



Cooperative Extension Service

User’s Guide for Interactive Whole Farm Budgets in Excel

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Crop Production

The Whole Farm Budgets program is available for combined production of cotton, corn, soybeans, long-grain rice, medium-grain rice, sorghum, wheat and peanuts as a single farm unit. Worksheets in the interactive Excel file for users to select acreage, expected yield and price, and share of revenue are labeled Cotton, Corn, Soybean, Rice_LG, Rice_MG, Wheat, Sorghum, and Peanut. Table 1 shows the entries available for each crop. Default input costs in the program represent alternative irrigation methods. Irrigation type and irrigation power type should be observed when making acreage entries. Two data categories are available to represent production, 1) owned land and 2) rented land. Cash land rent paid is entered in the white cells of line 26 for each crop as indicated in Table 2. Grower share of revenue should be set to 100% for cash rent situations. For cotton in Table 3, a rebate per bale of production may be entered in the line below Grower Share Revenue, %. If no rebate value is entered for cotton, the value is set equal to post-harvest expenses.

Table 1. Example of Data Entries for Whole Farm Budgets

| | Owned Land | | | | | Rented Land (Share or Cash) | | | | |
|-------------------------|-------------------|----------|------------------|----------|---------------|-----------------------------|----------|------------------|----------|---------------|
| | Furrow Irrigation | | Pivot Irrigation | | Non-irrigated | Furrow Irrigation | | Pivot Irrigation | | Non-irrigated |
| | Diesel | Electric | Diesel | Electric | N/A | Diesel | Electric | Diesel | Electric | N/A |
| Irrigation Type | | | | | | | | | | |
| Irrigation Power | | | | | | | | | | |
| Acreage | 200 | 0 | 0 | 0 | 0 | 600 | 0 | 0 | 0 | 0 |
| Yield | 60 | 60 | 60 | 60 | 30 | 60 | 60 | 60 | 60 | 30 |
| Farm Price | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| Grower Share Revenue, % | 100% | 100% | 100% | 100% | 100% | 75% | 75% | 75% | 75% | 75% |

Table 2. Entry for Cash Land Rent

| | | | | | |
|----------------|------|------|------|------|------|
| Cash Land Rent | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|----------------|------|------|------|------|------|

Table 3. Example of Data Entries for Cotton

| | Owned Land | | | | | Rented Land (Share or Cash) | | | | |
|---|-------------------|----------|------------------|----------|---------------|-----------------------------|----------|------------------|----------|---------------|
| | Furrow Irrigation | | Pivot Irrigation | | Non-irrigated | Furrow Irrigation | | Pivot Irrigation | | Non-irrigated |
| | Diesel | Electric | Diesel | Electric | N/A | Diesel | Electric | Diesel | Electric | N/A |
| Irrigation Type | | | | | | | | | | |
| Irrigation Power | | | | | | | | | | |
| Acres | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yield | 1200 | 1200 | 1200 | 1200 | 800 | 1200 | 1200 | 1200 | 1200 | 800 |
| Farm Price | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 |
| Grower Share, Lint Revenue, % | 100% | 100% | 100% | 100% | 100% | 75% | 75% | 75% | 75% | 75% |
| Cottonseed Value ¹ , \$/bale | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 |

¹If no value entered in X_Cotton, values are set equal to post-harvest expenses and board fees.

Default percentages for grower share of expenses are 100% as indicated in Table 4. Alternative percentages less than 100% entered for Grower Expenses Percent in Table 4 will decrease the grower production cost of a production item.

Table 4. Grower Share of Expenses

| | Rented Land (Share or Cash) | | | | | Grower Expense Percent, Share Rented Land | | | | |
|-------------------------------|-----------------------------|----------|------------------|----------|---------------|---|----------|------------------|----------|---------------|
| | Furrow Irrigation | | Pivot Irrigation | | Non-irrigated | Furrow Irrigation | | Pivot Irrigation | | Non-irrigated |
| | Diesel | Electric | Diesel | Electric | N/A | Diesel | Electric | Diesel | Electric | N/A |
| Irrigation Type | | | | | | | | | | |
| Irrigation Power | | | | | | | | | | |
| Acres | 600 | 0 | 0 | 0 | 0 | | | | | |
| Yield | 60 | 60 | 60 | 60 | 30 | | | | | |
| Farm Price | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | | | | | |
| Grower Share Revenue, % | 75% | 75% | 75% | 75% | 75% | | | | | |
| Seed | 90.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Fertilizers & Nutrients | 42.20 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Chemicals | 68.98 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Custom Applications | 14.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Other Inputs | 3.45 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Diesel Fuel, Field Activities | 15.59 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Irrigation Energy | 35.15 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Fees | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Crop Insurance | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Repairs & Maintenance | 20.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Labor, Field Activities | 10.30 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Interest | 7.12 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Custom Harvest | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Post-harvest Expenses | 15.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Check-offs, Board Fees | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 100% | 100% |
| Cash Land Rent | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | |

Farm Costs and Returns Summary

Financial results presented in Table 5 for combined crop production are calculated in the Farm worksheet. The program calculates estimates for Capital Recovery and Ownership Costs of equipment. Users may substitute the calculated default value with an alternative value entered

into the white cell for this expense. Similarly, users may enter alternative real estate taxes paid for owned land in the corresponding white cell. Users enter values for Price Loss Coverage (PLC), Agricultural Risk Coverage (ARC), and loan deficiency payments (LDP) in the corresponding white cells. The interactive program for PLC, ARC, and LDP in Excel is available at <http://www.uaex.edu/crop-budgets> to estimate these expected payments. Users may enter alternative values attributed to farm management and unpaid labor in the white cell for Management, Unpaid Labor.

Table 6 presents default values for the interest rate of operating loans and the average portion of the calendar year allowed for repaying borrowed operating capital. The default value of 0.50 for Portion of the Year Financed represents 6 months. For 9 months, the white cell would be revised to 0.75.

Table 5. Farm Costs and Returns Summary

| Farm Costs and Returns Summary | | | | | | | | | |
|-------------------------------------|---------|-------------------|---------|-------------------|--------------|-------|---------|--------|------------------|
| Crop | Cotton | Corn | Soybean | Rice, LG | Rice, MG | Wheat | Sorghum | Peanut | Total |
| Total Revenue | 0 | 0 | 480,000 | 720,000 | 0 | 0 | 0 | 0 | 1,200,000 |
| Grower Revenue ¹ | 0 | 0 | 390,000 | 585,000 | 0 | 0 | 0 | 0 | 975,000 |
| Input Costs | 0 | 0 | 215,502 | 321,538 | 0 | 0 | 0 | 0 | 537,040 |
| Production Expenses | 0 | 0 | 240,029 | 360,332 | 0 | 0 | 0 | 0 | 600,361 |
| Operating Expenses | 0 | 0 | 260,130 | 464,434 | 0 | 0 | 0 | 0 | 724,564 |
| Crop, Returns to Operating Expenses | 0 | 0 | 129,870 | 120,566 | 0 | 0 | 0 | 0 | 250,436 |
| Farm, Returns to Operating Expenses | 250,436 | | | | | | | | |
| Capital Recovery & Ownership Costs | 139,296 | 139,296 Estimate: | | Includes Personal | | | | | |
| Real Estate Taxes | 2,981 | 2,981 Estimate | | 400 Owned Acres | Millage Rate | 46.00 | | | |
| Net Farm Income from Operations | 108,160 | | | | | | | | |
| PLC, ARC Payments | 0 | | | | | | | | |
| LDP | 0 | | | | | | | | |
| Management, Unpaid Labor | 72,570 | | | | | | | | |
| Net Returns | 35,590 | | | | | | | | |

¹Cash rent is deducted from Total Revenue to calculate Grower Revenue.

Table 6. Operating Interest Rate and Portion of Year Financed

| Operating Interest | |
|--------------------------|------|
| Interest Rate | 4.75 |
| Portion of Year Financed | 0.50 |

The Whole Farm Budgets program estimates repairs and maintenance for equipment by applying engineering formulas, and values should be regarded as expenses for full service repairs. Farm labor expenses are estimated by applying hourly wage rates to estimated time periods of field work for production activities. In practice, hired farm labor is typically utilized for some repairs and maintenance of equipment. Table 7 indicates a situation in which 50% of total equipment repairs are performed by hired farm labor. Of the repairs performed by farm labor, 50% of the total value consists of parts and supplies and 50% of the total value is for hired farm labor. These percentages in the white cells may be revised to represent unique situations. Percentage selections in Table 7 do not affect Net Returns in Table 5 and are only for information to estimate expenses allocated for hired labor expenses.

Table 7. Detail for Farm Labor and Equipment Repairs

| <u>Repairs, Labor Detail</u> | | |
|------------------------------|---------------|---|
| Total Repairs | 43,394 | Estimated value of all farm repairs and maintenance |
| % by Farm Labor | 50% | Estimated for value performed by farm labor |
| %, Parts & Supplies | 50% | Estimated for repairs & maintenance performed by farm labor |
| Repairs, Full Service | 21,697 | |
| Labor, Repairs | 10,848 | |
| Labor, Field Activities | 19,927 | |
| Labor, Total | 30,776 | |

Revising Crop Production Expenses

Expenses on a per acre basis are contained in worksheets labeled X_Cotton, X_Corn, X_Soybean, X_Rice_LG, X_Rice_MG, X_Wheat, X_Sorghum, and X_Peanut. Expenses are derived from the crop enterprise budgets available at <http://www.uaex.edu/crop-budgets>. Users may apply alternative expenses in the Whole Farm Budgets by revising production methods in any individual crop enterprise budget. After revising a crop enterprise budget, go to the worksheet labeled Links. Copy cells C3 through C27. Perform Paste Special and select Values into rows 6 through 26 of the corresponding expense worksheet in the Whole Farm Budgets file.



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