



## **Livestock Farm Management Update**

**April 3, 2001**

Prepared By Rodney Jones, Assistant Professor / Extension Livestock Production Economist,  
Kansas State University, April 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 March placements remained about the same as the projections of the previous month. The projected break-evens, for cattle expected to finish in about August, are in the \$73.00 to \$73.75 per cwt. range for heifers and steers. Feeder cattle prices increased slightly from last month. Hay prices continued to increase, however feedgrain and protein prices declined. Performance expectations for spring placements are the best of the entire year. Both feed conversions and average daily gains of March placed cattle are expected to be about 4% better than the annual average.

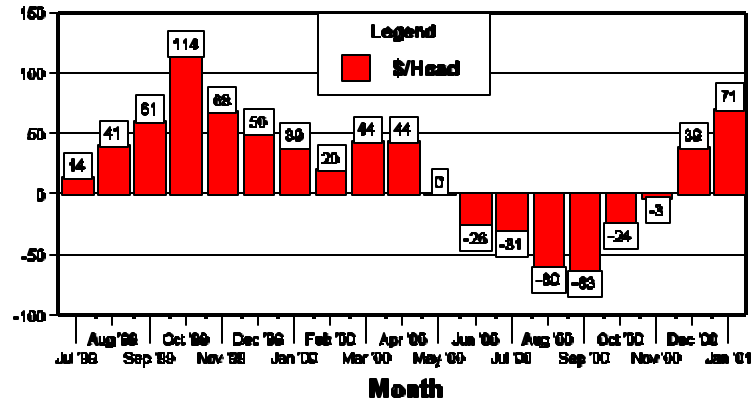
Due to the decline in feedgrain prices, the estimated ration charge decreased nearly 5% relative to last month. Combining the ration charge projection with March placement performance expectations results in a feeding cost of gain projection of \$45.76 per cwt. for March steer placements, and \$48.27 per cwt. for March heifer placements. 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. Recent weeks have provided opportunities to price feedgrain needs on market dips. Risk averse feeders may take advantage of feedgrain pricing opportunities this spring to protect against the possibility of a summer feedgrain price rally.

As expected, significantly positive returns accrued to cattle feeders in January. The average January steer closeout in Kansas generated a profit of about \$70.69 per head. Break-evens averaged around \$72.93, and the monthly average selling price was \$78.58. Strong profits continued on February and March closeouts, likely averaging in the \$60 to \$70 per head range based on preliminary estimates. Break-evens on current closeouts are around \$73.50 to \$75.00 per cwt. Profits are expected to decline by summer, as futures based price forecasts are suggesting significant declines in fed cattle prices.

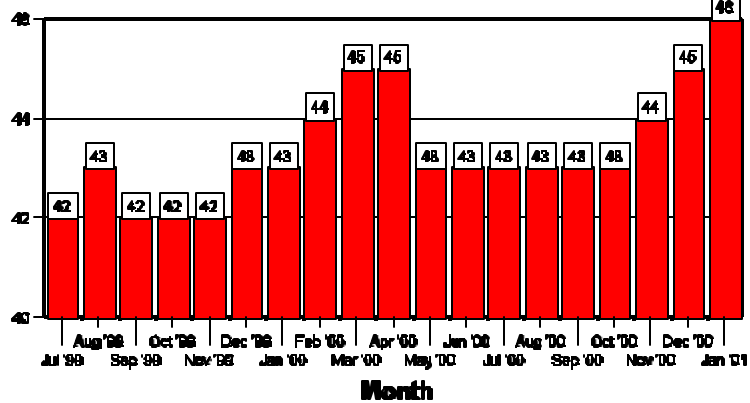
The accompanying budget projections and sensitivity tables project summer stocker break-evens. Profit potential is dependent upon summer grazing lease charges, as well as performance and stocker purchase prices. Average grazing charges have not yet been published. Stocker operators are aggressively bidding for steer calves, pushing potential break-evens into the upper \$80's and lower 90's.

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



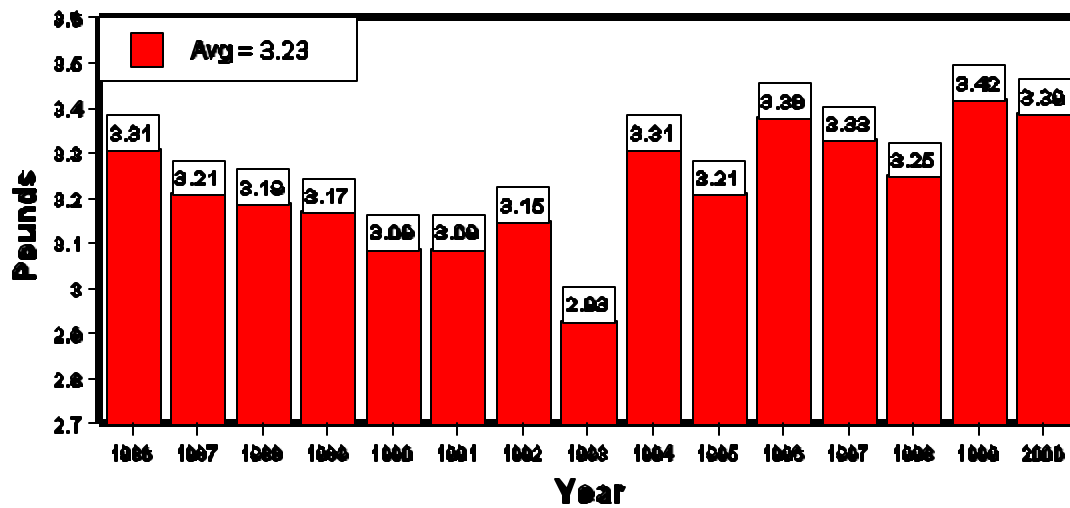
Source: KSU Cattle Return Series.

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



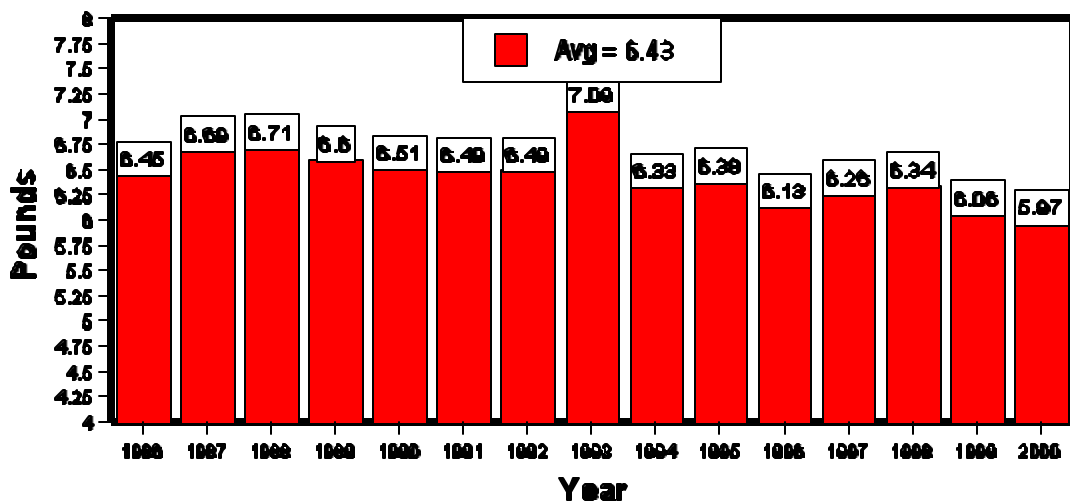
Source: KSU Cattle Return Series.

## Annual Average Daily Gain for Finishing 700 to 800 Lb. Steers in Kansas



Source: KSU Cattle Return Series.

## Annual Feed Conversion for Finishing 700 to 800 Lb. Steers in Kansas



Source: KSU Cattle Return Series.

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

Assumptions	Steers	Heifers
Cost of feeder (\$/cwt.) <sup>1</sup>	\$88.72	\$85.76
Interest rate	9.8%	9.8%
Ration charge (\$/ton) <sup>2</sup>	\$102.32	\$102.32
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	150 days	145 days
Shrink	4.0%	4.0%
Pay weight to pay weight:		
average daily gain	3.34 lbs.	2.94 lbs.
Feed conversion (as fed)	7.93 lbs.	8.28 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:	\$665.40	\$557.44
2. Interest on feeder:	\$ 26.61	\$ 21.53
<b>Feed</b>		
3. Total feed cost:	\$202.85	\$180.04
4. Interest on feed:	\$ 4.06	\$ 3.48
<b>Other Costs</b>		
5. Yardage Charge:	\$ 7.49	\$ 7.23
6. Processing Charge:	\$ 7.00	\$ 7.00
8. Vet, drugs, supplies:	\$ 7.00	\$ 7.00
9. Interest on other V.C.:	\$ .43	\$ .41
Breakeven selling price:	\$ 73.67	\$ 72.94
Total cost of gain/cwt:	\$ 51.09	\$ 53.34
Feeding cost of gain/cwt: <sup>3</sup>	\$ 45.76	\$ 48.27

<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 \$102.32 based on corn price of \$2.12/bu., milo price of \$3.41/cwt., alfalfa hay price of \$127.50/ton, supplement price of \$174.00/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 of Gain (\$/cwt.)	-----Breakeven Price----- (\$/cwt.)				
\$43.00	70.24	71.49	72.74	73.98	75.23
\$44.00	70.64	71.89	73.14	74.38	75.63
\$45.00	71.04	72.29	73.54	74.78	76.03
\$46.00	71.44	72.69	73.94	75.18	76.43
\$47.00	71.84	73.09	74.34	75.58	76.83
\$48.00	72.24	73.49	74.74	75.98	77.23
\$49.00	72.64	73.89	75.14	76.38	77.63

Commercial Feedlot

Sensitivity Analysis of Breakeven Prices for 650 lb. Heifers

	Feeder purchase price				
	\$82.00	\$84.00	\$86.00	\$88.00	\$90.00
Feeding Cost of Gain (\$/cwt.)	-----Breakeven Price----- (\$/cwt.)				
\$46.00	69.68	70.94	72.19	73.45	74.71
\$47.00	70.08	71.33	72.59	73.85	75.10
\$48.00	70.47	71.73	72.98	74.24	75.50
\$49.00	70.87	72.12	73.38	74.64	75.89
\$50.00	71.26	72.52	73.78	75.03	76.29
\$51.00	71.66	72.91	74.17	75.43	76.68
\$52.00	72.05	73.31	74.57	75.82	77.08

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

	% Change Previous Year	2001	2000	1999	1990-1999 Average
January	+ 7.7	46.44	43.11	47.65	53.10
February		49.00 <sup>P</sup>	43.76	47.94	55.35
March		50.00 <sup>P</sup>	44.97	47.66	55.99
April		49.00 <sup>P</sup>	44.55	47.94	53.86
May		48.00 <sup>P</sup>	43.29	45.56	53.26
June		46.50 <sup>P</sup>	43.20	42.62	51.19
July		46.50 <sup>P</sup>	43.01	42.30	50.24
August		47.00 <sup>P</sup>	43.43	43.15	50.82
September			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 Previous Year	2001	2000	1999	1990-1999 Average
January	+12.6	73.93 <sup>P</sup>	65.68	61.92	72.34
February		73.50 <sup>P</sup>	67.47	60.39	72.48
March		73.80 <sup>P</sup>	68.15	61.51	72.03
April		74.52 <sup>P</sup>	69.61	61.63	71.63
May		75.37 <sup>P</sup>	71.27	59.71	71.28
June		74.16 <sup>P</sup>	71.72	62.21	69.67
July		72.24 <sup>P</sup>	69.99	63.05	69.67
August		74.07 <sup>P</sup>	69.69	61.90	68.61
September			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

2001 Flint Hills Grazing Budgets

Assumptions	Season-Long	Early Intensive
In Date	May 1	May 1
In Weight	550 lbs.	550 lbs.
Purchase Price	\$105.00	\$105.00
Interest Rate	9.0 %	9.0 %
Grazing Charge Per Head	\$60.70	\$52.30
Daily Gain <sup>1</sup>	1.60 lbs.	2.0 lbs.
Total Gain Per Head <sup>1</sup>	240 lbs.	180 lbs.
Acres Per Head	4.0	2.5
Total Gain Per Acre <sup>1</sup>	57.0 lbs.	67.6 lbs.
Death Loss	1.5 %	1.5 %
Shrink	3.0 %	3.0 %
Out Weight	790 lbs.	730 lbs.
Out Date	Oct 1	Aug 1
<b>Cost Budgets</b>		
<b>FEEDER</b>		
1. Cost of Feeder	\$577.50	\$577.50
2. Interest on Feeder	\$ 21.66	\$ 12.99
<b>OTHER COSTS</b>		
3. Grazing Charge	\$ 60.70	\$ 52.30
4. Vitamins and Minerals	\$ 4.40	\$ 2.20
5. Vet., Drugs, Supplies	\$ 8.50	\$ 7.00
6. Labor	\$ 6.48	\$ 4.32
7. Miscellaneous	\$ 16.23	\$ 11.86
8. Int. on Other Costs	\$ 1.75	\$ .86
Breakeven Selling Price	\$ 89.60	\$ 93.04
Total Cost of Gain/Cwt.	\$ 52.47	\$ 54.15
Feeding Cost of Gain/Cwt.	\$ 42.98	\$ 42.98

<sup>1</sup> Total gain per head, and total gain per acre have been adjusted for shrink and death loss.

Full Season Grazing  
Sensitivity Analysis of Breakeven Prices

Daily Gain	Sale Weight	Purchase Price for 550 lb. Steer			
		\$102.00	\$104.00	\$106.00	\$108.00
-----Breakeven Prices <sup>1</sup> -----					
1.40	760	90.85	92.37	93.90	95.42
1.50	775	89.09	90.59	92.08	93.58
1.60	790	87.40	88.87	90.33	91.80
1.70	805	85.77	87.21	88.65	90.09
1.80	820	84.20	85.62	87.03	88.44
1.90	835	82.69	84.08	85.43	86.85
2.00	850	81.23	82.59	83.96	85.32

<sup>1</sup> Break-even projections are adjusted for shrink and death loss.

Early Intensive Grazing  
Sensitivity Analysis of Breakeven Prices

Grazing Charge per head	Purchase Price for 550 lb. Steer			
	\$102.00	\$104.00	\$106.00	\$108.00
-----Breakeven Prices <sup>1</sup> -----				
\$42.00	89.25	90.81	92.38	93.94
\$44.00	89.53	91.09	92.66	94.22
\$46.00	89.81	91.38	92.94	94.50
\$48.00	90.09	91.66	93.22	94.79
\$50.00	90.37	91.94	93.50	95.07
\$52.00	90.66	92.22	93.78	95.35
\$54.00	90.94	92.50	94.07	95.63

<sup>1</sup> Break-even projections are adjusted for shrink and death loss.

## 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 March would be expected to finish in September. 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 March declined slightly from last month, to \$33.16 per pig. The formula pig price is still about \$3.00 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 March is \$42.05 per cwt. on a live weight basis, a significant decline from last month's projection. Pricing the weaned pig into the nursery-finish program at the mid-point of the recent Iowa reported cash transfer price (\$36.50) results in a projected break-even to cover all costs of \$43.55 per cwt.

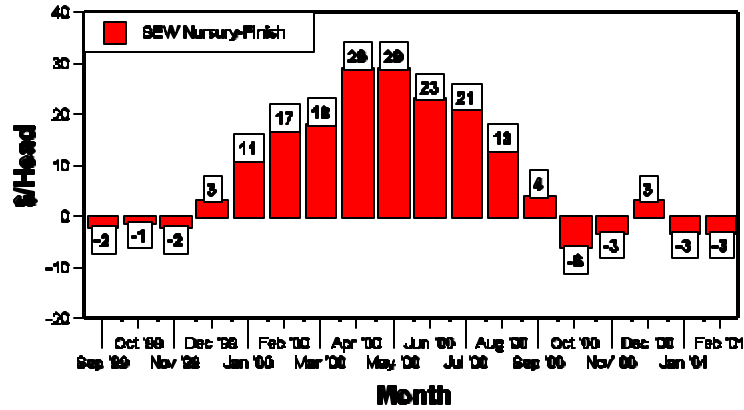
The example hog finishing budgets are calculated using a milo based feeding ration. Projected feed costs, based on current milo and supplement prices, are currently at \$16.85 per cwt. of pork produced in the SEW nursery finish program. This is a significant decline from the projections of just a month 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. Both milo and soybean meal prices declined somewhat from month ago levels, resulting in the significantly lower feed cost projections. Risk averse producers who are concerned about the possibility of a summer feedgrain price rally may want to consider pricing summer feed needs on market dips.

Calculated average returns to labor and management remained negative for hogs exiting Kansas SEW nursery-finishing barns in February, averaging about \$-2.76 per head. All indications suggest more positive returns for the next several months. Break-even prices to cover all costs for average producers are currently around \$40.00 per cwt. on a live weight basis. Given these break-even levels, recent cash sale prices are likely resulting in returns to labor and management of \$20 to \$30 per pig sold.

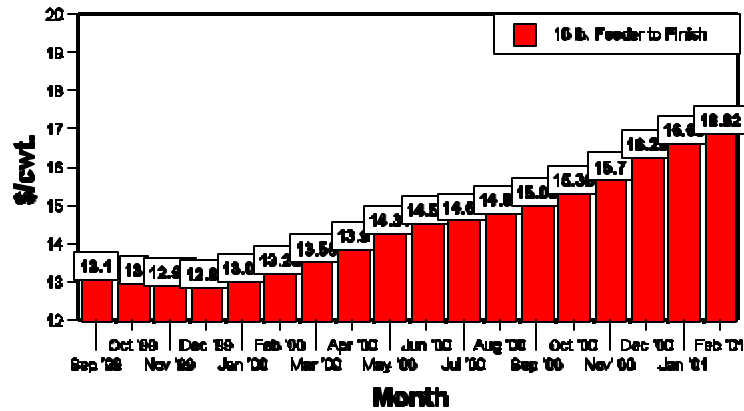
Break-evens to cover all costs for average farrow-to-finish producers are currently averaging around \$41.50 per cwt. on a live weight basis. Based on current cash hog prices, average Kansas farrow-to-finish producers should be enjoying modest profits of around \$15.00 per pig sold.

## 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

March, 2001

Assumptions	Barrows and Gilts
Initial weight of weaned pig	10 lbs.
Cost of weaned pig <sup>1</sup>	\$33.16
Interest rate	10.0 %
Feed conversion	3.00 lbs.
Death loss	5.00 %
Milo price	\$3.41 / cwt.
Soybean meal price	\$149.00 / ton.

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

### COST BUDGET FOR FINISHING PIGS

#### FEEDER

1. Cost of weaned pig	\$33.16
2. Interest on weaned pig	\$ 1.54

#### FEED

3. Grain	\$17.07
4. Soybean meal	\$ 9.61
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
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Sale Price Needed to Cover Variable Costs	\$36.90
Sale Price Needed to Cover Total Costs	\$42.05

Feed Cost Per Cwt. of Pork Produced	\$16.83
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SEW Nursery-Finishing

Sensitivity Analysis of Break-even Sale Price

	Purchase Price for 10 Lb. Weaned Pig				
	\$30.00	\$32.00	\$34.00	\$36.00	\$38.00
Feed Cost Per Cwt.	Break-even Sale Price for Market Hog (\$/cwt.)				
\$14.00	37.85	38.75	39.65	40.55	41.45
\$15.00	38.83	39.73	40.63	41.52	42.42
\$16.00	39.81	40.70	41.60	42.50	43.40
\$17.00	40.78	41.68	42.58	43.48	44.38
\$18.00	41.76	42.66	43.56	44.46	45.36
\$19.00	42.74	43.64	44.54	45.44	46.34
\$20.00	43.72	44.62	45.52	46.42	47.32

SEW Nursery-Finishing

Sensitivity Analysis of Maximum Weaned Pig Price

	Expected Sale Price for Market Hogs				
	\$42.00	\$44.00	\$46.00	\$48.00	\$50.00
Feed Cost Per Cwt.	Maximum Purchase Price for 10 lb. Weaned Pig				
\$14.00	39.25	43.69	48.14	52.58	57.04
\$15.00	37.07	41.51	45.96	50.40	54.86
\$16.00	34.89	39.33	43.78	48.22	52.68
\$17.00	32.71	37.15	41.60	46.04	50.50
\$18.00	30.53	34.97	39.42	43.86	48.32
\$19.00	28.35	32.79	37.24	41.68	46.14
\$20.00	26.17	30.61	35.06	39.50	43.96