

Southcentral Idaho: Magic Valley**Soft White Winter Wheat**

Ben Eborn, Steven Hines and Juliet Marshall.

**Background and Assumptions**

The University of Idaho's costs and returns estimates are based on economic costs, not accounting costs. All resources are valued at a market rate or "opportunity cost". Input prices are based on data collected annually by the University of Idaho from agricultural supply companies. The selling price for the commodity is an historical average, not a current year's forecast price. The cost estimate shown here is typical for growing soft white winter wheat under irrigation in the Magic Valley of southcentral Idaho. Production practices are based on data from farmers, crop consultants, and extension personnel. These aren't University of Idaho recommendations. Production practices most closely represent those in Cassia, Minidoka, Jerome, Gooding, and Twin Falls counties. Although production practices may be similar for individual farms, each farm has a unique set of resources with different levels of productivity, different production problems, and therefore different costs. Farm size, crop rotation, age and type of equipment, and the quality and intensity of management are all crucial factors that influence production costs.

The Model Farm

This costs and returns estimate models a 2,200-acre farm with 550 acres in winter wheat or other grain crops, 550 acres in potatoes, 550 acres in sugarbeets, 150 acres in dry beans, and 400 acres in corn or alfalfa.

The farm uses a center pivot irrigation system and surface water delivered to the farm from an irrigation district. The irrigation district charges a flat fee per acre for water. Irrigation power use is based only on pressurization (no lift). Power costs per acre-inch of water applied are calculated using 2015 Idaho Power Schedule 24 Agricultural Irrigation Service rates.

Production Practices

Wheat acreage is disk-ripped in the early fall, and roller harrowed and planted in the fall in a single-pass operation. Wheat is harvested by the farm operator in August and hauled to a grain elevator and sold. Storage costs are not included. Harvest cost in grain budgets published prior to 2013 was based on a custom rate.

Fertilizer is split applied in the fall and spring by a custom applicator. A 2-way herbicide mix is ground applied post emergence to control wild oats and broadleaf weeds. While it may be needed in some years, no foliar fungicide is included for control of stripe rust or other foliar diseases. An insecticide may also be needed in some years, but none is included because treatment is infrequent and unpredictable. Winter wheat receives 16 inches of water during the summer growing season; 2 inches in April, 6 inches in May, 6 inches in June, and 2 inches in July. Four inches of water applied the previous fall are also credited to winter wheat, for a total of 20 inches.

Machinery

Equipment used to produce irrigated winter wheat is shown in Tables 4 and 5. Table 4 lists the equipment and their hourly operating and ownership costs, while Table 5 lists the equipment and their annual ownership costs. Machinery ownership capital recovery cost is based on 75% of the replacement cost of a new piece of equipment, except for trucks. Truck prices are for a used vehicle with a new bed. Capital recovery combines depreciation and interest into a single value. To keep machinery prices current between years in which a comprehensive survey is conducted, machinery prices are adjusted using USDA's Farm Machinery Prices Paid Index. Equipment prices are collected approximately every five years.

The University of Idaho uses the budget generator program Budget Planner from the University of California-Davis to produce the various tables shown in this publication. Machinery operating and ownership costs are calculated based on engineering equations in this program. Machinery operating costs include fuel, lubricants and repairs.

Labor and Management

The cost of labor used in this publication includes a base wage, plus a percentage to account for various payroll taxes (FICA, SUTA & FUTA), and workman’s compensation, as well as benefits such as paid vacation/personal leave days, health insurance and bonuses. Labor is classified by the type of work performed. Labor classifications, labor rates and payroll overhead are shown below.

Labor Values

| Labor Class | Base Rate | Payroll Overhead | Effective Rate |
|-------------------------|-----------|------------------|----------------|
| General Farm Labor | \$9.85 | 15% | \$11.35 |
| Truck Drivers | \$13.35 | 15% | \$15.35 |
| Equipment Operators | \$15.75 | 25% | \$19.70 |
| Irrigation Labor | | | |
| Set Move: HL & WL | \$10.75 | 30% | \$14.00 |
| Continuous Move: CP & L | \$15.75 | 25% | \$19.70 |

Set Move includes: handlines and wheellines
 Continuous Move includes: center pivots and linear move
 Payroll overhead for set move systems includes housing

Based on the speed, width and overall field efficiency, Budget Planner calculates equipment operator labor hours for all field operations except those performed on a custom basis. Custom operations are listed separately. General farm labor accounts for extra field labor used during planting or harvest. A management fee based on approximately 5% of the total production costs is included. Prior to 2013, the basis of the 5% charge was expected revenue.

Capital, Land and Overhead Costs

Interest on operating capital is charged from the time an input is applied until harvest and is calculated at a nominal rate of 5.75 percent. Interest on intermediate term capital, primarily equipment, is calculated using a nominal rate of 5.5 percent. A general overhead charge, calculated at approximately 2.5 percent of operating expenses, is included to cover unallocated whole-farm costs such as office expenses, legal and accounting fees, cell phones, internet service and utilities. Irrigation power is not included as part of general farm utilities.

Land rent is based on a one-year cash lease for grain and covers the irrigation system ownership costs (depreciation, interest, and insurance). Since charges for irrigation water, repairs and power costs are listed separately, land rent may appear low because land owners pay some or even all these expenses in many cash leases.

Budget Format

In addition to the Background and Assumption pages, this publication has six tables presenting a variety of cost and returns information.

Table 1 shows both expected revenue, based on a specified yield and price, and expenses. Expenses are broken into two main categories: operating and ownership. Operating expenses are those that typically vary with the level of production and involve inputs that are used in a single production cycle. Ownership expenses include a systematic cost recovery over the useful life for inputs used in the production process that have a useful life of more than one year. Machinery and land fall into this category. Operating inputs are organized by category. In addition to the cost per unit and cost per acre for each input, a total cost is given for each category. Table 1 also gives a total of all operating, ownership and total costs per acre, as well as these same categories on a yield basis (per bushel, cwt, ton, etc.).

Table 2 has most of the same cost information presented in Table 1 but the data is organized by operation for both pre-harvest and harvest costs. Operations can define a single activity, such as seed

hauling, or multiple activities as in the case of tillage. The quantity of labor is shown for each operation. The cash costs per acre for labor, machinery costs, materials and custom are also specified. Cash overhead expenses are listed separately as are the non-cash overhead.

Table 3 is a monthly cash flow of expenses based on when the operation occurs and when inputs are applied. Field operations are classified as pre-harvest, harvest and post-harvest.

Table 4 lists the equipment used to produce this crop and the costs per hour to operate this equipment. Total annual hours of use for the current crop and for all crops on the farm is also shown.

Table 5 lists the purchase price and salvage value of equipment used to produce this crop, as well annual capital recovery and cash overhead expenses.

Table 6 provides a ranging analysis, sometimes referred to as a sensitivity analysis. It shows how the costs and returns per acre will vary as the yield and/or price ranges above and below the base values from Table 1.

Authors

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Disclaimer

The practices and chemicals specified in the publication are not recommendations. Always read and follow the directions printed on the pesticide label. Due to constantly changing pesticide laws and labels, some pesticides may have been cancelled or had certain uses prohibited. The use of trade names for various products simplifies presentation of this material and should not be considered an endorsement, nor is any criticism implied of similar products not mentioned.

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TABLE 1. COSTS AND RETURNS PER ACRE TO PRODUCE SOFT WHITE WINTER WHEAT

| | Quantity/ Acre | Unit | Price or Cost/Unit | Value or Cost/Acre | Your Cost |
|--|-------------------|-------|-----------------------|-----------------------|--------------|
| GROSS RETURNS | | | | | |
| Soft White Wheat | 125.00 | bu | 3.70 | 462.50 | |
| TOTAL GROSS RETURNS | 125.00 | bu | | 462.50 | |
| OPERATING COSTS | | | | | |
| Seed: | | | | 18.00 | |
| Wheat Seed: SWW | 100.00 | lb | 0.18 | 18.00 | |
| Fertilizer: | | | | 79.00 | |
| Dry Nitrogen | 150.00 | lb | 0.40 | 60.00 | |
| Dry P2O5 | 50.00 | lb | 0.38 | 19.00 | |
| Pesticide: | | | | 26.64 | |
| Axial XL | 16.40 | fl oz | 1.00 | 16.40 | |
| Bronate Advanced | 0.80 | pint | 5.60 | 4.48 | |
| Affinity Tank Mix | 0.60 | fl oz | 9.60 | 5.76 | |
| Custom: | | | | 37.00 | |
| Custom Fertilize: 0 - 400 lbs | 2.00 | acre | 7.25 | 14.50 | |
| Custom Haul - wheat | 125.00 | bu | 0.18 | 22.50 | |
| Irrigation: | | | | 96.90 | |
| Irrigation Power - CP | 20.00 | ac-in | 1.94 | 38.80 | |
| Water Assessment | 1.00 | acre | 47.50 | 47.50 | |
| Irrigation Repairs - CP | 20.00 | ac-in | 0.53 | 10.60 | |
| Other: | | | | 15.00 | |
| Crop Insurance | 1.00 | acre | 15.00 | 15.00 | |
| Labor | | | | 54.07 | |
| Equipment Operator Labor | 1.68 | hrs | 19.70 | 33.07 | |
| Irrigation Labor: CP | 0.80 | hrs | 19.70 | 15.76 | |
| General Farm Labor | 0.46 | hrs | 11.35 | 5.24 | |
| Machinery | | | | 34.12 | |
| Fuel-Gas | 2.51 | gal | 2.45 | 6.16 | |
| Fuel-Diesel | 5.24 | gal | 2.15 | 11.27 | |
| Fuel-Road Diesel | 0.12 | gal | 2.75 | 0.34 | |
| Lube | | | | 2.67 | |
| Machinery Repair | | | | 13.69 | |
| Interest on Operating Capital @ 6.25% | | | | 12.15 | |
| TOTAL OPERATING COSTS/ACRE | | | | 372.88 | |
| TOTAL OPERATING COSTS/BU | | | | 2.98 | |
| NET RETURNS ABOVE OPERATING COSTS | | | | 89.62 | |

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TABLE 1. CONTINUED

| | Quantity/ Acre | Unit | Price or Cost/Unit | Value or Cost/Acre | Your Cost |
|---|-------------------|------|-----------------------|-----------------------|--------------|
| CASH OVERHEAD COSTS | | | | | |
| General Overhead | | | | 10.00 | |
| Land Rent | | | | 250.00 | |
| Management Fee | | | | 36.00 | |
| Property Taxes | | | | 0.00 | |
| Property Insurance | | | | 1.61 | |
| Investment Repairs | | | | 0.00 | |
| TOTAL CASH OVERHEAD COSTS/ACRE | | | | 297.61 | |
| TOTAL CASH OVERHEAD COSTS/BU | | | | 2.38 | |
| TOTAL CASH COSTS/ACRE | | | | 670.49 | |
| TOTAL CASH COSTS/BU | | | | 5.36 | |
| NET RETURNS ABOVE CASH COSTS | | | | -207.99 | |
| NON-CASH OVERHEAD COSTS (Capital Recovery) | | | | | |
| Equipment | | | | 60.58 | |
| TOTAL NON-CASH OVERHEAD COSTS/ACRE | | | | 60.58 | |
| TOTAL NON-CASH OVERHEAD COSTS/BU | | | | 0.48 | |
| TOTAL COST/ACRE | | | | 731.07 | |
| TOTAL COST/BU | | | | 5.85 | |
| NET RETURNS ABOVE TOTAL COST | | | | -269.07 | |

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TABLE 2. COSTS PER ACRE TO PRODUCE SOFT WHITE WINTER WHEAT

| Operation | Operation | Cash and Labor Costs per Acre | | | | | Total Cost | Your Cost |
|--|-----------------|-------------------------------|--------------|------------------|------------------|-----------------|---------------|--------------|
| | Time (Hrs/A) | Labor Cost | Fuel | Lube &Repairs | Material Cost | Custom/ Rent | | |
| Preharvest: | | | | | | | | |
| Irrigation | 0.00 | 15.76 | 0.00 | 0.00 | 38.80 | 0.00 | 54.56 | |
| Tillage | 0.15 | 3.53 | 4.51 | 5.32 | 0.00 | 0.00 | 13.36 | |
| Applying Fertilizer | 0.00 | 0.00 | 0.00 | 0.00 | 79.00 | 14.50 | 93.50 | |
| Seed Hauling | 0.02 | 0.39 | 0.04 | 0.04 | 0.00 | 0.00 | 0.48 | |
| Roller Harrow & Plant | 0.11 | 5.99 | 2.55 | 3.49 | 18.00 | 0.00 | 30.03 | |
| Crop Insurance | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 0.00 | 15.00 | |
| Irrigation Water Assessment | 0.00 | 0.00 | 0.00 | 0.00 | 47.50 | 0.00 | 47.50 | |
| Irrigation Repairs | 0.00 | 0.00 | 0.00 | 0.00 | 10.60 | 0.00 | 10.60 | |
| Applying Pesticides | 0.07 | 1.67 | 1.03 | 0.42 | 26.64 | 0.00 | 29.76 | |
| General Pickup Use | 0.88 | 20.69 | 6.16 | 2.54 | 0.00 | 0.00 | 29.39 | |
| Service Truck Use | 0.02 | 0.51 | 0.15 | 0.06 | 0.00 | 0.00 | 0.72 | |
| Fuel Truck Use | 0.02 | 0.51 | 0.15 | 0.07 | 0.00 | 0.00 | 0.73 | |
| TOTAL PREHARVEST COSTS | 1.26 | 49.04 | 14.59 | 11.95 | 235.54 | 14.50 | 325.62 | |
| Harvest: | | | | | | | | |
| Combine | 0.13 | 5.02 | 3.19 | 4.40 | 0.00 | 0.00 | 12.61 | |
| Crop Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 22.50 | 22.50 | |
| TOTAL HARVEST COSTS | 0.13 | 5.02 | 3.19 | 4.40 | 0.00 | 22.50 | 35.11 | |
| Interest on Operating Capital at 6.25% | | | | | | | 12.15 | |
| TOTAL OPERATING COSTS/ACRE | 1.40 | 54.07 | 17.77 | 16.35 | 235.54 | 37.00 | 372.88 | |

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TABLE 2. CONTINUED

| Operation | Operation | Cash and Labor Costs per Acre | | | | | Total Cost | Your Cost |
|---------------------------------------|-----------------|-------------------------------|------|---------------------------------|------------------|-----------------|---------------|--------------|
| | Time (Hrs/A) | Labor Cost | Fuel | Lube &Repairs | Material Cost | Custom/ Rent | | |
| CASH OVERHEAD: | | | | | | | | |
| General Overhead | | | | | | | 10.00 | |
| Land Rent | | | | | | | 250.00 | |
| Management Fee | | | | | | | 36.00 | |
| Property Taxes | | | | | | | 0.00 | |
| Property Insurance | | | | | | | 1.61 | |
| Investment Repairs | | | | | | | 0.00 | |
| TOTAL CASH OVERHEAD COSTS/ACRE | | | | | | | 297.61 | |
| TOTAL CASH COSTS/ACRE | | | | | | | 670.49 | |
| NON-CASH OVERHEAD: | | | | | | | | |
| | | Per Producing Acre | | Annual Cost Capital Recovery | | | | |
| Equipment | | 555.30 | | 60.58 | | | 60.58 | |
| TOTAL NON-CASH OVERHEAD COSTS | | | | | | | 60.58 | |
| TOTAL COSTS/ACRE | | | | | | | 731.07 | |

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TABLE 3. MONTHLY COSTS PER ACRE TO PRODUCE SOFT WHITE WINTER WHEAT

| | SEP 14 | OCT 14 | NOV 14 | DEC 14 | JAN 15 | FEB 15 | MAR 15 | APR 15 | MAY 15 | JUN 15 | JUL 15 | AUG 15 | Total |
|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| Preharvest: | | | | | | | | | | | | | |
| Irrigation | 5.46 | 5.46 | | | | | | 5.46 | 16.37 | 16.37 | 5.46 | | 54.56 |
| Tillage | 13.36 | | | | | | | | | | | | 13.36 |
| Applying Fertilizer | 46.25 | | | | | | 47.25 | | | | | | 93.50 |
| Seed Hauling | | 0.48 | | | | | | | | | | | 0.48 |
| Roller Harrow & Plant | | 30.03 | | | | | | | | | | | 30.03 |
| Crop Insurance | | | | | | | | 15.00 | | | | | 15.00 |
| Irrigation Water Assessment | | | | | | | | 47.50 | | | | | 47.50 |
| Irrigation Repairs | | | | | | | | 10.60 | | | | | 10.60 |
| Applying Pesticides | | | | | | | | | 29.76 | | | | 29.76 |
| General Pickup Use | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 29.39 |
| Service Truck Use | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.72 |
| Fuel Truck Use | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.73 |
| TOTAL PREHARVEST COSTS | 67.63 | 38.53 | 2.57 | 2.57 | 2.57 | 2.57 | 49.82 | 81.13 | 48.70 | 18.94 | 8.03 | 2.57 | 325.62 |
| Harvest: | | | | | | | | | | | | | |
| Combine | | | | | | | | | | | | 12.61 | 12.61 |
| Crop Hauling | | | | | | | | | | | | 22.50 | 22.50 |
| TOTAL HARVEST COSTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 35.11 | 35.11 |
| Interest on Operating Capital @6.25% | 0.35 | 0.55 | 0.57 | 0.58 | 0.59 | 0.61 | 0.87 | 1.29 | 1.54 | 1.64 | 1.68 | 1.88 | 12.15 |
| TOTAL OPERATING COSTS/ACRE | 67.99 | 39.08 | 3.14 | 3.15 | 3.16 | 3.18 | 50.69 | 82.41 | 50.24 | 20.58 | 9.71 | 39.56 | 372.88 |
| CASH OVERHEAD | | | | | | | | | | | | | |
| General Overhead | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 10.00 |
| Land Rent | | | | | | | 250.00 | | | | | | 250.00 |
| Management Fee | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 36.00 |
| Property Taxes | | | | | | | | | | | | | 0.00 |
| Property Insurance | | | | | | | | 1.61 | | | | | 1.61 |
| Investment Repairs | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| TOTAL CASH OVERHEAD COSTS | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 253.83 | 5.44 | 3.83 | 3.83 | 3.83 | 3.83 | 297.61 |
| TOTAL CASH COSTS/ACRE | 71.82 | 42.92 | 6.97 | 6.98 | 7.00 | 7.01 | 304.52 | 87.86 | 54.07 | 24.41 | 13.54 | 43.39 | 670.49 |

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TABLE 4. HOURLY EQUIPMENT COSTS

| Yr | Description | Soft White Winter Wheat | Total | Cash Overhead | | | Operating | | Total Oper. | Total Costs/Hr. |
|----|---------------------|-------------------------|---------------|---------------------|----------------|-------|------------------|-------|----------------|--------------------|
| | | Hours Used | Hours Used | Capital Recovery | Insur- ance | Taxes | Lube& Repairs | Fuel | | |
| 15 | 4-wheeler | 73 | 150 | 4.08 | 0.12 | 0.00 | 0.70 | 0.82 | 1.52 | 5.72 |
| 15 | Grain Drill - 24' | 60 | 65 | 56.90 | 1.46 | 0.00 | 7.12 | 0.00 | 7.12 | 65.47 |
| 15 | Pickup 1 - 3/4 ton | 138 | 750 | 9.04 | 0.17 | 0.00 | 3.30 | 8.16 | 11.46 | 20.67 |
| 15 | Pickup 2 - 3/4 ton | 138 | 750 | 9.04 | 0.17 | 0.00 | 3.30 | 8.16 | 11.46 | 20.67 |
| 15 | Sprayer - 30' | 39 | 150 | 3.01 | 0.07 | 0.00 | 1.64 | 0.00 | 1.64 | 4.73 |
| 15 | Tractor 2 -200hp | 66 | 500 | 24.41 | 0.82 | 0.00 | 11.46 | 21.22 | 32.68 | 57.90 |
| 15 | Truck 1P 10-Wheeler | 9 | 370 | 20.31 | 0.61 | 0.00 | 2.55 | 2.48 | 5.03 | 25.95 |
| 15 | Tractor - 125hp | 43 | 200 | 36.16 | 1.22 | 0.00 | 3.95 | 13.24 | 17.19 | 54.57 |
| 15 | Tractor - 250hp | 90 | 500 | 33.29 | 1.12 | 0.00 | 15.41 | 27.48 | 42.88 | 77.30 |
| 15 | Disk-Ripper 13' | 82 | 165 | 27.87 | 0.71 | 0.00 | 18.68 | 0.00 | 18.68 | 47.27 |
| 15 | Roller Harrow 24' | 60 | 125 | 39.14 | 1.09 | 0.00 | 12.28 | 0.00 | 12.28 | 52.50 |
| 15 | Combine 25' Grain | 82 | 225 | 162.89 | 3.98 | 0.00 | 29.66 | 21.50 | 51.16 | 218.04 |
| 15 | Pickup 3 - 3/4 ton | 66 | 325 | 12.64 | 0.34 | 0.00 | 3.30 | 8.16 | 11.46 | 24.45 |
| 15 | Pickup 4 - 3/4 ton | 66 | 325 | 12.64 | 0.34 | 0.00 | 3.30 | 8.16 | 11.46 | 24.45 |
| 15 | Service Truck | 12 | 80 | 39.30 | 1.24 | 0.00 | 2.88 | 6.88 | 9.75 | 50.29 |
| 15 | Fuel Truck | 12 | 80 | 49.11 | 1.52 | 0.00 | 3.33 | 6.88 | 10.20 | 60.83 |

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TABLE 5. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS

ANNUAL EQUIPMENT COSTS

| Yr | Description | Price | Yrs Life | Salvage Value | Capital Recovery | Cash Overhead | | Total |
|------------------|---------------------|--------------|-------------|------------------|---------------------|----------------|-------|------------|
| | | | | | | Insur- ance | Taxes | |
| 15 | 4-wheeler | 6,000.00 | 10 | 1,772.31 | 680.75 | 19.43 | 0.00 | 700.18 |
| 15 | Grain Drill - 24' | 37,000.00 | 12 | 5,124.74 | 4,109.47 | 105.31 | 0.00 | 4,214.78 |
| 15 | Pickup 1 - 3/4 ton | 42,000.00 | 5 | 13,750.00 | 7,531.45 | 139.38 | 0.00 | 7,670.82 |
| 15 | Pickup 2 - 3/4 ton | 42,000.00 | 5 | 13,750.00 | 7,531.45 | 139.38 | 0.00 | 7,670.82 |
| 15 | Sprayer - 30' | 4,100.00 | 10 | 725.05 | 502.05 | 12.06 | 0.00 | 514.11 |
| 15 | Tractor 2 -200hp | 162,000.00 | 20 | 20,786.46 | 13,558.83 | 456.97 | 0.00 | 14,015.79 |
| 15 | Truck 1P 10-Wheeler | 97,000.00 | 20 | 4,000.00 | 8,348.16 | 252.50 | 0.00 | 8,600.66 |
| 15 | Tractor - 125hp | 96,000.00 | 20 | 12,317.90 | 8,034.86 | 270.79 | 0.00 | 8,305.66 |
| 15 | Tractor - 250hp | 221,000.00 | 20 | 28,356.84 | 18,496.92 | 623.39 | 0.00 | 19,120.31 |
| 15 | Disk-Ripper 13' | 46,000.00 | 12 | 6,371.30 | 5,109.07 | 130.93 | 0.00 | 5,240.00 |
| 15 | Roller Harrow 24' | 55,000.00 | 15 | 5,280.35 | 5,436.09 | 150.70 | 0.00 | 5,586.79 |
| 15 | Combine 25' Grain | 335,000.00 | 10 | 63,191.32 | 40,721.57 | 995.48 | 0.00 | 41,717.05 |
| 15 | Pickup 3 - 3/4 ton | 42,000.00 | 12 | 7,500.00 | 4,565.06 | 123.75 | 0.00 | 4,688.81 |
| 15 | Pickup 4 - 3/4 ton | 42,000.00 | 12 | 7,500.00 | 4,565.06 | 123.75 | 0.00 | 4,688.81 |
| 15 | Service Truck | 41,000.00 | 20 | 3,000.00 | 3,493.01 | 110.00 | 0.00 | 3,603.01 |
| 15 | Fuel Truck | 51,000.00 | 20 | 3,000.00 | 4,364.86 | 135.00 | 0.00 | 4,499.86 |
| TOTAL | | 1,319,100.00 | - | 196,426.29 | 137,048.66 | 3,788.82 | 0.00 | 140,837.47 |
| 90% of New Cost* | | 1,187,190.00 | - | 176,783.66 | 123,343.79 | 3,409.93 | 0.00 | 126,753.72 |

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

| Description | Price | Yrs Life | Salvage Value | Capital Recovery | Cash Overhead | | | Total |
|------------------|-------|-------------|------------------|---------------------|----------------|-------|---------|-------|
| | | | | | Insur- ance | Taxes | Repairs | |
| INVESTMENT | | | | | | | | |
| TOTAL INVESTMENT | | | | | | | | |
| | 0.00 | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

ANNUAL BUSINESS OVERHEAD COSTS

| Description | Units/ Farm | Unit | Price/ Unit | Total Cost |
|------------------|----------------|------|----------------|---------------|
| General Overhead | 550 | acre | 10.00 | 5,500.00 |
| Land Rent | 550 | acre | 250.00 | 137,500.00 |
| Management Fee | 550 | acre | 36.00 | 19,800.00 |

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TABLE 6. RANGING ANALYSIS - SOFT WHITE WINTER WHEAT

COSTS PER ACRE AND PER BU AT VARYING YIELDS TO PRODUCE SOFT WHITE WINTER WHEAT

| | YIELD(BU) | | | | | | |
|---------------------------------------|-----------|--------|--------|--------|--------|--------|--------|
| | 110.00 | 115.00 | 120.00 | 125.00 | 130.00 | 135.00 | 140.00 |
| OPERATING COSTS/ACRE: | | | | | | | |
| Preharvest | 325.62 | 325.62 | 325.62 | 325.62 | 325.62 | 325.62 | 325.62 |
| Harvest | 32.41 | 33.31 | 34.21 | 35.11 | 36.01 | 36.91 | 37.81 |
| Interest on Operating Capital @ 6.25% | 12.14 | 12.14 | 12.14 | 12.15 | 12.15 | 12.16 | 12.16 |
| TOTAL OPERATING COSTS/ACRE | 370.17 | 371.07 | 371.98 | 372.88 | 373.78 | 374.69 | 375.59 |
| TOTAL OPERATING COSTS/BU | 3.37 | 3.23 | 3.10 | 2.98 | 2.88 | 2.78 | 2.68 |
| CASH OVERHEAD COSTS/ACRE | 297.61 | 297.61 | 297.61 | 297.61 | 297.61 | 297.61 | 297.61 |
| TOTAL CASH COSTS/ACRE | 667.77 | 668.68 | 669.58 | 670.49 | 671.39 | 672.30 | 673.20 |
| TOTAL CASH COSTS/BU | 6.07 | 5.81 | 5.58 | 5.36 | 5.16 | 4.98 | 4.81 |
| NON-CASH OVERHEAD COSTS/ACRE | 60.58 | 60.58 | 60.58 | 60.58 | 60.58 | 60.58 | 60.58 |
| TOTAL COSTS/ACRE | 728.35 | 729.26 | 730.16 | 731.07 | 731.97 | 732.88 | 733.78 |
| TOTAL COSTS/BU | 6.62 | 6.34 | 6.08 | 5.85 | 5.63 | 5.43 | 5.24 |

Net Return Per Acre Above Operating Costs For Soft White Winter Wheat

| PRICE (\$/bu) | YIELD (bu/acre) | | | | | | |
|------------------|-----------------|--------|--------|--------|--------|--------|--------|
| Soft White Wheat | 110.00 | 115.00 | 120.00 | 125.00 | 130.00 | 135.00 | 140.00 |
| 5.15 | 196.33 | 221.18 | 246.02 | 270.87 | 295.72 | 320.56 | 345.41 |
| 5.40 | 223.83 | 249.93 | 276.02 | 302.12 | 328.22 | 354.31 | 380.41 |
| 5.65 | 251.33 | 278.68 | 306.02 | 333.37 | 360.72 | 388.06 | 415.41 |
| 5.90 | 278.83 | 307.43 | 336.02 | 364.62 | 393.22 | 421.81 | 450.41 |
| 6.15 | 306.33 | 336.18 | 366.02 | 395.87 | 425.72 | 455.56 | 485.41 |
| 6.40 | 333.83 | 364.93 | 396.02 | 427.12 | 458.22 | 489.31 | 520.41 |
| 6.65 | 361.33 | 393.68 | 426.02 | 458.37 | 490.72 | 523.06 | 555.41 |

Net Return Per Acre Above Cash Costs For Soft White Winter Wheat

| PRICE (\$/bu) | YIELD (bu/acre) | | | | | | |
|------------------|-----------------|--------|--------|--------|--------|--------|--------|
| Soft White Wheat | 110.00 | 115.00 | 120.00 | 125.00 | 130.00 | 135.00 | 140.00 |
| 5.15 | -101.27 | -76.43 | -51.58 | -26.74 | -1.89 | 22.95 | 47.80 |
| 5.40 | -73.77 | -47.68 | -21.58 | 4.51 | 30.61 | 56.70 | 82.80 |
| 5.65 | -46.27 | -18.93 | 8.42 | 35.76 | 63.11 | 90.45 | 117.80 |
| 5.90 | -18.77 | 9.82 | 38.42 | 67.01 | 95.61 | 124.20 | 152.80 |
| 6.15 | 8.73 | 38.57 | 68.42 | 98.26 | 128.11 | 157.95 | 187.80 |
| 6.40 | 36.23 | 67.32 | 98.42 | 129.51 | 160.61 | 191.70 | 222.80 |
| 6.65 | 63.73 | 96.07 | 128.42 | 160.76 | 193.11 | 225.45 | 257.80 |

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TABLE 6. RANGING ANALYSIS CONTINUED

Net Return Per Acre Above Total Costs For Soft White Winter Wheat

| PRICE (\$/bu) | YIELD (bu/acre) | | | | | | |
|------------------|-----------------|---------|---------|--------|--------|--------|--------|
| Soft White Wheat | 110.00 | 115.00 | 120.00 | 125.00 | 130.00 | 135.00 | 140.00 |
| 5.15 | -161.85 | -137.01 | -112.16 | -87.32 | -62.47 | -37.63 | -12.78 |
| 5.40 | -134.35 | -108.26 | -82.16 | -56.07 | -29.97 | -3.88 | 22.22 |
| 5.65 | -106.85 | -79.51 | -52.16 | -24.82 | 2.53 | 29.87 | 57.22 |
| 5.90 | -79.35 | -50.76 | -22.16 | 6.43 | 35.03 | 63.62 | 92.22 |
| 6.15 | -51.85 | -22.01 | 7.84 | 37.68 | 67.53 | 97.37 | 127.22 |
| 6.40 | -24.35 | 6.74 | 37.84 | 68.93 | 100.03 | 131.12 | 162.22 |
| 6.65 | 3.15 | 35.49 | 67.84 | 100.18 | 132.53 | 164.87 | 197.22 |