



## **Livestock Farm Management Update**

**May 3, 2001**

Prepared By Rodney Jones, Assistant Professor / Extension Livestock Production Economist,  
Kansas State University, May 3, 2001.

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## **Cattle Production Budgets and Returns**

**By Rodney Jones, Extension Livestock Production Economics**

Based on this month's traditional cattle finishing budgets for 750 pound steers and 650 pound heifers, the expected break-even prices for late April placements remained about the same as the projections of the previous month. The projected break-evens, for cattle expected to finish in about September, are in the \$73.00 to \$74.50 per cwt. range for steers and heifers. Late month feeder steer prices were consistent with those of last month, while average feeder heifer prices increased somewhat. Feedgrain prices declined slightly from the previous month. Performance expectations for spring placements are the best of the entire year. Both feed conversions and average daily gains of April placed cattle are expected to be about 5% better than the annual average.

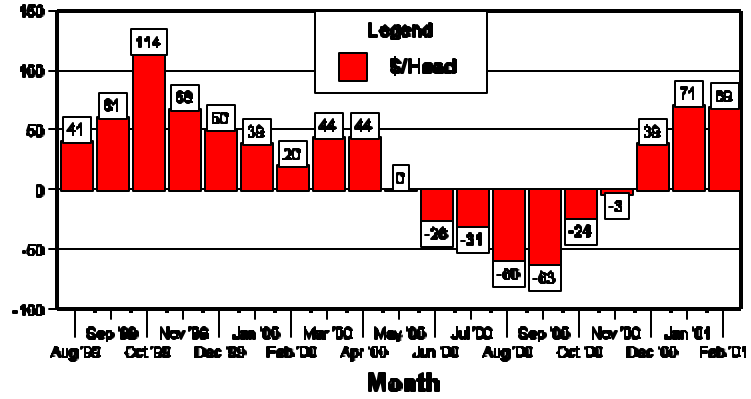
The estimated ration charge decreased slightly relative to last month. Combining the ration charge projection with April placement performance expectations results in a feeding cost of gain projection of \$44.74 per cwt. for April steer placements, and \$47.22 per cwt. for April heifer placements. These estimates represent declines of nearly \$1.00 per cwt. from the projections of last month. The feeding cost of gain estimates depicted in the accompanying budgets are based on current feed prices and seasonal average performance, and are consistent with "futures based" feeding cost of gain projections that assume feed is purchased as needed throughout the feeding period. In addition to feed ingredients, yardage, processing, medication, and death loss are accounted for. Estimates are sensitive to changes in feed conversions, daily gains, grain prices, and hay prices. Feed conversions, grain prices, and hay prices are positively related to feeding cost of gains.

Based on spring performance estimates, each \$0.10 per bushel change in corn price changes feeding cost of gain by \$1.24 per cwt. Each \$10.00 per ton change in hay prices changes feeding cost of gain by \$0.50 per cwt. Feeding cost of gain changes by \$0.53 per cwt. for each 0.10 pound change in feed conversions and \$0.08 per cwt. for each 0.10 pound change in daily gains. The spring continues to provide opportunities to price feedgrain needs on market dips. Risk averse feeders may want to take advantage of feedgrain pricing opportunities this spring to protect against the possibility of a summer feedgrain price rally.

Positive returns continued to accrue to cattle feeders in February. The average February steer closeout in Kansas generated a profit of about \$68.81 per head. Break-evens averaged around \$72.93, and the monthly average selling price was \$78.55. Profits likely continued on March and April closeouts. Average break-evens are currently around \$73.50 to \$74.50 per cwt., but will decline to the low \$70's by mid summer. Even though break-evens are declining, profits are expected to decline as well, since futures based price forecasts are suggesting significant declines in fed cattle prices.

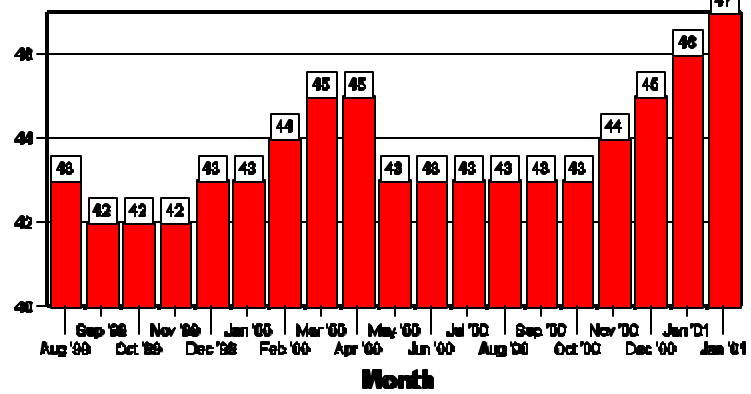
Recent calf prices continue to yield high projected break-evens for summer cattle ownership programs. Consistent with the projections in last month's Update, break-evens for cattle entering season long summer grazing programs are projected to be in the very high \$80's, and break-evens for cattle entering short season grazing programs are projected to be in the low \$90's.

### Monthly Returns for Finishing 700 to 800 Lb. Steers in Kansas



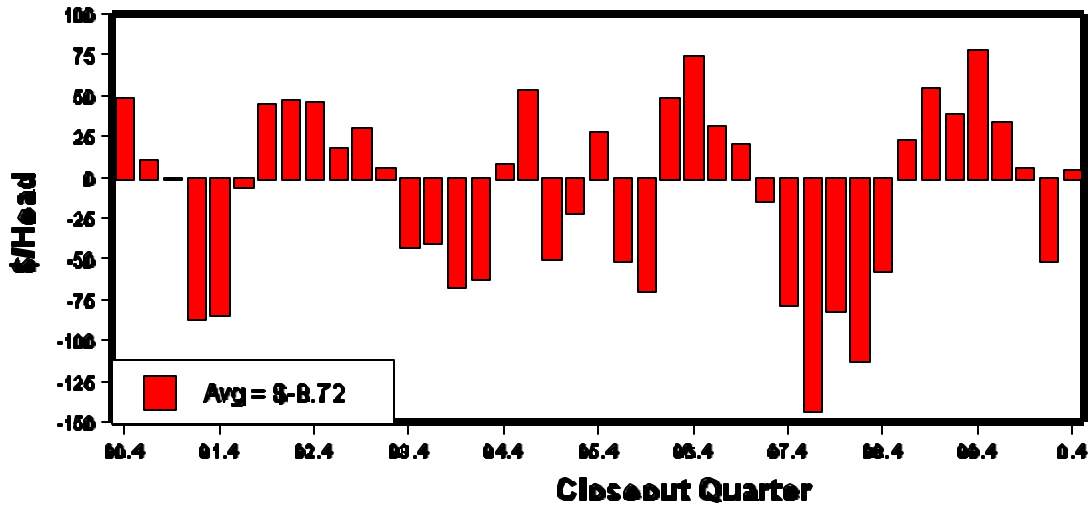
Source: KSU Cattle Return Series.

### Monthly Feeding Cost of Gain 700 to 800 Lb. Steers in Kansas



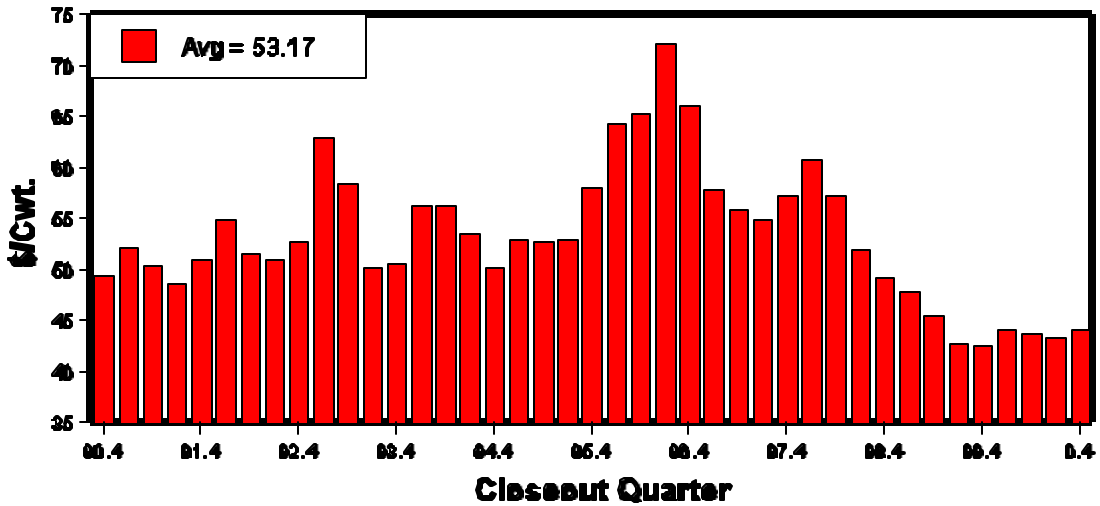
Source: KSU Cattle Return Series.

## Quarterly Net Return for Finishing 700-800 Lb. Steers in Kansas



Source: KSU Cattle Return Series.

## Quarterly Feeding Cost of Gain 700-800 Lb. Steers in Kansas



Source: KSU Cattle Return Series.

**Commercial Feedlot Cattle Finishing Budget**  
**April 2001 Placements (750 lb steers, 650 lb hfrs)**

| Assumptions                            | Steers        | Heifers        |
|--|---------------|----------------|
| Cost of feeder (\$/cwt.) <sup>1</sup>  | \$88.62       | \$88.63        |
| Interest rate                          | 9.8%          | 9.8%           |
| Ration charge (\$/ton) <sup>2</sup>    | \$101.27      | \$101.27       |
| Yardage charge                         | \$0.05        | \$0.05         |
| Beginning weight                       | 750 lbs.      | 650 lbs.       |
| Pay weight                             | 1250 lbs.     | 1075 lbs.      |
| Gain                                   | 500 lbs.      | 425 lbs.       |
| Days on feed                           | 148 days      | 143 days       |
| Shrink                                 | 4.0%          | 4.0%           |
| Pay weight to pay weight:              |               |                |
| average daily gain                     | 3.38 lbs.     | 2.98 lbs.      |
| Feed conversion (as fed)               | 7.82 lbs.     | 8.17 lbs.      |
| Death loss (in conversion)             | 0.50%         | 0.50%          |
| <b>Cost Budgets</b>                    | <b>Steers</b> | <b>Heifers</b> |
| <b>Feeder</b>                          |               |                |
| 1. Cost of feeder:                     | \$664.65      | \$576.10       |
| 2. Interest on feeder:                 | \$ 26.26      | \$ 21.95       |
| <b>Feed</b>                            |               |                |
| 3. Total feed cost:                    | \$197.98      | \$175.82       |
| 4. Interest on feed:                   | \$ 3.91       | \$ 3.35        |
| <b>Other Costs</b>                     |               |                |
| 5. Yardage Charge:                     | \$ 7.40       | \$ 7.13        |
| 6. Processing Charge:                  | \$ 7.00       | \$ 7.00        |
| 8. Vet, drugs, supplies:               | \$ 7.00       | \$ 7.00        |
| 9. Interest on other V.C.:             | \$ .42        | \$ .40         |
| <br>                                   |               |                |
| Breakeven selling price:               | \$ 73.17      | \$ 74.30       |
| Total cost of gain/cwt:                | \$ 50.00      | \$ 52.39       |
| Feeding cost of gain/cwt: <sup>3</sup> | \$ 44.74      | \$ 47.22       |

<sup>1</sup>Feeder steer and heifer prices based on recent auction results at Winter Auction, Dodge City, Kansas.

<sup>2</sup>Ration charge of \$101.27 based on corn price of \$2.09/bu., milo price of \$3.32/cwt., alfalfa hay price of \$127.00/ton, supplement price of \$179.50/ton, and feed markup of \$20/ton. Corn price change of \$0.10/bu. changes ration cost \$1.80/ton. Milo price change of \$0.10/cwt. changes ration cost \$0.70/ton. Alfalfa hay price change of \$10/ton changes ration cost \$1.20/ton. Supplement price change of \$25/ton changes ration cost \$0.75/ton.

<sup>3</sup>Excludes interest on feeder.

Commercial Feedlot

Sensitivity Analysis of Breakeven Prices for 750 lb. Steers

|                                      | Feeder purchase price                  |         |         |         |         |
|--------------------------------------|--|---------|---------|---------|---------|
|                                      | \$85.00                                | \$87.00 | \$89.00 | \$91.00 | \$93.00 |
| Feeding Cost<br>of Gain<br>(\$/cwt.) | -----Breakeven Price-----<br>(\$/cwt.) |         |         |         |         |
| \$43.00                              | 70.22                                  | 71.46   | 72.71   | 73.96   | 75.20   |
| \$44.00                              | 70.62                                  | 71.86   | 73.11   | 74.36   | 75.60   |
| \$45.00                              | 71.02                                  | 72.26   | 73.51   | 74.76   | 76.00   |
| \$46.00                              | 71.42                                  | 72.66   | 73.91   | 75.16   | 76.40   |
| \$47.00                              | 71.82                                  | 73.06   | 74.31   | 75.56   | 76.80   |
| \$48.00                              | 72.22                                  | 73.46   | 74.71   | 75.96   | 77.20   |
| \$49.00                              | 72.62                                  | 73.86   | 75.11   | 76.36   | 77.60   |

Commercial Feedlot

Sensitivity Analysis of Breakeven Prices for 650 lb. Heifers

|                                      | Feeder purchase price                  |         |         |         |         |
|--------------------------------------|--|---------|---------|---------|---------|
|                                      | \$84.00                                | \$86.00 | \$88.00 | \$90.00 | \$92.00 |
| Feeding Cost<br>of Gain<br>(\$/cwt.) | -----Breakeven Price-----<br>(\$/cwt.) |         |         |         |         |
| \$46.00                              | 70.91                                  | 72.17   | 73.42   | 74.68   | 75.31   |
| \$47.00                              | 71.31                                  | 72.56   | 73.82   | 75.07   | 75.70   |
| \$48.00                              | 70.70                                  | 72.96   | 74.21   | 75.47   | 76.10   |
| \$49.00                              | 72.10                                  | 73.35   | 74.61   | 75.86   | 76.49   |
| \$50.00                              | 72.49                                  | 73.75   | 75.00   | 76.26   | 76.89   |
| \$51.00                              | 72.89                                  | 74.14   | 75.40   | 76.65   | 77.28   |
| \$52.00                              | 73.28                                  | 74.54   | 75.79   | 77.05   | 77.68   |

**FEEDING COST OF GAIN FOR STEERS BY CLOSEOUT MONTH (\$/cwt.)**

|           | % Change<br>Previous<br>Year | 2001               | 2000  | 1999  | 1990-1999<br>Average |
|-----------|------------------------------|--------------------|-------|-------|----------------------|
| January   | + 7.7                        | 46.44              | 43.11 | 47.65 | 53.10                |
| February  | + 7.3                        | 46.97              | 43.76 | 47.94 | 55.35                |
| March     |                              | 48.00 <sup>P</sup> | 44.97 | 47.66 | 55.99                |
| April     |                              | 47.00 <sup>P</sup> | 44.55 | 47.94 | 53.86                |
| May       |                              | 46.00 <sup>P</sup> | 43.29 | 45.56 | 53.26                |
| June      |                              | 44.50 <sup>P</sup> | 43.20 | 42.62 | 51.19                |
| July      |                              | 44.50 <sup>P</sup> | 43.01 | 42.30 | 50.24                |
| August    |                              | 45.00 <sup>P</sup> | 43.43 | 43.15 | 50.82                |
| September |                              | 45.00 <sup>P</sup> | 43.10 | 42.41 | 51.09                |
| October   |                              |                    | 43.24 | 42.19 | 51.15                |
| November  |                              |                    | 44.05 | 42.04 | 51.69                |
| December  |                              |                    | 44.65 | 43.37 | 52.48                |

Source: Focus on Feedlots Newsletter, KSU Extension Animal Science and Cooperating Feedyards.

**BREAKEVEN PRICES FOR FINISHING 700 TO 800 LB. STEERS (\$/cwt.)**

|           | % Change<br>Previous<br>Year | 2001               | 2000  | 1999  | 1990-1999<br>Average |
|-----------|------------------------------|--------------------|-------|-------|----------------------|
| January   | +11.0                        | 72.93              | 65.68 | 61.92 | 72.34                |
| February  | + 8.1                        | 72.93              | 67.47 | 60.39 | 72.48                |
| March     |                              | 73.08 <sup>P</sup> | 68.15 | 61.51 | 72.03                |
| April     |                              | 73.72 <sup>P</sup> | 69.61 | 61.63 | 71.63                |
| May       |                              | 74.57 <sup>P</sup> | 71.27 | 59.71 | 71.28                |
| June      |                              | 73.36 <sup>P</sup> | 71.72 | 62.21 | 69.67                |
| July      |                              | 71.44 <sup>P</sup> | 69.99 | 63.05 | 69.67                |
| August    |                              | 72.72 <sup>P</sup> | 69.69 | 61.90 | 68.61                |
| September |                              | 72.61 <sup>P</sup> | 69.82 | 61.29 | 68.48                |
| October   |                              |                    | 69.92 | 60.70 | 68.68                |
| November  |                              |                    | 72.56 | 64.73 | 70.52                |
| December  |                              |                    | 73.62 | 65.02 | 71.26                |

<sup>P</sup> Values for this month are projected

## Hog Production Budgets and Returns

The hog finishing budget projects the economic outcome of taking a 10 pound early weaned pig through a combination nursery and finishing phase. The total feeding time is projected to be 170 days, so pigs started in April would be expected to finish in October. Ten pound weaned pigs are priced into the nursery using a formula based on current milo prices, current soybean meal prices, and 6 month out hog futures prices. The calculated price for 10 lb. pigs in late April declined significantly from last month, to \$30.44 per pig. The formula pig price is still more than \$2.00 per pig lower than the mid point of the recent reported Iowa direct weaned pig transfer price. Alternative budget projections and sensitivity tables are included to assess the impact of alternative weaned pig prices on break-even projections.

The projected sale price needed to cover all costs associated with finishing formula priced early weaned pigs started on feed in April is \$40.78 per cwt. on a live weight basis, continuing the recent trend of month-to-month declines. Pricing the weaned pig into the nursery-finish program at the mid-point of the recent Iowa reported cash transfer price (\$33.00) results in a projected break-even to cover all costs of \$41.93 per cwt. As one would expect, producers are quick to bid the largest share of expected positive returns into the price of the weaned pig when weaned pig prices are negotiated in a spot market.

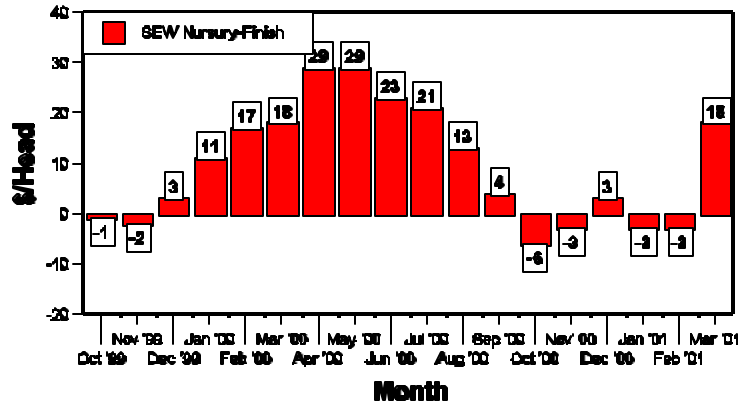
The example hog finishing budgets are calculated using a milo based feeding ration. Projected feed costs, based on current milo and supplement prices, are currently at \$16.81 per cwt. of pork produced in the SEW nursery finish program. This is nearly

identical to the feed cost projection of last month, but down from the projections of a few month's ago. Feed costs are sensitive to changes in milo and soybean meal prices. For example, a milo price change of \$0.10 per cwt. changes feed costs per cwt. by \$0.22. A soybean meal price change of \$10 per ton changes feed costs by \$0.28 per cwt. The spring has presented several opportunities to price both feedgrain and protein at attractive levels from a livestock producer perspective. Risk averse producers who are concerned about the possibility of a summer feedgrain price rally may want to watch for additional opportunities to price summer feed needs on market dips.

Calculated average returns to labor and management remained negative for hogs exiting Kansas SEW nursery-finishing barns in March, averaging about \$18.90 per head. Current indications suggest more positive returns for the next several months. Break-even prices to cover all costs for average producers are now in the \$40.00 to \$42.00 per cwt. range on a live weight basis. Given these break-even levels, recent cash sale prices should be resulting in returns to labor and management of \$20 to \$25 per pig sold for average nursery finish producers.

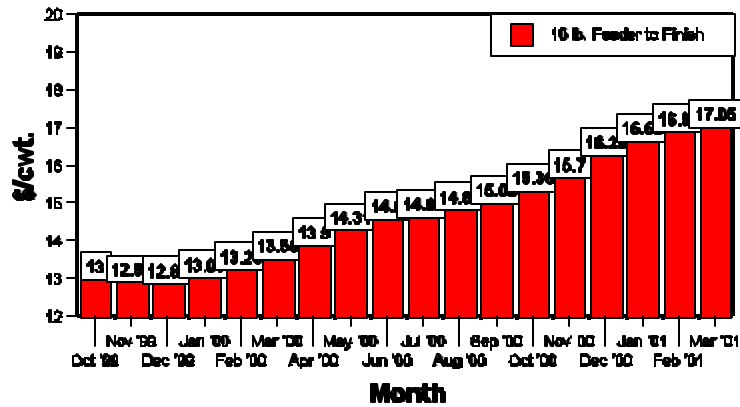
Break-evens to cover all costs for average farrow-to-finish producers remain around \$41.50 per cwt. on a live weight basis. Futures based price forecasts suggest that producers should enjoy modest profits until the anticipated fall price break.

## Returns to Labor and Management Finishing Operations in Kansas



Source: KSU Swine Return Series.

## Feed Costs Per Cwt. SEW Nursery Finishing Operations in Kansas



Source: KSU Swine Return Series.

SEW NURSERY- FINISHING BUDGET

April, 2001

| Assumptions                     | Barrows and Gilts |
|---------------------------------|-------------------|
| Initial weight of weaned pig    | 10 lbs.           |
| Cost of weaned pig <sup>1</sup> | \$30.44           |
| Interest rate                   | 10.0 %            |
| Feed conversion                 | 3.00 lbs.         |
| Death loss                      | 5.00 %            |
| Milo price                      | \$3.32 / cwt.     |
| Soybean meal price              | \$154.50 / ton.   |

<sup>1</sup> Weaned pig prices based on KSU formula.

COST BUDGET FOR FINISHING PIGS

FEEDER

|                           |         |
|---------------------------|---------|
| 1. Cost of weaned pig     | \$30.44 |
| 2. Interest on weaned pig | \$ 1.42 |

FEED

|                          |         |
|--------------------------|---------|
| 3. Grain                 | \$16.62 |
| 4. Soybean meal          | \$ 9.97 |
| 5. Vitamins and minerals | \$ 8.41 |
| 6. Starter               | \$ 2.45 |
| 7. Interest on feed      | \$ 0.87 |

OTHER VARIABLE COSTS

|                                      |         |
|--------------------------------------|---------|
| 8. Feed processing                   | \$ 2.99 |
| 9. Labor                             | \$ 2.88 |
| 10. Veterinary, drugs, and supplies  | \$ 1.30 |
| 11. Utilities                        | \$ 0.50 |
| 12. Repairs                          | \$ 1.57 |
| 13. Miscellaneous                    | \$ 3.25 |
| 14. Interest on other variable costs | \$ 0.29 |

FIXED COSTS

|                             |         |
|-----------------------------|---------|
| 15. Buildings and equipment | \$11.97 |
|-----------------------------|---------|

Sale Price Needed to Cover Variable Costs \$35.64

Sale Price Needed to Cover Total Costs \$40.78

Feed Cost Per Cwt. of Pork Produced \$16.81

SEW Nursery-Finishing

Sensitivity Analysis of Break-even Sale Price

|                    | Purchase Price for 10 Lb. Weaned Pig           |         |         |         |         |
|--------------------|--|---------|---------|---------|---------|
|                    | \$27.00  | \$29.00 | \$31.00 | \$33.00 | \$35.00 |
| Feed Cost Per Cwt. | Break-even Sale Price for Market Hog (\$/cwt.) |         |         |         |         |
| \$14.00            | 36.50  | 37.40   | 38.30   | 39.20   | 40.10   |
| \$15.00            | 37.48  | 38.38   | 39.28   | 40.18   | 41.08   |
| \$16.00            | 38.46  | 39.36   | 40.25   | 41.15   | 42.05   |
| \$17.00            | 39.43  | 40.33   | 41.23   | 42.13   | 43.03   |
| \$18.00            | 40.41  | 41.31   | 42.21   | 43.11   | 44.01   |
| \$19.00            | 41.39  | 42.29   | 43.19   | 44.09   | 44.99   |
| \$20.00            | 42.37  | 43.27   | 44.17   | 45.07   | 45.97   |

SEW Nursery-Finishing

Sensitivity Analysis of Maximum Weaned Pig Price

|                    | Expected Sale Price for Market Hogs          |         |         |         |         |
|--------------------|--|---------|---------|---------|---------|
|                    | \$36.00                                      | \$38.00 | \$40.00 | \$42.00 | \$44.00 |
| Feed Cost Per Cwt. | Maximum Purchase Price for 10 lb. Weaned Pig |         |         |         |         |
| \$14.00            | 25.92  | 30.35   | 34.80   | 39.24   | 43.70   |
| \$15.00            | 23.74  | 28.17   | 32.62   | 37.06   | 41.52   |
| \$16.00            | 21.56  | 25.99   | 30.44   | 34.88   | 39.34   |
| \$17.00            | 19.38  | 23.81   | 28.26   | 32.70   | 37.16   |
| \$18.00            | 17.20  | 21.63   | 26.08   | 30.52   | 34.98   |
| \$19.00            | 15.02  | 19.45   | 23.90   | 28.34   | 32.80   |
| \$20.00            | 12.84  | 12.27   | 21.72   | 26.16   | 20.62   |