

# Projected 2018 Rice Farm Cash Flow Model

A Rice Production Farm Income and Expense Producer Decision Tool



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The Projected 2018 Rice Farm Cash Flow Model was developed to assist producers in planning for the 2018 crop year. The model is an Excel spreadsheet which allows rice producers to enter projected acreage, yield, market price and production cost data for 2018 to estimate net returns above variable production costs and to easily evaluate the impact of changing percent of base planted on net returns. The primary purpose of the model is to evaluate the impact on net returns above variable production costs for alternative rice rental arrangements and percent of base acreage planted. *This model does include the Price Loss Coverage (PLC) Program option in the 2014 Farm Bill.* The model also includes entry cells for whole farm fixed expenses to estimate projected returns from rice production over all costs. Five worksheets are included to estimate rice cash flow on five different land tracts. Worksheets can be copied to accommodate additional land tracts if needed.

## Data Input

The Projected 2018 Rice Farm Cash Flow Model calculates projected net returns above variable production costs for a rice farm or specific tract of land of a specified acreage. For each farm or tract, data to be entered into the model includes estimates for the 2018 crop season including rice acreage, base acres, percent of base planted, projected first crop and ratoon crop yields, program yields, projected prices and production costs. Gross returns, variable costs and net returns are calculated for the farm or tract based upon the data entered. Spreadsheet cells in which data must be entered are listed and defined below.

## Acreage, Production and Price Data:

The first section of the model contains cells to enter data concerning projected 2018 rice acreage, production and market prices. The specific data entry cells in the spreadsheet (shaded in blue) are listed below.

| <u>Spreadsheet Cell</u> | <u>Description</u>                                        |
|-------------------------|-----------------------------------------------------------|
| C5                      | Farm Name                                                 |
| C6                      | Tract Name / Number                                       |
| G9                      | Rice Yield Unit (1 = cwt and 2 = bbls)                    |
| G10                     | Total Rice Base Acres                                     |
| I11                     | Rice Acres Planted in 2018                                |
| I12                     | Ratoon Crop Acres in 2018                                 |
| G13                     | Projected 2018 Rice First Crop Yield (cwt or bbl)         |
| G14                     | Projected 2018 Rice Ratoon Crop Yield (cwt or bbl)        |
| G15                     | Rice Sold on a Green-Weight Basis? (1 = no and 2 = yes)   |
| G17                     | Rice Base Payment Acreage Percent                         |
| G18                     | Rice Price Loss Coverage (PLC) Program Yield (cwt or bbl) |
| G20                     | Rice Cash Rent (\$ per acre)                              |
| G21                     | Total Acres Cash Rented                                   |
| G23                     | Rice Crop Share for Land and Water                        |
| G24                     | Percent of Irrigation Pumping Costs Paid by Grower        |
| G26                     | Projected 2018 Diesel Price per Gallon                    |
| G27                     | Projected 2018 Nitrogen Price per pound of N              |
| G28                     | Projected 2018 Phosphorous Price per pound of P           |
| G29                     | Projected 2018 Potassium Price per pound of K             |
| G31                     | Rice Reference Price for the PLC program (\$ per cwt.)    |
| G32                     | Projected 2018 Rough Rice Market Price (\$ per cwt.)      |
| G33                     | Projected 2018 World Rice Price (\$ per cwt.)             |

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### Rice Variable Production Cost Data:

The second section of the model contains cells to enter data concerning projected variable rice production costs for the 2018 season. Costs are entered on a dollar per planted acre basis and should include the proportionate additional cost for any ratoon crop acreage. The specific data entry cells (shaded in blue) are listed below.

| <u>Spreadsheet Cell</u> | <u>Description</u>                                                |
|-------------------------|-------------------------------------------------------------------|
| G59                     | Custom Aerial Application Costs (\$ per acre)                     |
| H59                     | Percent of Aerial Application Cost paid by grower                 |
| D61                     | Drying Charge per Yield Unit – Dry-Weight Basis                   |
| H61                     | Percent of Drying Cost paid by grower                             |
| B64                     | Fertilizer Material 1 Applied (name)                              |
| C64                     | Pounds of Fertilizer Material 1 Applied (lbs per acre)            |
| E64                     | Price of Fertilizer Material 1 (\$ per ton)                       |
| H64                     | Percent of Fertilizer Material 1 paid by grower (%)               |
| B65                     | Fertilizer Material 2 Applied (name)                              |
| C65                     | Pounds of Fertilizer Material 2 Applied (lbs per acre)            |
| E65                     | Price of Fertilizer Material 2 (\$ per ton)                       |
| H65                     | Percent of Fertilizer Material 2 paid by grower (%)               |
| B66                     | Fertilizer Material 3 Applied (name)                              |
| C66                     | Pounds of Fertilizer Material 3 Applied (lbs per acre)            |
| E66                     | Price of Fertilizer Material 3 (\$ per ton)                       |
| H66                     | Percent of Fertilizer Material 3 paid by grower (%)               |
| B67                     | Fertilizer Material 4 Applied (name)                              |
| C67                     | Pounds of Fertilizer Material 4 Applied (lbs per acre)            |
| E67                     | Price of Fertilizer Material 4 (\$ per ton)                       |
| H67                     | Percent of Fertilizer Material 4 paid by grower (%)               |
| G68                     | Fungicide Cost (\$ per acre)                                      |
| H68                     | Percent of Fungicide Cost paid by grower                          |
| G69                     | Herbicide Cost (\$ per acre)                                      |
| H69                     | Percent of Herbicide Cost paid by grower                          |
| G70                     | Insecticide Cost (\$ per acre)                                    |
| H70                     | Percent of Insecticide Cost paid by grower                        |
| G71                     | Irrigation Supplies / Gate Cost (\$ per acre)                     |
| G72                     | Seed Cost (\$ per acre)                                           |
| G73                     | Fertilizer Application Costs (\$ per acre)                        |
| H73                     | Percent of Fertilizer Application Costs paid by grower            |
| G74                     | Planting Costs (\$ per acre)                                      |
| G75                     | Hauling Costs (\$ per acre)                                       |
| G76                     | Labor Costs (\$ per acre)                                         |
| C77                     | Gallons of Diesel used for Tillage and Harvest (gallons per acre) |
| C78                     | Gallons of Diesel used for Irrigation (gallons per acre)          |
| C79                     | Electricity Cost for Irrigation (\$ per acre)                     |
| G80                     | Repair and Maintenance Costs (\$ per acre)                        |
| G81                     | Other Variable Costs (\$ per acre)                                |
| H81                     | Percent of Other Costs paid by Grower                             |
| C82                     | Interest Rate on Operating Capital (%)                            |
| C83                     | Term of Operating Loan (months)                                   |

## Rice Fixed Production Cost Data:

The next section of the model contains cells to enter data concerning projected fixed rice production costs for the 2018 season. Costs are entered on a total farm or total tract allocated basis. *Fixed costs entered must be relevant to the level of rice acres entered on the worksheet.* Fixed costs per planted acre are calculated by dividing total entered fixed costs by planted acres. The specific data entry cells (shaded in blue) are listed below.

| Spreadsheet Cell | Description                |
|------------------|----------------------------|
| B91              | Name of Fixed Cost Item 1  |
| I91              | Value of Fixed Cost Item 1 |
| B92              | Name of Fixed Cost Item 2  |
| I92              | Value of Fixed Cost Item 2 |
| B93              | Name of Fixed Cost Item 3  |
| I93              | Value of Fixed Cost Item 3 |

## Net Return Calculation:

Based on the acreage, production, price and cost data entered, the model calculates net returns above variable costs (for the percent of base planted) on a per farm tract, per acre, per cwt., and per bbl. basis. Net return estimates are also included at the upper portion of the spreadsheet (cells I7:L7) to allow for quick evaluation of the impact of changing percent of base planted on net returns above variable costs. A copy of the entire model along with a set of sample data entered is included below.

|    | B                                                                       | C | D | E | F | G                             | H                        | I                                                                                        | J                            | K              | L              | M | N |
|----|-------------------------------------------------------------------------|---|---|---|---|-------------------------------|--------------------------|------------------------------------------------------------------------------------------|------------------------------|----------------|----------------|---|---|
| 1  | <b>Projected 2018 Rice Farm Cash Flow Model</b>                         |   |   |   |   |                               |                          | 12/18/2018                                                                               |                              |                |                |   |   |
| 2  |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 3  | (Projected Net Returns Above Variable Production Costs)                 |   |   |   |   | [Enter values shaded in blue] |                          |                                                                                          |                              |                |                |   |   |
| 4  |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 5  | Farm Name <b>ABC Rice Farm</b>                                          |   |   |   |   |                               |                          | <b>Total Rice Net Returns Above Variable Costs</b>                                       |                              |                |                |   |   |
| 6  | Tract Name / Number <b>Tract 1 - Variety CL151</b>                      |   |   |   |   |                               |                          | <b>Per Farm Tract</b>                                                                    | <b>Per Acre</b>              | <b>Per Cwt</b> | <b>Per Bbl</b> |   |   |
| 7  |                                                                         |   |   |   |   |                               |                          | <b>\$19,464.37</b>                                                                       | <b>\$228.99</b>              | <b>\$3.27</b>  | <b>\$5.30</b>  |   |   |
| 8  |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 9  | Enter Yield Unit [ 1 = Cwt 2 = Bbl ]                                    |   |   |   |   | [ENTER]                       |                          |                                                                                          |                              |                |                |   |   |
| 10 | Total Rice Base Acres                                                   |   |   |   |   | 100.0                         |                          | 85.0                                                                                     | Paid Rice Base Acres in 2018 |                |                |   |   |
| 11 | Percent of Rice Base Planted in 2018                                    |   |   |   |   | 85%                           |                          | 85.0                                                                                     | Rice Acres Planted in 2018   |                |                |   |   |
| 12 | Percent of 2018 Planted Rice Acreage Ratoon Cropped                     |   |   |   |   | 0%                            |                          | 0.0                                                                                      | Ratoon Crop Acres in 2018    |                |                |   |   |
| 13 | Projected 2018 Rice First Crop Yield                                    |   |   |   |   | 70.00                         | Cwt                      | 70.0                                                                                     | Total Yield per Acre         |                |                |   |   |
| 14 | Projected 2018 Rice Ratoon Crop Yield                                   |   |   |   |   | 0.00                          | Cwt                      | 5,950                                                                                    | Total Rice Production        |                |                |   |   |
| 15 | Are these yields to be sold on a green-weight basis? [ 1 = NO 2 = YES ] |   |   |   |   | 1                             |                          |                                                                                          |                              |                |                |   |   |
| 16 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 17 | Rice Base Payment Acreage Percent                                       |   |   |   |   | 85.0%                         |                          |                                                                                          |                              |                |                |   |   |
| 18 | Rice Price Loss Coverage (PLC) Program Yield - **updated yield**        |   |   |   |   | 58.00                         | Cwt                      | 58.0                                                                                     | Cwt                          | 35.8           | Bbl            |   |   |
| 19 | ** (90% of 2008-2012 average)                                           |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 20 | Rice Cash Rent (\$ per acre)                                            |   |   |   |   | \$0.00                        |                          |                                                                                          |                              |                |                |   |   |
| 21 | Total Acres Cash Rented                                                 |   |   |   |   | 0                             |                          |                                                                                          |                              |                |                |   |   |
| 22 |                                                                         |   |   |   |   |                               |                          | <b>Rice Production</b>                                                                   |                              |                |                |   |   |
| 23 | Rice Crop Share for Land and Water                                      |   |   |   |   | 30%                           |                          | Yield Per Acre                                                                           |                              | 70.0 Cwt / A   | 43.2 Bbl / A   |   |   |
| 24 | Percent of Irrigation Pumping Costs Paid by Grower                      |   |   |   |   | 0%                            |                          | Total Production                                                                         |                              | 5,950 Cwt      | 3,673 Bbl      |   |   |
| 25 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 26 | Projected 2018 Diesel Price per Gallon                                  |   |   |   |   | \$2.28                        |                          |                                                                                          |                              |                |                |   |   |
| 27 | Projected 2018 Nitrogen Price per lb. of N (46% N)                      |   |   |   |   | \$0.34                        |                          | Price per active ingredient obtained from 2018 Projected LA Rice Cost and Return Budgets |                              |                |                |   |   |
| 28 | Projected 2018 Phosphorous Price per lb. of P (46% P)                   |   |   |   |   | \$0.40                        |                          |                                                                                          |                              |                |                |   |   |
| 29 | Projected 2018 Potassium Price per lb. of K (60% K)                     |   |   |   |   | \$0.26                        |                          |                                                                                          |                              |                |                |   |   |
| 30 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 31 | Rice Reference Price Under Price Loss Coverage (PLC) Program            |   |   |   |   | \$14.00                       | per Cwt                  | \$22.68                                                                                  | per Barrel                   |                |                |   |   |
| 32 | Projected 2018 Rough Rice Market Price per Cwt. Dry Wt. Price ==>       |   |   |   |   | \$11.50                       | per Cwt                  | \$18.63                                                                                  | per Barrel                   |                |                |   |   |
| 33 | Projected 2018 World Market Price                                       |   |   |   |   | \$9.70                        | per Cwt                  | \$15.71                                                                                  | per Barrel                   |                |                |   |   |
| 34 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 35 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 36 | Price Loss Coverage (PLC) Payment per Cwt                               |   |   |   |   | \$2.50                        | per Cwt                  | \$4.05                                                                                   | per Bbl                      |                |                |   |   |
| 37 | LDP Payment per Cwt                                                     |   |   |   |   | \$0.00                        | per Cwt                  | \$0.00                                                                                   | per Bbl                      |                |                |   |   |
| 38 | U.S. Rough Rice Market Price                                            |   |   |   |   | \$11.50                       | per Cwt                  | \$18.63                                                                                  | per Bbl                      |                |                |   |   |
| 39 | World Rough Rice Market Price                                           |   |   |   |   | \$9.70                        | per Cwt                  | \$15.71                                                                                  | per Bbl                      |                |                |   |   |
| 40 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 41 |                                                                         |   |   |   |   |                               |                          |                                                                                          |                              |                |                |   |   |
| 42 | Gross Income From Rice Production                                       |   |   |   |   |                               | Per Harvested Rice Acres |                                                                                          | Per Actual Production Unit   |                |                |   |   |
| 43 | Market Income                                                           |   |   |   |   | \$805.00                      |                          | Total Farm Tract                                                                         | Per Cwt                      | Per Bbl        |                |   |   |
| 44 |                                                                         |   |   |   |   |                               |                          | \$68,425.00                                                                              | \$11.50                      | \$18.63        |                |   |   |

|     | B | C | D | E | F | G | H | I | J | K | L | M |
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