

# Soybean (Double Crop) Planning Budget

This budget presents information useful to farmers planning the production, financing and marketing of double crop soybeans for grain, after wheat. Table 1 presents estimates for the 2021 crop year for double crop soybean production in northern, central and southwest Missouri. Assumptions were based on price conditions as of October 2020. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common in Missouri. Farmers are encouraged to modify this budget based on their circumstances.

**Table 1. Missouri soybean (double crop) planning budget for 2021.**

|   | Dollars per acre <sup>1</sup> | Your estimate |
|---|-------------------------------|---------------|
| <b>Income</b>                                 |                               |               |
| Grain sales                                   | 288.00                        |               |
| Other income                                  | 0.00                          |               |
| <b>Total income</b>                           | <b>288.00</b>                 |               |
| <b>Operating costs</b>                        |                               |               |
| Seed  | 66.67                         |               |
| Fertilizer and soil amendments                | 23.14                         |               |
| Crop protection chemicals                     | 8.50                          |               |
| Crop supplies, storage, and marketing         | 0.00 <sup>2</sup>             |               |
| Crop consulting and insurance                 | 0.00                          |               |
| Custom hire and rental                        | 0.00 <sup>2</sup>             |               |
| Machinery fuel, drying, and irrigation energy | 6.55                          |               |
| Machinery repairs and maintenance             | 14.60                         |               |
| Operator and hired labor                      | 11.79                         |               |
| Operating interest                            | 2.95                          |               |
| <b>Total operating costs</b>                  | <b>134.19</b>                 |               |
| <b>Ownership costs</b>                        |                               |               |
| Farm business overhead                        | 5.00                          |               |
| Machinery overhead                            | 12.94                         |               |
| Machinery depreciation                        | 16.13                         |               |
| Real estate charge                            | 0.00 <sup>2</sup>             |               |
| <b>Total ownership costs</b>                  | <b>34.07</b>                  |               |
| <b>Total costs</b>                            | <b>168.26</b>                 |               |
| <b>Income over operating costs</b>            | <b>153.81</b>                 |               |
| <b>Income over total costs</b>                | <b>119.74</b>                 |               |
|   | Operating costs per bushel    | 4.19          |
|   | Ownership costs per bushel    | 1.06          |
|   | <b>Total costs per bushel</b> | <b>5.26</b>   |

<sup>1</sup> Totals may not sum due to rounding.

<sup>2</sup> These expenses were charged to wheat production since soybeans were planted in the same year wheat was harvested.

Written by  
**Raymond Massey**, Professor, Agricultural Business and Policy Extension

Table 2 shows input assumptions used to estimate the double crop soybean budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs are added. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge was not included but could be allocated between the soybean and wheat crops.

**Table 2. Input assumptions used in soybean (double crop) planning budget for 2021.**

| Selected input quantities                             | Per acre | Selected input prices                               | Dollars per unit |
|---|----------|---|------------------|
| Yield, bushels  | 32       | Soybean market price, per bushel                    | 9.00             |
| Seeding rate, count                                   | 200,000  | Seed, per 150,000 seed bag                          | 53.00            |
| Phosphorus rate, pounds P <sub>2</sub> O <sub>5</sub> | 27       | Phosphorus, per pound P <sub>2</sub> O <sub>5</sub> | 0.38             |
| Potassium rate, pounds K <sub>2</sub> O               | 46       | Potassium, per pound K <sub>2</sub> O               | 0.28             |
| Sum of allocated labor, hours                         | 0.69     | Skilled labor, per hour                             | 21.00            |
|   |          | Farm diesel, per gallon                             | 2.38             |

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using an economic engineering approach.

**Table 3. Machinery assumptions used in soybean (double crop) planning budget for 2021, on a per acre basis.**

| Machine activity (not custom fieldwork)        | Labor (hours) | Fuel (gallons) | Operating costs <sup>1</sup> (dollars) | Ownership costs <sup>2</sup> (dollars) | Total costs (dollars) | Trips across field |
|--|---------------|----------------|--|--|-----------------------|--------------------|
| Row crop planter (16 row); 225 MFWD            | 0.05          | 0.53           | 5.26                                   | 10.85                                  | 16.11                 | 1                  |
| Boom sprayer (90 feet); 130 MFWD               | 0.02          | 0.12           | 1.33                                   | 2.86                                   | 4.19                  | 1                  |
| Combine, flexible grain head (30 feet); 275 HP | 0.11          | 1.36           | 15.64                                  | 11.74                                  | 27.37                 | 1                  |
| Grain auger (5,000 bushels per hour); 130 MFWD | 0.01          | 0.10           | 0.43                                   | 0.57                                   | 1.00                  |                    |
| Semi, tractor and trailer                      |               | 0.18           | 0.76                                   | 0.40                                   | 1.16                  |                    |
| Pickup truck                                   |               | 0.42           | 1.77                                   | 2.65                                   | 4.42                  |                    |
| <b>Total<sup>3</sup></b>                       | <b>0.19</b>   | <b>2.71</b>    | <b>25.18</b>                           | <b>29.07</b>                           | <b>54.25</b>          | <b>3</b>           |

<sup>1</sup> Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.

<sup>2</sup> Machinery ownership cost is the sum of machinery overhead and depreciation.

<sup>3</sup> Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

Farmers can see other Missouri budgets or customize existing Missouri budgets by visiting <https://extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets>.