

## Directions for Using the **Farm Planning Tool (FPT)**

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October 2000

### **Description of 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 cashflow statement.

There are 12 worksheets or screens as part of the FPT. Seven of the worksheets are for input and five are for output. Three of the input worksheets contain budgets for field crops, livestock, and horticultural crops. 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 enterprise. An enterprise selection worksheet allows producers to enter the number of acres of 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 assumes that everything is cash based. In other words, grain and livestock produced is all sold for cash. However, the output pages allow producers to manually add their accrual adjustments to give a more realistic farm income picture. Besides the income and cashflow statements, the FPT includes a crop summary, a livestock summary, and a general cashflow summary. Each of the 12 worksheets is discussed in more detail below.

### **Use of the program**

The basis of the FPT is the crop, horticulture, and livestock budgets. These three worksheets are

labeled “Crop Budgets”, “Hort Budgets”, and “Lvstk Budgets” respectively. Figure 1 shows what the crop budgets worksheet looks like.

The various enterprise budgets 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 reenter a value into one of the cells. Because of the variability in crop and livestock prices, the price fields in the revenue section 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. The 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 while 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 that is entered accounts for calves that die and calves that are kept back for 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. Enter the proportion of breeding livestock sold here. 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 on the livestock budgets, all breeding sales could be entered into the purchase and sales page. However, be sure not to double count sales of breeding livestock (see 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 while the price is per pound. The expense items for

<b>CROP ENTERPRISES</b>							
<b>Crop Name</b>	<b>Alfalfa</b>	<b>Conv. Corn</b>	<b>NT Corn</b>	<b>Sil Corn</b>	<b>Popcorn</b>	<b>Wh Corn</b>	
<b>Acres</b>	1	1	1	1	1	1	1
<b>Yield 1</b>	<b>4.5</b>	<b>125</b>	<b>125</b>	<b>15</b>	<b>3000</b>	<b>115</b>	
<b>Units</b>	<b>ton</b>	<b>bu</b>	<b>bu</b>	<b>ton</b>	<b>lb</b>	<b>bu</b>	
<b>Yield 2</b>	<b>0</b>						
<b>Units</b>	<b>units</b>	<b>units</b>	<b>units</b>	<b>units</b>	<b>units</b>	<b>units</b>	
<b>Price 1 per unit</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	
<b>Price 2 per unit</b>	<b>0.00</b>						
<b>REVENUE PER ACRE</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>VARIABLE COSTS</b>							
	<b>Alfalfa</b>	<b>Conv. Corn</b>	<b>NT Corn</b>	<b>Sil Corn</b>	<b>Popcorn</b>	<b>Wh Corn</b>	
<b>Seed/Plants</b>	9	25	29	27	0	25	
<b>Fertilizer</b>	51	52	60	48	46	48	
<b>Lime</b>	12	12	12	12	12	12	
<b>Herbicides</b>	35	20	30	30	20	20	
<b>Insecticides</b>	10	15	0	15	0	0	
<b>Fungicides</b>	0	0	0	0	0	0	
<b>Fuel and Oil</b>	25	14	8	12	13	13	
<b>Repairs</b>	12	23	16	14	20	20	
<b>Custom Hire</b>	0	4	4	0	4	4	
<b>Equipment Rental</b>	2	0	0	2	0	0	
<b>Crop Insurance</b>	0	0	0	0	0	0	
<b>Irrigation</b>	0	0	0	0	0	0	
<b>Hired Labor</b>	84	32	20	33	26	28	
<b>Harvest Cost</b>	0	14	14	0	0	15	
<b>Marketing Cost</b>	0	0	0	0	0	0	
<b>Lease or Rent</b>	0	0	0	0	0	0	
<b>Operating interest</b>	9	8	0	7	5	7	
<b>Other</b>	0	0	0	0	0	0	

Figure 1

livestock should reflect breeding livestock that are kept for breeding purposes.

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

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 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.

The “Fixed Costs” worksheet is used to enter expenses such as depreciation, utilities, and taxes that do not depend on the type of enterprise or enterprise size. Most of these costs are not dependant on the number or size of enterprise. 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 also on other pages.

The “Loans” page worksheet is where information about loans is entered. 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 are calculated directly by the spreadsheet. The current year of loan is used to determine how much of the payment is for principal and how much is for interest. Keying a one for current year of 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 a purchase associated with loans when the current year of the loan is one. Operating loans can be entered here by keying a one in both the term of the loan and also the current year of the loan.

The last input worksheet is the “Purchase & Sales” page. Purchases are entered by keying 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.

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.

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.

The “CashFlow stmt” page is used to print a cashflow 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 “CashFlow stmt” and “Summary” pages will show the same information if the blank cells are not filled in on the cashflow statement.

## Special Considerations

1. Cells in blue or green can 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 cashflow statements are modified last with the income statement coming before the cashflow statement. The crops, livestock, and summary pages cannot be modified.
4. Additional enterprises can 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 to 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 these as fixed costs. However, be sure to not double count them. For instance, if you include operating loans on the loan 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 can 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 only enter 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 avoids 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.

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