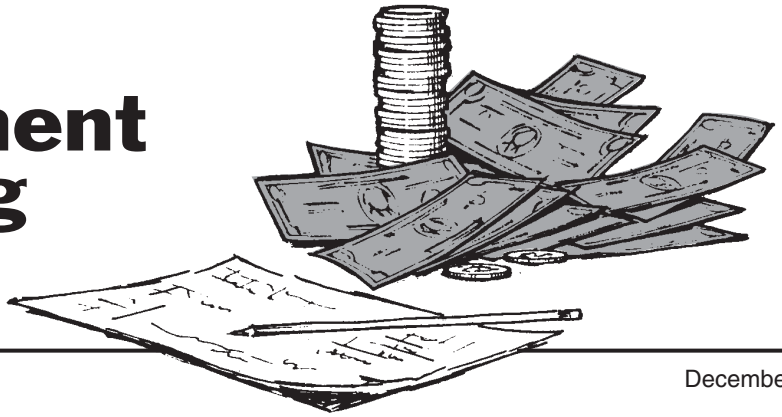
# Farm Management Planning Guide



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# Projected 2006 Crop Budgets South West North Dakota

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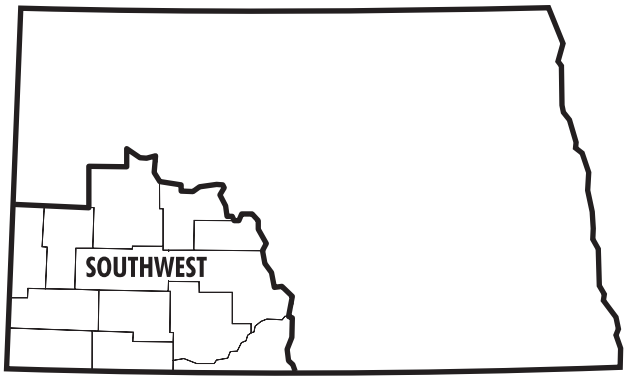


The 2006 crop budgets provide an estimate of revenues and costs for selected crops. Each set of budgets are developed for a multi-county region. There is considerable variation in soil type and productivity, weather conditions, as well as management and production practices within each region. Therefore, **THESE BUDGETS ARE ONLY INTENDED TO BE USED AS A GUIDE. EVERY INDIVIDUAL IS HIGHLY ENCOURAGED TO DEVELOP HIS/HER OWN BUDGETS!**

The profitability budget accounts for full economic opportunity costs for land and machinery investment, regardless of farm operator equity position. The bottom line is the return to labor and management. This is the expected "payment" to the producer for the labor and managerial efforts required by the crop enterprise. Each individual must make the decision whether it is sufficient.

The budget can be changed to conform to the more common definition of accounting profit (return to unpaid labor and management, and owner equity) by replacing the machinery investment and land charge cost items with your per acre interest, or rental, expense of machinery and land, and real estate tax if land is owned, respectively.

The budget can be used for long run decisions if the revenues and costs are realistic for several ears.(Crop prices, direct costs, and the land charge are best estimates for only the 2006 crop year, but crop yields are historic averages and machinery ownership costs are an average for the total length of ownership). If the budget shows a high return to labor and management, and is representative for several years, increased acreage and corresponding investment should be considered. However, if long-run returns to labor and management are unsatisfactory the best decision may be to exit the crop enterprise and employ the machinery and land investment, and labor and management, in a different enterprise or investment.

NDSU
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For short-run planning decisions you can omit the indirect costs if the land and machinery required to produce the different enterprises are in place. Simply compare the crop enterprises by calculating return over direct costs. Labor requirements and risk should also be considered. Insurance is not available for some crops.

The budget can be used to estimate cashflow by making a few modifications. Machinery depreciation should be omitted and the machinery investment number replaced with your per acre principal and interest payment on machinery debt. For owned land, the land charge should be replaced with your per acre real estate tax and principal and interest payment on land debt.

**Direct and counter-cyclical payments** under the 2002 Farm Bill are omitted from the budgets because those payments are tied to historic farm program base acres and payment yields, not to current crop selection or production. Direct payments for this region are about $6.25 per acre when averaged over all crop acreage. Counter-cyclical payments will occur if the national average price of wheat, feed grains or soybeans is below a certain level. Only counter-cyclical payment rates per bushel of $0.10 for wheat, $0.35 for corn, and $0.06 for barley are expected with the price levels used in the budgets. The estimate over all crop acreage is about $1.75 per acre for this region. Counter-cyclical payments will vary by a farm's base acres and payment yields and will dissipate if prices rise.

## Primary Assumptions:

Crops are planted on dryland recrop ground. Costs of moving crop to local market/storage are included.

**Market Price:** Best estimates of NDSU extension economists. The greater of projected market price and marketing loan rate is used.

**Market Yields:** Average yield for the 7 year period 1998-2004, after the low and high yield years are removed. Yields for field peas, safflower, yellow mustard, buckwheat, millet and garbanzo beans are from NDSU extension agronomists and industry sources.

**Fertilizer:** Cost of fertilizer applied, based on soil test, to meet yield goal of 130% of market yield. N fertilizer can be reduced if previous crop was soybean, dry bean, field peas or lentil.

| **Soil test** | **- recrop:** |
|---|---|
| Nitrogen | - 45 lb |
| Phosphorus | - 12 ppm |
| Potassium | - 356 ppm |

**Fertilizer prices:**

| | |
|---|---|
| Nitrogen | - .335/lb |
| Phosphorus | - .25/lb |
| Potassium | - .185/lb |

**Seed Prices:**

| | |
|---|---|
| Spring Wheat | 5.80/bu |
| Durum | 6.00/bu |
| Barley | 4.20/bu |
| Corn grain RR | 1.43/thous.kern. |
| Oil Sunflower | .66/thou.kern. |
| Conf. Sunflower | 1.10/thou.kern. |
| Flax | 9.00/bu |
| Canola | 3.20/lb |
| Oats | 3.25/bu |
| Field Peas | 5.75/bu |
| Millet | .17/lb |
| Buckwheat | .28/lb |
| Safflower | .45/lb |
| Lentils | .19/lb |
| Mustard | .65/lb |
| Large Chickpeas | .65/lb |
| Rye | 4.00/bu |
| Winter Wheat | 4.75/bu |

**Fuel prices:**

| | |
|---|---|
| Diesel | 2.10/gal |
| Gas | 2.20/gal |

**Lubrication charge:** 15% of fuel cost

**Crop Insurance:** Coverage levels are 70% on all insurable crops. MPCI estimates are used, except for RA-HPO on spring wheat and soybeans.

**Miscellaneous:** soil testing, machinery rent and custom work.

**Operating Interest:** Direct costs charged 7.75% interest for 6 month period.

**Misc. Overhead:** Machinery housing and insurance at .5% and .85%, respectively, of average machinery investment. Also, liability insurance and license fees of trucks. In addition, $1 per acre is assumed for general farm utilities, farm publications, meetings, dues, income tax preparation, legal fees, etc.

**Land charge** = average cash rent.

**Machinery investment:** 4.5% real interest rate, over the years of machine ownership, is charged on average machinery investment. The real, or inflation adjusted, rate is the commercial rate minus the inflation rate. Ave. mach. investment = (Purchase price + Disposal price)/2

**Depreciation** = (Purchase price - disposal price / years ownership)

| | Spring Wheat | | Durum | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 27 | _____ | 30 | _____ |
| Market Price | 3.41 | _____ | 3.43 | _____ |
| MARKET INCOME | 92.07 | _____ | 102.90 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 7.25 | _____ | 9.00 | _____ |
| -Herbicides | 10.30 | _____ | 10.30 | _____ |
| -Fungicides* | 1.50 | _____ | 1.50 | _____ |
| -Insecticides | 0.00 | _____ | 0.00 | _____ |
| -Fertilizer | 16.66 | _____ | 20.19 | _____ |
| -Crop Insurance | 4.30 | _____ | 2.90 | _____ |
| -Fuel & Lubrication | 10.02 | _____ | 10.11 | _____ |
| -Repairs | 9.47 | _____ | 9.51 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 1.00 | _____ | 1.00 | _____ |
| -Operating Interest | 2.34 | _____ | 2.50 | _____ |
| SUM OF LISTED DIRECT COSTS | 62.85 | _____ | 67.01 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.36 | _____ | 3.40 | _____ |
| -Machinery Depreciation | 11.86 | _____ | 11.95 | _____ |
| -Machinery Investment | 7.14 | _____ | 7.18 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 47.36 | _____ | 47.53 | _____ |
| SUM OF ALL LISTED COSTS | 110.21 | _____ | 114.55 | _____ |
| RETURN TO LABOR & MANAGEMENT | (18.14) | _____ | (11.65) | _____ |
| LISTED COSTS PER BUDGET UNIT | (bu): | | (bu): | |
| -Direct Costs | 2.33 | _____ | 2.23 | _____ |
| -Indirect Costs | 1.75 | _____ | 1.58 | _____ |
| -Total Costs | 4.08 | _____ | 3.82 | _____ |

**notes:**
*Early season foliar fungicide would cost about $3-$5 and late season fungicide would cost about $9.50 plus application. Recent trials consistantly show yield response of 5-10% with early season fungicide, if wheat planted into residue, and 15-20% with late application if weather favors disease development.

| | Malting Barley | | Corn Grain | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 47 | _____ | 61 | _____ |
| Market Price | 2.31* | _____ | 1.97 | _____ |
| MARKET INCOME | 108.57 | _____ | 120.17 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 5.25 | _____ | 27.17* | _____ |
| -Herbicides | 9.80 | _____ | 7.75 | _____ |
| -Fungicides | 1.25 | _____ | 0.00 | _____ |
| -Insecticides | 0.00 | _____ | 0.00** | _____ |
| -Fertilizer | 18.45 | _____ | 20.21 | _____ |
| -Crop Insurance | 3.10 | _____ | 0.00*** | _____ |
| -Fuel & Lubrication | 11.69 | _____ | 11.72 | _____ |
| -Repairs | 10.80 | _____ | 11.61 | _____ |
| -Drying | 0.00 | _____ | 8.24 | _____ |
| -Miscellaneous | 1.00 | _____ | 1.00 | _____ |
| -Operating Interest | 2.38 | _____ | 3.40 | _____ |
| SUM OF LISTED DIRECT COSTS | 63.72 | _____ | 91.09 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.91 | _____ | 4.38 | _____ |
| -Machinery Depreciation | 13.85 | _____ | 17.15 | _____ |
| -Machinery Investment | 8.42 | _____ | 9.71 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 51.17 | _____ | 56.24 | _____ |
| SUM OF ALL LISTED COSTS | 114.89 | _____ | 147.33 | _____ |
| RETURN TO LABOR & MANAGEMENT | (6.32) | _____ | (27.16) | _____ |
| LISTED COSTS PER BUDGET UNIT | (bu): | | (bu): | |
| -Direct Costs | 1.36 | _____ | 1.49 | _____ |
| -Indirect Costs | 1.09 | _____ | 0.92 | _____ |
| -Total Costs | 2.44 | _____ | 2.42 | _____ |

**Barley notes:**
*Use county loan rate of about $1.69 for feed barley price.

**Corn notes:**
*Roundup (glyphosate) resistant corn.
**Insecticide for wireworm, rootworm, cutworm and white grub would cost $15-$16 for granular applied or about $5 per acre for seed treatment (only suppression for cutworm). Corn borer insecticide, foliar applied mid-season, would cost about $7 plus application.
**Crop insurance only available by written agreement.

| | Oil Sunflower | | Confectionery Sunflower | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 1200 | _____ | 1200 | _____ |
| Market Price | 0.110 | _____ | 0.146 | _____ |
| MARKET INCOME | 132.00 | _____ | 175.20 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 15.51 | _____ | 23.10 | _____ |
| -Herbicides | 18.90 | _____ | 18.90 | _____ |
| -Fungicides | 0.00 | _____ | 0.00 | _____ |
| -Insecticides* | 5.00 | _____ | 11.00 | _____ |
| -Fertilizer | 13.28 | _____ | 13.28 | _____ |
| -Crop Insurance | 7.80 | _____ | 10.80 | _____ |
| -Fuel & Lubrication | 10.15 | _____ | 9.60 | _____ |
| -Repairs | 9.67 | _____ | 9.43 | _____ |
| -Drying | 2.40 | _____ | 2.44 | _____ |
| -Miscellaneous | 1.00 | _____ | 5.75 | _____ |
| -Operating Interest | 3.24 | _____ | 3.85 | _____ |
| SUM OF LISTED DIRECT COSTS | 86.95 | _____ | 108.34 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.70 | _____ | 3.60 | _____ |
| -Machinery Depreciation | 13.52 | _____ | 13.20 | _____ |
| -Machinery Investment | 7.97 | _____ | 7.65 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 50.19 | _____ | 49.45 | _____ |
| SUM OF ALL LISTED COSTS | 137.14 | _____ | 157.79 | _____ |
| RETURN TO LABOR & MANAGEMENT | (5.14) | _____ | 17.41 | _____ |
| LISTED COSTS PER BUDGET UNIT | (lb): | | (lb): | |
| -Direct Costs | 0.07 | _____ | 0.09 | _____ |
| -Indirect Costs | 0.04 | _____ | 0.04 | _____ |
| -Total Costs | 0.11 | _____ | 0.13 | _____ |

**Oil Sunflower notes:**
*Seed treatment for control of wireworm and flea beetle.
Sunflower beetle insecticide would cost about $2 plus application.
Red seed weevil insecticide would cost about $6 plus application.

**Confectionery Sunflower notes:**
*Includes seed treatment for control of wireworm and flea beetle, $5, and one spraying for head feeding insects (red seed weevil, lygus bug and banded moths) at about $6 per acre. Custom application cost of $4.75 is under “Miscellaneous.” A second spraying is often needed. Insecticide for sunflower beetle would cost about $2 plus application.

| | Canola | | Flax | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 1190 | _____ | 18 | _____ |
| Market Price | 0.100 | _____ | 5.24 | _____ |
| MARKET INCOME | 119.00 | _____ | 94.32 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 17.60 | _____ | 5.40 | _____ |
| -Herbicides | 17.50 | _____ | 14.71 | _____ |
| -Fungicides | 0.00 | _____ | 0.00 | _____ |
| -Insecticides | 6.00 | _____ | 0.00* | _____ |
| -Fertilizer | 27.62* | _____ | 8.44** | _____ |
| -Crop Insurance | 4.40 | _____ | 5.90 | _____ |
| -Fuel & Lubrication | 9.76 | _____ | 10.36 | _____ |
| -Repairs | 9.36 | _____ | 9.92 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 1.00 | _____ | 1.00 | _____ |
| -Operating Interest | 3.61 | _____ | 2.16 | _____ |
| SUM OF LISTED DIRECT COSTS | 96.86 | _____ | 57.89 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.29 | _____ | 3.39 | _____ |
| -Machinery Depreciation | 11.88 | _____ | 12.56 | _____ |
| -Machinery Investment | 7.01 | _____ | 7.47 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 47.18 | _____ | 48.42 | _____ |
| SUM OF ALL LISTED COSTS | 144.04 | _____ | 106.31 | _____ |
| RETURN TO LABOR & MANAGEMENT | (25.04) | _____ | (11.99) | _____ |
| LISTED COSTS PER BUDGET UNIT | (lb): | | (bu): | |
| -Direct Costs | 0.08 | _____ | 3.22 | _____ |
| -Indirect Costs | 0.04 | _____ | 2.69 | _____ |
| -Total Costs | 0.12 | _____ | 5.91 | _____ |

**Canola notes:**
**Fertilizer cost includes 20 lbs sulfer at $.265/lb.

**Flax notes:**
*Insecticide for late season grasshopper outbreaks would cost about $8 per acre plus application.
**No phosphorus fertilizer is used because flax does not show a yield response.

| | Field Peas | | Oats | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 29 | _____ | 54 | _____ |
| Market Price | 3.50* | _____ | 1.38 | _____ |
| MARKET INCOME | 101.50 | _____ | 74.52 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 17.25** | _____ | 6.50 | _____ |
| -Herbicides | 16.00 | _____ | 1.88 | _____ |
| -Fungicides | 0.00 | _____ | 0.00 | _____ |
| -Insecticides | 0.00 | _____ | 0.00 | _____ |
| -Fertilizer | 2.21 | _____ | 18.16 | _____ |
| -Crop Insurance | 4.10 | _____ | 4.40 | _____ |
| -Fuel & Lubrication | 10.31 | _____ | 11.90 | _____ |
| -Repairs | 10.22 | _____ | 10.90 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 2.00 | _____ | 1.00 | _____ |
| -Operating Interest | 2.41 | _____ | 2.12 | _____ |
| SUM OF LISTED DIRECT COSTS | 64.49 | _____ | 56.87 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.47 | _____ | 4.00 | _____ |
| -Machinery Depreciation | 13.20 | _____ | 14.05 | _____ |
| -Machinery Investment | 7.45 | _____ | 8.52 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 49.12 | _____ | 51.57 | _____ |
| SUM OF ALL LISTED COSTS | 113.62 | _____ | 108.45 | _____ |
| RETURN TO LABOR & MANAGEMENT | (12.70) | _____ | (33.93) | _____ |
| LISTED COSTS PER BUDGET UNIT | (bu): | | (bu): | |
| -Direct Costs | 2.22 | _____ | 1.05 | _____ |
| -Indirect Costs | 1.69 | _____ | 0.96 | _____ |
| -Total Costs | 3.92 | _____ | 2.01 | _____ |

**Field Pea notes:**
*Loan rate is used because it is higher than expected market price. The market price plus loan deficiency payment (LDP) of food quality peas may exceed the loan rate because LDP is calculated from the price of feed quality peas.
**Producer's own seed is used. Seed cost for new grower would be about $27.

| | Lentils | | Yellow Mustard | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 1200 | _____ | 850 | _____ |
| Market Price | 0.117* | _____ | 0.129 | _____ |
| MARKET INCOME | 140.40 | _____ | 109.65 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 13.30 | _____ | 6.50 | _____ |
| -Herbicides | 20.14 | _____ | 5.95 | _____ |
| -Fungicides | 0.00 | _____ | 0.00 | _____ |
| -Insecticides | 0.00 | _____ | 0.00 | _____ |
| -Fertilizer | 1.52 | _____ | 11.64 | _____ |
| -Crop Insurance | 8.20 | _____ | 5.20 | _____ |
| -Fuel & Lubrication | 10.99 | _____ | 9.30 | _____ |
| -Repairs | 10.90 | _____ | 8.81 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 4.00 | _____ | 1.00 | _____ |
| -Operating Interest | 2.68 | _____ | 1.88 | _____ |
| SUM OF LISTED DIRECT COSTS | 71.73 | _____ | 50.27 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.56 | _____ | 3.06 | _____ |
| -Machinery Depreciation | 13.83 | _____ | 11.10 | _____ |
| -Machinery Investment | 7.98 | _____ | 6.46 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 50.37 | _____ | 45.62 | _____ |
| SUM OF ALL LISTED COSTS | 122.10 | _____ | 95.89 | _____ |
| RETURN TO LABOR & MANAGEMENT | 18.30 | _____ | 13.76 | _____ |
| LISTED COSTS PER BUDGET UNIT | (lb): | | (lb): | |
| -Direct Costs | 0.06 | _____ | 0.06 | _____ |
| -Indirect Costs | 0.04 | _____ | 0.05 | _____ |
| -Total Costs | 0.10 | _____ | 0.11 | _____ |

**Lentil notes:**
*Loan rate is used because it is higher than expected market price.

| | Safflower | | Buckwheat | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 850 | _____ | 800 | _____ |
| Market Price | 0.120 | _____ | 0.118 | _____ |
| MARKET INCOME | 102.00 | _____ | 94.40 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 11.25 | _____ | 14.00 | _____ |
| -Herbicides | 9.75 | _____ | 0.00 | _____ |
| -Fungicides | 0.10 | _____ | 0.00 | _____ |
| -Insecticides | 0.00 | _____ | 0.00 | _____ |
| -Fertilizer | 5.26 | _____ | 2.65 | _____ |
| -Crop Insurance | 4.20 | _____ | 0.00 | _____ |
| -Fuel & Lubrication | 8.65 | _____ | 10.66 | _____ |
| -Repairs | 8.25 | _____ | 9.70 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 1.00 | _____ | 1.00 | _____ |
| -Operating Interest | 1.88 | _____ | 1.47 | _____ |
| SUM OF LISTED DIRECT COSTS | 50.33 | _____ | 39.48 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 2.92 | _____ | 3.29 | _____ |
| -Machinery Depreciation | 10.41 | _____ | 11.97 | _____ |
| -Machinery Investment | 5.79 | _____ | 7.16 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 44.11 | _____ | 47.42 | _____ |
| SUM OF ALL LISTED COSTS | 94.44 | _____ | 86.90 | _____ |
| RETURN TO LABOR & MANAGEMENT | 7.56 | _____ | 7.50 | _____ |
| LISTED COSTS PER BUDGET UNIT | (lb): | | (lb): | |
| -Direct Costs | 0.06 | _____ | 0.05 | _____ |
| -Indirect Costs | 0.05 | _____ | 0.06 | _____ |
| -Total Costs | 0.11 | _____ | 0.11 | _____ |

| | Millet | | Large Chickpeas | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 1400 | _____ | 1100 | _____ |
| Market Price | 0.065 | _____ | 0.240 | _____ |
| MARKET INCOME | 91.00 | _____ | 264.00 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 4.25 | _____ | 78.00 | _____ |
| -Herbicides | 1.50 | _____ | 16.14 | _____ |
| -Fungicides | 0.00 | _____ | 49.00* | _____ |
| -Insecticides | 0.00 | _____ | 0.00 | _____ |
| -Fertilizer | 8.04 | _____ | 2.25 | _____ |
| -Crop Insurance | 0.00 | _____ | 6.80 | _____ |
| -Fuel & Lubrication | 10.38 | _____ | 11.44 | _____ |
| -Repairs | 9.91 | _____ | 11.78 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 1.00 | _____ | 6.00 | _____ |
| -Operating Interest | 1.36 | _____ | 7.03 | _____ |
| SUM OF LISTED DIRECT COSTS | 36.43 | _____ | 188.44 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.51 | _____ | 3.81 | _____ |
| -Machinery Depreciation | 12.47 | _____ | 14.91 | _____ |
| -Machinery Investment | 7.61 | _____ | 8.86 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 48.60 | _____ | 52.57 | _____ |
| SUM OF ALL LISTED COSTS | 85.03 | _____ | 241.01 | _____ |
| RETURN TO LABOR & MANAGEMENT | 5.97 | _____ | 22.99 | _____ |
| LISTED COSTS PER BUDGET UNIT | (lb): | | (lb): | |
| -Direct Costs | 0.03 | _____ | 0.17 | _____ |
| -Indirect Costs | 0.03 | _____ | 0.05 | _____ |
| -Total Costs | 0.06 | _____ | 0.22 | _____ |

**Large Chickpea notes:**
*Three treatments of fungicide for ascochyta blight. More treatment may be necessary. Two different chemistries should be used for fungicide resistance management.

| | Rye | | Winter Wheat | |
|---|---|---|---|---|
| | Per Acre | Your Figures | Per Acre | Your Figures |
| Market Yield | 36 | _____ | 33* | _____ |
| Market Price | 1.97 | _____ | 3.04 | _____ |
| MARKET INCOME | 70.92 | _____ | 100.32 | _____ |
| DIRECT COSTS | | | | |
| -Seed | 4.80 | _____ | 4.75 | _____ |
| -Herbicides | 0.00 | _____ | 5.38 | _____ |
| -Fungicides | 0.00 | _____ | 0.00 | _____ |
| -Insecticides | 0.00 | _____ | 0.00 | _____ |
| -Fertilizer | 27.24 | _____ | 23.72 | _____ |
| -Crop Insurance | 3.50 | _____ | 3.30 | _____ |
| -Fuel & Lubrication | 10.90 | _____ | 8.56 | _____ |
| -Repairs | 9.54 | _____ | 8.66 | _____ |
| -Drying | 0.00 | _____ | 0.00 | _____ |
| -Miscellaneous | 1.00 | _____ | 1.10 | _____ |
| -Operating Interest | 2.21 | _____ | 2.15 | _____ |
| SUM OF LISTED DIRECT COSTS | 59.19 | _____ | 57.61 | _____ |
| INDIRECT (FIXED) COSTS | | | | |
| -Misc. Overhead | 3.38 | _____ | 3.18 | _____ |
| -Machinery Depreciation | 11.93 | _____ | 11.12 | _____ |
| -Machinery Investment | 6.97 | _____ | 6.38 | _____ |
| -Land Investment | 25.00 | _____ | 25.00 | _____ |
| SUM OF LISTED INDIRECT COSTS | 47.28 | _____ | 45.68 | _____ |
| SUM OF ALL LISTED COSTS | 106.48 | _____ | 103.29 | _____ |
| RETURN TO LABOR & MANAGEMENT | (35.56) | _____ | (2.97) | _____ |
| LISTED COSTS PER BUDGET UNIT | (bu): | | (bu): | |
| -Direct Costs | 1.64 | _____ | 1.75 | _____ |
| -Indirect Costs | 1.31 | _____ | 1.38 | _____ |
| -Total Costs | 2.96 | _____ | 3.13 | _____ |

**Winter Wheat notes:**
*Yield is per harvested acre, 1998-2004 acreage abandonment averaged 19%.

# 2006 Machinery List

| Machine | Purch. Price | Annual Use | Years to trade | Trade in | Deprec. | Invest. | Repairs | Ac/hr |
|---|---|---|---|---|---|---|---|---|
| 2WD 100HP Tractor | 52000 | 400 hr | 20 | 16813 | 4.40/hr | 3.87/hr | 5.31/hr | |
| 2WD 160HP Tractor | 85800 | 500 hr | 15 | 25385 | 8.06/hr | 5.00/hr | 8.74/hr | |
| 4WD 280HP Tractor | 118100 | 500 hr | 15 | 34978 | 11.08/hr | 6.89/hr | 6.88/hr | |
| SP Combine (base unit) | 140200 | 250 hr | 12 | 34889 | 35.10/hr | 15.76/hr | 22.77/hr | |
| Tandem Truck (used) | 30000 | 150 hr | 15 | 10000 | 8.89/hr | 6.00/hr | 5.33/hr | |
| Semi & Trailer (used) | 35000 | 150 hr | 10 | 10000 | 16.67/hr | 6.75/hr | 6.67/hr | |
| Pick-up Truck | 19700 | 300 hr | 10 | 4100 | 5.20/hr | 1.79/hr | 2.58/hr | |
| Swather 25 ft | 16500 | 1000 ac | 20 | 3909 | 0.63/ac | 0.46/ac | 0.29/ac | 12.1 |
| Sprayer 90 ft | 25200 | 2500 ac | 15 | 10334 | 0.41/ac | 0.32/ac | 0.32/ac | 42.5 |
| Chisel Plow 35 ft | 25000 | 1600 ac | 15 | 14651 | 0.43/ac | 0.56/ac | 0.67/ac | 16.2 |
| Field Cultivator 45 ft | 31300 | 3000 ac | 15 | 17333 | 0.31/ac | 0.36/ac | 0.56/ac | 23.2 |
| Tandem Disk 28 ft | 24000 | 800 ac | 20 | 6869 | 1.07/ac | 0.87/ac | 0.68/ac | 12.2 |
| Harrow (springtooth) 60 ft | 10200 | 1200 ac | 20 | 5881 | 0.18/ac | 0.30/ac | 0.13/ac | 34.0 |
| Heavy Harrow 70 ft | 21700 | 2000 ac | 20 | 12734 | 0.22/ac | 0.39/ac | 0.24/ac | 39.7 |
| Row-crop cultivator 12-30 | 10400 | 800 ac | 15 | 5712 | 0.39/ac | 0.45/ac | 0.39/ac | 11.6 |
| Air Seeder 35 ft | 70800 | 1800 ac | 12 | 33136 | 1.74/ac | 1.30/ac | 2.78/ac | 14.8 |
| Planter 12-30 | 38300 | 800 ac | 20 | 12465 | 1.60/ac | 1.44/ac | 2.12/ac | 10.6 |
| Corn head 6-30 | 24100 | 400 ac | 20 | 2325 | 2.72/ac | 1.48/ac | 0.74/ac | 5.1 |
| Grain head w/pu | 10500 | 800 ac | 15 | 2193 | 0.69/ac | 0.36/ac | 0.20/ac | 8.5 |
| Grain str. cut 25 ft | 14200 | 1200 ac | 10 | 4876 | 0.78/ac | 0.36/ac | 0.26/ac | 8.5 |
| Head w/sunf pans 25 ft | 17700 | 400 ac | 20 | 1867 | 1.98/ac | 1.10/ac | 0.33/ac | 8.5 |
| Rock picker | 15000 | 50 hr | 20 | 4748 | 0.34/ac | 0.30/ac | 0.22/ac | 29.1 |
| Grain auger | 6500 | 50 hr | 20 | 500 | 6.00/hr | 3.15/hr | 0.66/hr | |

## Example Sequence of Operations

Field operations sequence for spring wheat and durum

| OP. NO. | DESCRIPTION | (FEET) WIDTH | (MPH) SPEED | (AC/HR) Fld Cap | ($/AC) FUEL & LUBE | ($/AC) EST. REPAIRS |
|---|---|---|---|---|---|---|
| 1 | Chisel Plow +NH3 | 35 | 4.5 | 16.2 | 1.83 | 1.10 |
| 2 | Pick Rocks | | | | 0.37 | 0.40 |
| 3 | Plant | 35 | 5.0 | 14.8 | 2.00 | 3.25 |
| 4 | Spray | 90 | 6.0 | 42.5 | 0.25 | 0.45 |
| 5 | Combine str. cut | 25 | 4.0 | 8.5 | 2.88 | 2.94 |
| 6 | Heavy Harrow | 70 | 5.5 | 39.7 | 0.43 | 0.46 |
| | Trucks* | | | | 0.84 | 0.39 |
| | Grain auger (pto) | | | | 0.14 | 0.01 |
| | Pickup truck allocation | | | | 1.28 | 0.47 |
| | Total | | | | 10.02 | 9.47 |

* Truck costs will vary between crops.

For more information on this and other topics, see: **www.ag.ndsu.edu**



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