat budgets. The user may edit the red label in the budget summary header to a specific county, state or country if desired.

The user may specify whether the crop will be on land they own, cash rent, or share rent. This selection is reversible only by choosing *Restart*. If the land arrangement is cash rent, the input sheet allows the producer to enter the cash rent amount per acre. If share rent is chosen, the user specifies the percent of the crop they receive, which will be used as the default output share throughout the budget. Defaults for other input and output share amounts are based on customary arrangements in Oklahoma (OSU CR-216, “Oklahoma Pasture Rental Rates”, and CR-230, “Oklahoma Cropland Rental Rates”), but may be changed as appropriate.

The user may specify whether the budget is for dryland or irrigated crops. If irrigated is chosen, the user will be able to view the default irrigation cost information and make changes; otherwise, no direct link from the budget sheet to the irrigation sheet is shown. On forage budgets, once a choice is made as to whether the forage is for hay or pasture, the choice is not reversible during the session unless restarting a customized budget as discussed later.

Default machinery costs are determined by farm organization and the size of the tractor complement employed. The user may specify whether the farm’s total acreage is devoted primarily to the enterprise budget crop or composed of several crops typical of the region specified. A choice of three tractor complements (each containing up to three tractors needed to perform field operations satisfactorily) may be selected where each is defined by the largest PTO horsepower (hp) unit available: small – 95 hp, medium – 160 hp, and large – 270 hp.

On selected crop budgets, a choice of production systems that impact seed costs, fertilizer and chemical usage, and field operations are also available. Conventional tillage systems may be compared to conservation tillage practices that maintain higher levels of soil surface residues.

Caution: If an enterprise budget scenario is changed in size dramatically (for instance, total acres farmed changes from 50 to 300), a new budget should be started because the start-up form specifies machinery and equipment defaults that match farm size and acreage. To evaluate a different size enterprise after new information has been entered in budget forms (for instance, pesticides), the user may wish to save the budget file (choose *File, Save As*, and specify a name) prior to reopening the budget via the *Restart* button. Annual and perennial forage budgets alert the user to save the current session before switching to a different forage selection. In general, default values and/or customized settings may be erased when different information is specified in the start-up form.

Note: Disabled tractor complement choices may appear due to infeasibility concerns (e.g., tractor usage required is more than hours available). The user may choose the next available size and perform revisions later in the non-harvest machinery cost summary.

Note: You may add forages for future reference in the annual and perennial forage grass budgets. Scroll through the forage type(s) using the scroll bar (or arrow keys) and select *Add New Forage*. Enter the new forage properties and click on *OK*. The new item will be added to the bottom of the forage list. To use the item, scroll to the bottom of the list and select it.

Note: On various pop-up forms, buttons with a ? (question mark) label are available to assist the user with entry items and/or provide additional information as to the general use of the form.

Once the start-up form is completed, click on *OK*. A budget summary sheet will appear (see below). Values in budgets are specified on a per unit basis--per acre for crop budgets, per head in livestock budgets. The budget may be further customized by clicking on the budget items in blue (hyperlinks) which link to supporting sheets. The hyperlinks change color once they have been used, allowing the user to note items they have visited and ones they may still need to view. You may also click on the tabs at the bottom of the sheet to move to a specific sheet within the workbook.

Note: It is important to follow through and check all supporting sheets to ensure that the assumptions match the budget specified. Some modification may be needed on many or all sheets.

Dryland Wheat Enterprise Budget - Grain and Gaze
1000 acres farmed, 160 acres for this budget



	Units	Price	Quantity	Total
PRODUCTION				
Wheat	Bu.	\$ 6.00	31.97	\$ 191.82
Small Grain Pasture	Acre	\$ 69.30	1	\$ 69.30
Other Income	Acre	\$ -	0	\$ -
Total Receipts				\$ 261.12
OPERATING INPUTS				
Wheat Seed	Bu./acre	\$ 10.20	1.50	\$ 15.30
Fertilizer	Acre	\$ 59.33	1	\$ 59.33
Custom Harvest	Acre	\$ -	0	\$ -
Pesticide	Acre	\$ 27.91	1	\$ 27.91
Crop Insurance	Acre	\$ 7.00	1	\$ 7.00
Annual Operating Capital	Dollars	6.50%	74.11	\$ 4.82
Machinery Labor	Hrs.	\$ 10.50	0.79	\$ 8.30
Custom Hire	Acre	\$ 5.15	1	\$ 5.15
Machinery Fuel, Lube, Repairs	Acre	\$ 42.31	1	\$ 42.31
Other Expense	Acre	\$ -	0	\$ -
Total Operating Costs				\$ 170.12
Returns Above Total Operating Costs				\$ 91.00
FIXED COSTS	Units	Rate		\$/Acre
Machinery/Irrigation	\$/value			
Interest at	Dollars	6.30%		\$ 7.65
Taxes at	Dollars	1.00%		\$ 1.88

Adobe Acrobat Reader Required
for Fact Sheet Links

Budget **Yield** **Pasture** **Other Inc** **Seed** **Fertilizer** **Harvest** **Ins** **Pesticide** **Parameters** **Machinery** **Irr**

The advanced user's guide for describes information in each tabbed sheet. In crop budgets, the tabs may include Yield, Hay, Pasture, Other Inc(ome), EstNew (Establishment Costs), Seed, Fertilizer, Harvest, Ins(urance), Pesticide, Disease, Insects, Weeds, Parameters, Machinery, Irrig(ation), C(ash) Rent, Other Exp(enses), and IFFS. In livestock budgets, common tabs include Prod(uction), Pasture, Other Inc(ome), Hay, Grain, Protein, Salt, VetMed1(Veterinary Medicine), VetSupplies, Marketing, Parameters, Machinery, Equip(ment), Other Exp, and IFFS. In the cattle budgets, additional tabs are Minerals and Additives. Cat(tle) Inv(ventory) and Inventory sheets are available for cow-calf and meat goat budgets respectively.

Note: If you use the tabs at the bottom of the sheet to move from worksheet to worksheet within a budget, your cursor will return to the spot where you last left it on the previous worksheet.

Worksheet Data Entry

All budgets initially include default values, such as average prices, yields, livestock weights, etc. To change the default values to match a particular farm operation, click on the hyperlink item in the budget summary or select the worksheet tab located near the bottom of the screen. This accesses a second, specific worksheet. For example, let's say that you are interested in changing the default data for Pesticide use in the Wheat budget. On the wheat budget under OPERATING INPUTS, click on *Pesticide* (blue input link), and the following worksheet will appear:

Wheat2.1 - Microsoft Excel

Default pesticide practices have been specified. You can use the defaults or specify your own pesticide applications. Double-click anywhere in the pesticide table yellow cells to access a list of default pesticides.

Pesticide	Month to Apply	Application Unit	Units per Acre	Acreage Applied	Cost per Unit	Custom App. Charge	Cost of Chemical	Total App. Cost
Axial XL	11	Ounce	16.40	160	\$ 1.13	\$ -	\$ 18.53	\$ 18.53
2, 4-D	2	Pint	1.50	160	\$ 3.06	\$ -	\$ 4.59	\$ 4.59
Dimethoate	3	Pint	0.75	160	\$ 6.38	\$ 5.15	\$ 4.79	\$ 9.94
							\$ -	\$ -
							\$ -	\$ -
							\$ -	\$ -
							\$ -	\$ -
							\$ -	\$ -
Total cost per budget acre							\$ 27.91	\$ 33.06

Budget

For more information:

- AGEC-322 Pesticide Recordkeeping Requirements for Crop Production
- AGEC-601 Do not Cheat Yourself: Cheat Control is not a Cost
- EPP-7176 Common Insect and Mite Pests of Small Grains
- CR-7194 Management of Insect and Mite Pests of Small Grains
- EPP-7661 Major Foliar Fungal Wheat Diseases in Oklahoma

Data can be modified in entry cells colored in light yellow or green. Pop-up forms are available by double-clicking on the block of yellow cells to the left of the formula column(s) highlighted in blue. Tan cells contain default information. Do not try to replace information directly in blue formula or tan default cells as they are protected. Use numbers for months (January = 1, February = 2, etc.) unless a pop-up menu allows you to select the name of the month. Lists of default items in pop-up forms are in alphabetic order.

To move from one cell to another, use the arrow keys or click with the mouse on the next cell. Within a form, the Tab key moves your cursor one cell to the right. The Enter key moves your cursor down one row. Enter numbers as decimals in worksheets; fractions are not allowed. For example, 1/3 should be entered as 0.33. You can make changes to the default data by placing the cursor in one of the yellow cells and double-clicking. If you double-click on a line containing information from a prior session and make changes, your data will be updated on this line. For instance, in the Pesticide worksheet (shown above), if you double-click on a blank line and select a pesticide, it will be added to the existing entry. Double-clicking on the line with 2,4-D will bring up the following form:

Select Pesticide

Pesticide Information		Additional Information
<input type="button" value="2, 4-D"/> <input type="button" value="Amber"/> <input type="button" value="Axial XL"/>		Pest/Weeds Controlled: <input type="text" value="Broadleaf"/> Apply before the joint stage
Pesticide Name:	<input type="text" value="2, 4-D"/>	
Month to Apply:	<input type="text" value="2"/>	
Application Unit(s):	<input type="text" value="Pint"/>	
Units/Acre:	<input type="text" value="1.5"/>	
Number of Acres	<input type="text" value="160"/>	
Cost/Unit (\$):	<input type="text" value="3.06"/>	
Custom App. Cost (\$):	<input type="text" value="0.00"/>	
<input type="button" value="Reset Defaults"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/>		

Using this pop-up form, you can change the application month, unit or rate, acreage applied, cost per unit, and custom application cost. You may scroll through the Pesticide list at top using the scroll bar (or arrow keys) and choose another pesticide. You may also add a new pesticide for future reference. Scroll to the bottom of the list and click on *Add New Pesticide*. Type in the new name, month to apply, etc. Click on *OK*. The new item will be added to the bottom of the list. To use the item, scroll to the bottom of the list and select it.

The pop-up forms summarize information either specified by the user or OSU-specified default data. Use of the pop-up form is recommended if you would like to retain item changes for future sessions.

Note: Changes made in the worksheet without the use of the pop-up form does not change information stored in the user's database. Consequently, the item's contents as shown in the worksheet may not match the form's contents for that same item.

At any time, the user may access default (OSU specified) information by clicking on *Reset Defaults*. This may be especially useful after a database update as discussed later.

Note: In addition to Pesticide, new items may be added in Fertilizer, (Disease, Insects, and Weeds for peanuts, Growth Regulators/Harvest Aids for cotton, Equipment Inventory and Fence System for annual and perennial forage) in crop budgets. In livestock budgets new items may be added in Pasture, Hay, Grain, Protein Supplement, Additives, Salt, Minerals, Equipment Inventory, Parasite Control, Vaccines, Medication, Implants, Other Processing, and Vet Supplies. The process for adding and modifying items in these sheets is similar.

Not all changes require the use of pop-up forms. If, for example, you want to change the wheat price in the wheat budget, go to the budget, click on *Wheat* (highlighted in blue), and then make the change in the appropriate green cell on the Yield worksheet.

Erasing Default Information

If default information is not relevant to your operation, highlight the cells to be erased, choose *Edit* from the main menu bar, *Clear*, *Contents*. Or, you may highlight the cells to be erased and press the Delete key. Type in a zero or use the Delete key to clear the contents of individual cells. Only erase yellow or green input cells. A cell protection message appears if the user attempts to erase protected tan or blue cells.

Warning: Using the space bar to clear contents may result in a #Value! sign or a Visual Basic for Applications (VBA) Error.

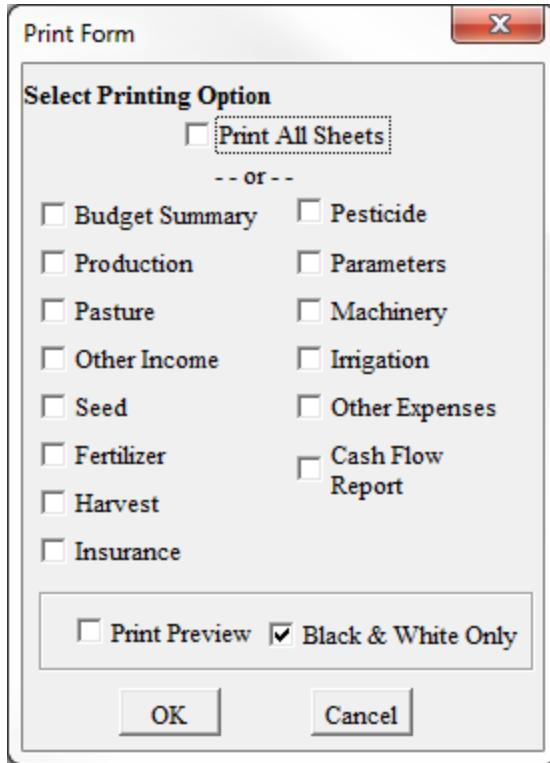
Breakeven and Sensitivity Analysis

The enterprise budget provides information on break-even prices and yields for grains and pasture given the budget specifications. In a summary table at the bottom of the Budget sheet, two breakeven yields and prices are shown: one above operating costs, the other above total costs (both operating and fixed). The breakeven yield above operating costs is the yield needed to cover costs given the expected price and other income. The breakeven price is the price needed to cover costs given the expected yield and other income.

Sensitivity tables display the return per acre over operating costs and above all specified costs. The sensitivity tables allow the user to adjust the percentage change in crop yields and/or percent change in crop price. In forage budgets, the user is provided break-even hay prices and yields that would offset the value of pasture less fertilizer costs given the pasture's nitrogen requirements.

Print Reports

Summary sheets are available for each worksheet tab in the budget (wheat is shown here).



The user may choose to print all or individual reports. Clicking on *Print Preview* will allow all selected reports to be viewed prior to printing. Choose *Close* (or *Next* in the case of a multiple page report) to view reports while in the print preview mode. You may then print selected reports by deactivating *Print Preview* and clicking on *OK*. *Black and White Only* is the default setting. To preview and/or print with shading or in color, de-select *Black and White Only*.

Warning: Make sure a printer is currently installed prior to opening up a budget file. Failure to do so will not allow the print module to function properly and may also result in the removal of screen color formats if *Black and White Only* is selected. The user is encouraged to close out the budget session without saving and a printer should be installed prior to the next budget session.

Generate Cash Flow Report

Cash flow files may be generated by clicking on the *Generate Cash Flow* button. If OK is selected, the cash flow report is automatically updated and the user is asked to specify a filename. The cash flow content can be viewed later for reference purposes using the IFFS tab along the bottom of the Excel screen. The output sheet is essentially a “snapshot” of the cash flow file.

Purchased feed or rented pasture will be included in the appropriate operating expense line in the report. Raised inputs such as hay or pasture are included in livestock cash flow as a “Contribution of Other Enterprise” (bottom of report). In similar fashion, retained stocker calves from the cow herd or stocker goats from the meat goat operation are a “Contribution of Other Enterprise”. In all cash flow reports, tax and insurance allocations may be specified as operating expenses or included in “Land or Other Fixed Charges”. Leased pasture income is a cash transaction and is shown as cash income. In cow-calf and meat goat budgets, weaned offspring that are retained for an additional production phase (e.g., stockers) are shown as a “Contribution to Other Enterprise”.

Note: The box containing Days on Feed, Avg. Daily Gain and calculated sell weight are components used in the cash flow report and are not tied to or used by the stocker enterprise budget.

Note: If a budget is modified, the *Generate Cash Flow* button must be used to update the report before the numbers shown in the IFFS tab or printed in a report will be accurate.

Saving a Customized Budget

To save a 2010 or later version formatted budget file, click *File* on the upper left-hand corner of the screen, *Save As*, and give the budget a new name so as not to replace the original budget template.

Note: You may want to save a customized budget before printing it so that the correct file name will print at the bottom of the page.

Restarting a Customized Budget

To evaluate a different enterprise budget scenario, press the *Restart* button. A pop-up menu confirms your intention before you access a start-up screen containing the information previously entered. If you do not want to modify information on this screen, click *Cancel*. If you want to modify the start-up data, make the appropriate changes and click on OK. Pressing OK will save information in this start-up form as new defaults.

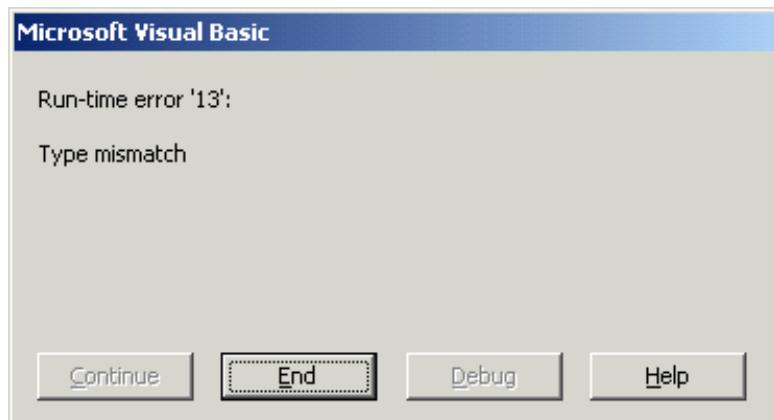
Caution: In general, various inputs automatically increase or decrease if a different budget acreage or stocker herd size is specified. The notable exception applies to the cow-calf budget where it is important to update the appropriate number of head shown in supporting worksheets to correspond with the new scenario.

Re-opening a Customized Budget

When you re-open a budget that you have saved from a prior session, you will get a start-up screen that contains the information previously entered. If you do not want to modify information on this screen, click Cancel. If you want to modify the start-up data, make the appropriate changes and click on OK. Pressing OK will modify new defaults to match the start-up data.

Error Messages

All budget workbooks were developed in Microsoft Excel and utilize VBA to handle data manipulation and provide the user interface. If you encounter a VBA error, you will receive pop-up message similar to this:



Press End to ignore the code error and continue running the program. However, there may be errors in logic and/or calculations as a result. The user should document the series of steps leading to the error message, save the file, and notify:

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