



Directions for Using the Farm Planning Tool

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Description of the Program

The Farm Planning Tool (FPT) is an Excel-based spreadsheet that helps producers evaluate new enterprises, changes in enterprise size, fixed costs, and loans—all on a whole-farm basis. The FPT produces two major reports: an income statement and a cash flow statement.

There are 12 worksheets or screens that are part of the FPT. Seven of the worksheets are for input, and five are for output. Budgets for field crops, livestock, and horticultural crops are shown on three of the input worksheets. These budget pages contain typical budgets on a per acre or per unit basis. However, the categories have been standardized so that each budget page has the same categories for each of these enterprises. An enterprise selection worksheet allows producers to enter the number of acres for each crop enterprise under evaluation and the number of units for each livestock enterprise.

A fixed cost worksheet, a purchase and sales worksheet, and a loan worksheet are also included.

The FPT has five output worksheets. The output produced is based on the assumption that everything is cash based—in other words, that all grain and livestock produced is sold for cash. However, the output pages allow producers to manually add their accrual adjustments to give a more realistic picture of farm income. Besides the income and cash flow statements, the FPT includes a crop summary, a livestock summary, and a general cash flow summary. Each of the 12 worksheets is discussed in more detail below.

Use of the Program

Enterprise Budgets

The basis of the FPT is the enterprise budgets—crop, horticulture, and livestock budgets. The worksheets for these three budgets are labeled *Crop Budgets*, *Hort Budgets*, and *Lvstk Budgets*, respectively. Figure 1 shows what the crop budgets worksheet looks like.

The budgets for the various enterprises are listed column by column on the worksheets. These budgets have been standardized so that each has the same revenue and expense items. Like traditional budgets, these are based on a per acre or a per unit basis. These three budget pages should be adjusted before generating any output from the spreadsheet. In other words, make sure the per acre or per unit revenue and cost items are appropriate for your farm. The rest of the

worksheets are keyed to these enterprise budgets. To make a change, simply re-enter a value into one of the cells. Because of the variability in crop and livestock prices, the price fields in the revenue section of these budgets have been zeroed out. This should help ensure that current prices are used in the analysis.

The double-crop items, such as wheat-soybeans or barley-soybeans, are entered as one enterprise. Two yield rows and two price rows are available to handle double-crop enterprises. For the wheat-soybean column, wheat is yield 1 and price 1, and soybeans are yield 2 and price 2. The expense section of a double-crop enterprise should reflect the expenses of growing both crops per acre.

The livestock budgets are slightly different because they are based on a per unit basis. A livestock unit consists of market livestock, breeding livestock, milk, and wool. As an example, a livestock unit for a cow-calf operation may consist of one cow that produces a calf. Some of the calves are male and some female. In addition, some of the female calves will be kept back as replacements, and some calves will die. Therefore, the *# of Mkt Livestock Sold/Unit* will be a percentage that represents the proportion of male and female calves compared to the total number of cows. This percentage accounts for calves that die and calves that are kept back as replacements. As an example, for spring cow-calf operations, one cow on average produces 0.412 male calves and 0.262 female calves that will be sold.

The *# of Breeding Livestock/Unit* represents the normal culling percentage. Here, enter the proportion of breeding livestock sold. The revenue per head for breeding livestock should be the sale price minus the basis. In other words, the capital gain is entered. Only purchased breeding stock would have a basis. Sales of raised breeding stock should record the full price received. Sales of breeding livestock beyond normal culling should be entered on the *Purchase & Sales* worksheet. Instead of normal culling appearing in the livestock budgets, all breeding sales could be entered into the *Purchase & Sales* page. However, be sure not to double count sales of breeding livestock (see the section on special considerations, below).

Note that the revenue for market and breeding livestock is on a per head basis and not a per unit basis. Pounds of milk and wool is on a unit basis, but the price is per pound. The expense items for livestock should reflect breeding livestock that are kept for breeding purposes.

Figure 1. The Crop Budgets page of the Farm Planning Tool.

CROP ENTERPRISES		Alfalfa	Conv. Corn	NT Corn	Sil Corn	Popcorn	Wh Corn	G/L Hay	Gr sorg	Soybeans	Barley/SB	Wheat/SB	Bur Tob	DAC Tob	DFC Tob	Wheat
Crop Name	Acres	1	125	125	15	3000	115	3.5	90	35	75	60	2255	2300	2500	60
	Units	ton	bu	bu	ton	lb	bu	ton	bu	bu	bu	bu	lb	bu	lb	bu
	Yield 2	0									35	35				0
	Units	units	units	units	units	units	units	units	units	units	bu	bu	units	units	units	units
	Price 1 per unit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Price 2 per unit	0.00									0.00	0.00				0.00
	REVENUE PER ACRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VARIABLE COSTS		Alfalfa	Conv. Corn	NT Corn	Sil Corn	Popcorn	Wh Corn	G/L Hay	Gr sorg	Soybeans	Barley/SB	Wheat/SB	Bur Tob	DAC Tob	DFC Tob	Wheat
Seed/Plants	9	25	29	27	0	25	5	8	24	31	31	157	73	73	73	15
Fertilizer	51	52	60	48	46	48	18	46	18	44	44	47	179	189	189	47
Lime	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Herbicides	35	20	30	30	20	20	0	16	35	48	48	15	25	25	25	15
Insecticides	10	15	0	15	0	0	0	5	5	0	0	0	30	35	35	0
Fungicides	0	0	0	0	0	0	0	0	0	0	0	10	96	80	80	10
Fuel and Oil	25	14	8	12	13	13	10	14	13	15	15	54	36	36	60	8
Repairs	12	23	16	14	20	20	10	20	18	16	16	157	115	115	115	13
Custom Hire	0	4	4	0	4	4	0	4	4	4	4	9	50	50	50	4
Equipment Rental	2	0	0	2	0	0	1	0	0	1	1	4	2	2	2	1
Crop Insurance	0	0	0	0	0	0	0	0	0	0	0	0	29	121	167	0
Irrigation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hired Labor	84	32	20	33	26	28	28	32	28	37	37	937	2100	2450	2450	18
Harvest Cost	0	14	14	0	0	15	0	6	0	0	0	0	0	0	0	0
Marketing Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	347	459	0
Lease or Rent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating interest	9	8	0	7	5	7	3	7	0	8	8	0	102	126	126	6
Other	0	0	0	0	0	0	0	0	0	0	0	0	87	131	251	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COSTS PER ACRE	249	219	193	200	146	192	87	170	152	216	229	1766	3418	4094	149	

Several items in the enterprise budgets require special attention: labor, feed costs, rent, and operating interest. These items are discussed in the section on special considerations.

Enterprise Selection Worksheet

The *Enterprise Selection* worksheet is used to enter the number of acres for crop or horticulture enterprises and the number of units for livestock enterprises. Keying in a number and pressing return will update the entire FPT spreadsheet. To keep the formulas working correctly, there must be one crop or horticulture enterprise and one livestock enterprise. If there is no enterprise to be entered, enter a number in the *None* enterprise. This *None* enterprise is simply a placeholder with zeros for the revenue and expenses. (Note: the *None* box in the second column for horticulture crops applies to both field and horticulture crops.) This worksheet page should be developed first. There are links at the top of the page [i.e., *CROP (to budget page)*] that takes the user to the appropriate budget. These links are the green text headings.

Fixed Costs Worksheet

The *Fixed Costs* worksheet is used to enter expenses such as depreciation, utilities, and taxes that do not depend on the type of enterprise. Most of these costs also are not dependent on the number or size of enterprises. However, some variable costs such as hired labor and cash rent are difficult to allocate across enterprises and may be entered here as well. There are also some enterprise revenue items such as government payments that may make more sense to enter on a farm basis rather than trying to allocate across enterprises. These revenue items can be entered directly on the income statement. Again, be sure to not double count items by entering them as part of the budgets and on other pages as well.

Loans Page Worksheet

Information about loans is entered on the *Loans* page worksheet. Enter the amount borrowed as a negative number. The interest rate is on a per year basis. Principal and interest payments are based on loans, with only one payment per year. These payments are calculated directly by the spreadsheet. The current year of the loan is used to determine

how much of the payment is for principal and how much is for interest. Keying in a 1 for the current year of the loan means that the loan is being taken out during the year. Consequently, the entire amount of the loan will be a cash inflow. Normally, there will be a purchase associated with loans when the current year of the loan is 1. Operating loans can be entered here by keying in a 1 in both the term of the loan and also the current year of the loan.

Purchase and Sales Worksheet

The last input worksheet is the *Purchase & Sales* worksheet. Purchases are entered by keying in a number in one of the columns for real estate and buildings, equipment, or breeding livestock. Depreciation taken for the year of purchase should also be entered. Purchases included as part of the enterprise cost budget should not be entered here. Market livestock purchases should probably be entered on the *Lvstk Budgets* enterprise page. Sales are entered much the same way on the bottom half of the page. A number is entered into one of the columns for real estate and buildings, equipment, or breeding livestock columns. Any basis associated with the sale should also be entered so that the capital gain is calculated correctly.

Livestock Worksheet and Crops Worksheet

The rest of the worksheets are mainly for output. The *Livestock* and *Crops* pages take the enterprise budgets and scale up the costs and revenues by the number of acres or livestock units entered on the *Enterprise Selection* page. These two pages show the return over variable costs for each enterprise and total costs and returns across all crops or all livestock enterprises. Nothing can be entered on these pages.

Income Statement

The *Income Stmt* page is used to print an income statement. Without entering additional information, the page shows what cash net farm income would be, assuming all production was sold in the year produced. The income statement can be modified by keying in the appropriate accrual adjustments. Also, non-farm income should be entered here.

Cash Flow Statement

The *Cash Flow Stmt* page is used to print a cash flow statement. Most of the information is drawn from the other worksheets. The *Summary* page shows basically the same information as the cash flow statement but in a simplified format. The *Cash Flow Stmt* and *Summary* pages will show the same information if the blank cells are not filled in on the cash flow statement.

Special Considerations

1. Cells in blue or green may be modified by the user. Also, blank cells on the cash flow statement can be filled in. Cells with black numbers are always calculated by the spreadsheet.
2. All enterprise production is assumed to be sold in the year produced. Enterprise costs are assumed to stay proportional to the size of the enterprise. In other words, there are no returns to size or scale.
3. The *Enterprise Selection* worksheet should be used first. Next, the three budget worksheets should be modified, followed by the loans page, the fixed costs page, and the purchase and sales page. The income and cash flow statements are modified last, with the income statement coming before the cash flow statement. The crops, livestock, and summary pages cannot be modified.
4. Additional enterprises may be added to the spreadsheet by simply adding columns to the appropriate budget page and then by adding a line to the input screen page. Another option for adding a new enterprise is to simply change one of the existing enterprises.
5. Expenses such as cash rent, labor, operating loans, utilities, etc., can either be part of the enterprise cost or included as a fixed cost. Because of the difficulty in allocating these expenses on a per acre or per unit basis, it may make more sense to treat them as fixed costs. However, be sure to not double count them. For instance, if you include operating loans on the loans page, remove the *operating interest* amount from the enterprise budgets.
6. Operating loans may have terms of less than one year. To correctly account for the interest, adjust the interest rate. For example, a six-month operating loan with a rate of eight percent would require the user to key four percent into the spreadsheet.
7. The sale or purchase of assets should reflect the actual cash involved and not necessarily the actual price. As an example, a new truck purchase of \$10,000 with a \$1,000 trade-in would show \$9,000 for the purchase and zero for the money received from the old truck.
8. Normal sales of culled breeding livestock may be entered as part of the enterprise budgets or as part of the purchase and sales worksheet. When accounting for breeding cull sales through the budget, be sure to enter only the capital gain for the revenue per head. Using the budget to account for breeding sales will simply add these sales to the *Market Livestock Sold* section of the income statement. Sales of raised breeding stock should be recorded at the full price received. Recording only the capital gain will correctly develop the income statement but will undercount cash flow by the amount of the basis.
The preferred method of accounting for breeding stock sold is to enter the sales directly on the purchase and sales page. This makes it easier to account for the basis in the livestock and also enables you to avoid undercounting cash flow. Be sure to not double count sales of breeding livestock by having the budgets reflect breeding sales and then entering the same information on the sales page. Breeding sales beyond normal culling should be entered specifically on the purchase and sales page.
9. Homegrown feed should be an expense to the livestock enterprise, with an associated revenue for a crop enterprise.
10. Long-run prices and yields are often used as inputs for the various budgets. However, in a given year, prices and yields often are higher or lower than these historical averages. Therefore, estimated cash flow and net farm income may differ greatly from actual results.