

Kentucky Farm Business Management Program

**Beef Cow Enterprises
2003 Costs and Returns Summary**

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A Special Note to Our Readers

The data for this study are drawn from the detailed financial records of producers cooperating with the Kentucky Farm Business Management Program. The data are not drawn from a random sample of farms in the state. However, these data are the most accurate and detailed farm financial data which are available to researchers and educators. Every attempt has been made to select a set of farms for these research studies which are “typical” operations and have complete financial information available for analysis. These data are carefully cross-checked by our farm management specialists before inclusion in this analysis. It should be noted that farms included in this study are representative of commercial farms producing major commodities and livestock, but not of all farms in Kentucky.

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2003 Beef Cow-Calf Enterprise Summary

Introduction

Cattle producers in Kentucky saw an increase in gross returns and net returns in 2004. Even though this was an improvement over the previous year, net returns over all costs were still negative; therefore the operations were not making enough to cover both their cash and non-cash costs. In fact, as evidenced on Tables 6, 7, 12, and 13, the net returns over all costs have been negative since 1999.

Description of Cattle Enterprises

Two types of cow/calf enterprises are represented in this summary: those in which calves are sold at weaning and those in which calves are retained for at least 45 days after weaning (backgrounding). There were 47 farms included in the calves sold analysis and 45 farms included in the backgrounding data. All farms in this study are participants in the Kentucky Farm Business Management Program (KFBM).

Methodology and Definitions

Production and financial data were calculated as a component of the complete farm business records of Kentucky Farm Business Management (KFBM) program members. From these data, "size-type" averages were determined for beef farms. Beef farms were defined as farms on which the value of feed fed was more than 40 percent of the crop returns and the beef enterprise utilized more than one-half of the value of feed fed. Three size-type standards were determined for beef farms based on geographic regions (i.e., Central Kentucky, Western Kentucky, and state-wide). Non-feed and resource costs were then allocated to each respective livestock enterprise based

upon 2000 and 2001 cost data. To refine the allocations, each cost was adjusted proportionately across all livestock activities and any cropping activities.

In providing data that are not influenced by source of labor (i.e., hired vs. unpaid) and level of indebtedness (debt interest payments), data were standardized. This was achieved through including imputed charges on unpaid labor and capital investments. Performance was measured through the calculation of residual returns to management. The standardization of data across farms with varying quantities of unpaid labor and equity contributions provide an effective measure for comparing performance on a unit basis (i.e, per hundred weight or per cow).

Upon determination of per unit non-feed and resource costs, livestock enterprise production averages were used to complete the respective beef analyses. Production efficiency averages for various types of livestock enterprises are determined each year from KFBM member data. The averages include total returns, feed costs, and other production variables (i.e., feed efficiency, death loss, etc.). By merging the data sets together, a complete livestock enterprise summary is achieved. However, due to data limitations, there is no reporting of high return and low return farms based on management returns per acre.

The following definitions used within the farm analysis program are important to the proper interpretation of the material presented:

Total Returns - - This is the total return attributable to the livestock enterprise for the year. It includes the value of all animals

sold (including market and breeding), the value of livestock slaughtered for family consumption, and an inventory adjustment (positive or negative) for the difference in the value of livestock on the farm at the beginning and ending of the year.

Feed Costs - - This is the value of purchased and homegrown feed fed. The purchased feed cost is determined from a producer's actual cost and is adjusted for inventory amounts at the beginning and ending of the year. The cost of homegrown feed is determined by charging a twelve-month average "on-farm" per unit market value (what producers would receive if the feed was sold and marketing costs deducted) on the amounts fed.

Non-Feed Cash Costs - - This is the actual cash expenditure, with accrual adjustments, for selected operating expenses of farm operators included in the 2003 sample. It does not include cash expenditures for purchased concentrates or grains fed to livestock.

Non-Feed Non Cash Costs - - Unpaid labor, depreciation and interest on equity capital are considered non-cash costs. Homegrown feed is a non-cash cost, but is included in feed cost in these analyses.

Total Cost of Production - - This is the total charge (cash and non-cash) for all factors of production, except management, used by the livestock enterprise during the year.

Unpaid Labor - - This is the imputed charge for any operator labor contribution toward livestock production. The 2003 imputed rate charged for unpaid labor is \$29,700 per 12 month equivalent or \$2,475 per month. The 2001 and 2002 imputed rates for unpaid labor are \$27,000 and \$28,800 per 12 month equivalent, respectively.

Machinery and Building Depreciation - - Taken from depreciation schedules designed to reflect economic depreciation as maintained by the KFBM Program, equipment is generally depreciated over a ten-year period. Most farm buildings, except for single purpose structures, are depreciated over a twenty-five-year period for this economic analysis.

Non-Cash Interest Charge - - This represents the imputed equity interest charge for the average annual capital investment for machinery, buildings, land and an imputed interest charge on cash operating expenses. The 2003 imputed interest rate is 6.25 percent. The 2001 and 2002 imputed rates are 8.00 and 6.75 percent, respectively.

Net Returns or Management Returns - - This is the net return remaining to reward management after charges are made for all other factors of production. It is calculated by deducting the total of all production costs from total revenue.

Returns per \$100 Feed Fed - - A gauge to examine the effectiveness of feed usage. The return from feeding \$100 of feed is calculated by dividing total returns by total feed costs and multiplying by 100.

It is important to emphasize that standardized producer data is used in this study. Where labor and capital resources vary among producers, these variations are muted through imputed cost determinations. Table 1. reflects historical rates used in the past and the current study.

Beef Enterprise Survey – Calves Sold

Data for this enterprise over the last several years indicates that, on average, this enterprise was not profitable, with Net Returns (over all costs) ranging from an average of -\$75/Cow in 2000 to an average of -\$139/Cow in 2002 (Table 6). Producers did experience less losses in 2003 than in 2002 with Net Returns (over all costs) increasing 23.62% from -\$139/Cow in 2002 to -\$106/Cow in 2003.

There are several production factors that had a significant influence on the net returns realized by producers. Net returns were positively influenced by higher selling prices being received. The selling price for calves sold increased 10.61% from \$77.30 in 2002 to \$85.50 in 2003. Investment per cow decreasing 11.89% during the same time period also had a positive influence on the net returns realized. The factors having a negative influence on net returns include a 25.36% increase in the death loss over the 2002 level, a reduction in the pounds of beef produced per cow from 576 in 2002 to 519 in 2003, and higher total feed costs due to larger hay and pasture inputs per cow. See Table 2 for the comparison of these and other factors.

Total returns per cwt. Produced averaged \$78.00 from 1999 to 2003. The high return received during this time period was \$80.29 in 2000 and the low return was \$62.14 in 2002. The cost of purchased feed increased steadily over the 1999 to 2003 time frame with purchased concentrate averaging \$3.99/Cwt in 1999, and rising to \$5.87/Cwt in 2003. The cost of purchased hay also increased from \$1.23/Cwt to \$2.09/Cwt over the 1999-2003 period.

The out-of-pocket costs (purchased feed and cash costs) were much lower than the gross

returns experienced for these operations. The Net Returns above cash costs ranged from a low of \$32.33/Cwt in 2002 to a high of \$47.51/Cwt in 1999 (Figure 17). The ability to cover the cash costs allows these operations to stay in business during the short-run. However, economic returns (Net Returns above all costs) must be positive or other areas of the operation must cover the non-cash costs for the operation to persist in the long-run.

Beef Enterprise Survey – Calves Backgrounded

Total beef returns and net returns over all costs improved from the prior year for KFBM backgrounding operations. Total beef returns increased 19.19% (\$63.51/Cwt to \$75.70/Cwt) and the net returns over all costs increased from -\$27.83/Cwt to -\$19.82/Cwt. The price received increased 7.2% from \$77.68 in 2002 to \$83.27 in 2003 for market animals, yet the price received for breeding animals decreased 14.42% from the 2002 level (Table 8). A slightly higher pounds of beef produced per cow was realized by producers, positively influencing net returns. An increase in death loss of 14.97% and a slightly higher investment per cow had a negative influence on net returns. Additionally, the cost of feed fed increased, mainly due to the larger use of concentrates and larger hay and pasture inputs per cow (Table 8).

Even though returns improved for 2003, the average backgrounding operation in KFBM did not make enough to cover both cash and non-cash costs for the year. As shown on Table 11, total beef returns were \$75.70/Cwt. The Cash Costs (\$35.20/Cwt) plus the home raised feed cost (\$30.06/Cwt) was \$65.26/Cwt, leaving just \$10.44/Cwt to cover all other costs such as operator labor,

machinery and building depreciation and non-cash interest.

Summary

The ability of an operation to continue to operate despite negative net returns above all costs depends on several characteristics of the individual operation. Continued operation depends upon the farm's financial position, the severity of the loss, and the length of time that a loss continues to occur. While many producers may think that non-cash costs are not something that they really pay, it is important for them to consider that the return above all costs is the return to them on their investment in the farming operation. If returns on investment are not being experienced for an individual enterprise in the long-run it may be important to consider other investment opportunities. These other investment opportunities could include on or off farm ventures.

The analysis provided by the KFBM program helps producers analyze their individual farming operation. This analysis provides insight into areas of the operation that can be improved to decrease costs and increase returns. The KFBM program also helps producers define the financial position of their operation and the severity of losses or the magnitude of gains that they are experiencing.

The information contained in this summary represents the average beef farm enrolled in the KFBM program. There are individual farming operations that experienced positive net returns above all costs. For those operations that are not covering all costs there must be an additional farming enterprise or a source of off-farm income to provide returns for family living, loan repayment, capital asset replacement, and farm improvements. Without providing for these other costs it will be very difficult for the farming operation to survive in the long-run.

**Table 1. Yearly Rates for Labor, Interest, and Feed Corn
2003 Beef Enterprise Summary**

	Fed Corn Produced on Farm (\$/Bu)	Unpaid Labor Rate (\$/Year)	Interest Rate: Non-Land	Interest Rate: Land
1993	2.40	17,400	8.50%	5.0%
1994	2.51	18,000	9.00%	5.0%
1995	2.75	19,200	9.50%	5.0%
1996	3.75	19,800	9.00%	5.0%
1997	2.78	21,600	9.00%	5.0%
1998	2.39	22,800	9.00%	5.0%
1999	2.11	24,000	8.50%	5.0%
2000	2.09	25,200	9.00%	4.5%
2001	2.08	27,000	8.00%	4.5%
2002	2.29	28,800	6.75%	4.0%
2003	2.51	29,700	6.25%	4.0%

**Table 2. Production Summary
for Kentucky Cow-Calf Beef Herds
(Calves Sold)
2003 Enterprise Summary**

	2002	2003	Percent Change
Number of Enterprises	39	47	
Total Beef Returns	29,879	30,469	1.98%
Total Feed Costs	<u>16,892</u>	<u>17,165</u>	1.62%
Returns Above Feed Cost	12,987	13,304	2.44%
Total Non feed Costs	<u>24,625</u>	<u>21,723</u>	-11.78%
Net Returns (over all costs)	-11,637	-8,420	27.65%
Other Economic Variables			
Returns per \$100 Feed Fed	176.89	177.50	0.35%
Price Rec'd per CWT.: Market	77.30	85.50	10.61%
Price Rec'd per CWT.: Breeding	45.89	45.87	-0.04%
Capital Investment per Cow			
Livestock	827	799	-3.41%
Non Livestock	<u>504</u>	<u>374</u>	-25.79%
Total	1,331	1,173	-11.89%
Other Production Variables			
Number of Cows	83.5	79.0	-5.43%
Animal Units in Herd	117.6	111.3	-5.34%
Total Beef Produced (LB)	48,083	40,997	-14.74%
Pounds of Beef per Cow	575.9	519.2	-9.85%
Death Loss: % of Lbs Produced	5.47	6.85	25.36%
Total Concentrates (lbs / cow)	114	102	-10.53%
Hay & Dry Roughage (lbs / cow)	743	951	27.99%
Corn Silage (lbs / cow)	199	157	-21.11%
Other Silage (lbs / cow)	0	31	100.00%
Pasture Days per Animal Unit	233	243	4.29%
Hay Equivalents – Tons / Cow	6.3	6.8	7.94%
Labor Summary			
Months per Cow	0.05	0.05	-3.80%
Hours per Cow	10.2	9.8	-3.80%
Beef Production/Worker/Year	140,791	131,940	-6.29%

**Table 3. Cost and Returns (Per Cow).
for Kentucky Cow-Calf Beef Herds
(Calves Sold)
2003 Enterprise Summary**

	2002	2003	Percent Change
Number of Enterprises	39	47	
Number of Cows	83.5	79.0	-5.43%
Total Beef Returns - \$ Per Cow	358	386	7.82%
Feed Costs			
Purchased Concentrates	30	30	0.00%
Purchased Hay and Other	9	11	26.50%
Home Raised Feed	<u>163</u>	<u>176</u>	7.79%
Total Feed Costs	202	217	7.43%
Non Feed Costs			
Veterinary & Livestock Supplies	19	17	-12.13%
Fuel & Oil	12	13	6.99%
Machinery Repair	19	18	-4.47%
Bldg/Fence Repair	19	17	-12.13%
Machinery Hire	1	1	-10.50%
Utilities	5	7	40.79%
Light Vehicle-Farm Share	2	1	-31.65%
Paid Labor	25	26	6.48%
Insurance, Property Taxes, Misc.	12	11	-8.76%
Cash Interest	<u>19</u>	<u>9</u>	-51.13%
Total Non Feed Cash Costs	133	120	-9.54%
Non Feed Non Cash Costs			
Unpaid Labor	60	56	-5.53%
Machinery Depreciation	18	18	2.90%
Building/Fence Depreciation	9	12	24.27%
Non-Cash Interest	<u>76</u>	<u>69</u>	-8.77%
Total Non Feed Non Cash Costs	162	155	-4.42%
Total Cost of Production	497	492	-0.97%
Net Returns (over all costs)	-139	-106	23.62%
Cost and Returns Summary: \$/Cow			
Total Returns	358	386	7.82%
Feed Costs	202	217	7.43%
Non Feed Costs	<u>295</u>	<u>275</u>	-6.72%
Net Returns (over all costs)	-139	-106	23.62%
Costs Summary: \$/Cow			
Feed Costs	202	217	7.43%
Non Feed Cash Costs	133	120	-9.54%
Non Feed Non Cash Costs	<u>162</u>	<u>155</u>	-4.42%
Total Cost of Production	497	492	-0.97%

**Table 4. Cost and Returns (Per Cwt.)
for Kentucky Cow-Calf Beef Herds
(Calves Sold)
2003 Enterprise Summary**

	2002	2003	Percent Change
Number of Enterprises	39	47	
Pounds Produced	48,083	40,997	-14.74%
Total Beef Returns - \$ / Cwt.	62.14	74.32	19.60%
Feed Costs			
Purchased Concentrates	5.29	5.87	10.96%
Purchased Hay and Other	1.49	2.09	40.32%
Home Raised Feed	<u>28.35</u>	<u>33.91</u>	19.61%
Total Feed Costs	35.13	41.87	19.19%
Non Feed Costs			
Veterinary & Livestock Supplies	3.37	3.28	-2.53%
Fuel & Oil	2.08	2.47	18.68%
Machinery Repair	3.23	3.42	5.97%
Bldg/Fence Repair	3.37	3.28	-2.53%
Machinery Hire	0.14	0.14	-0.73%
Utilities	0.83	1.30	56.16%
Light Vehicle-Farm Share	0.30	0.23	-24.18%
Paid Labor	4.26	5.04	18.11%
Insurance, Property Taxes, Misc.	2.12	2.14	1.21%
Cash Interest	<u>3.33</u>	<u>1.80</u>	-45.79%
Total Non Feed Cash Costs	23.03	23.11	0.34%
Non Feed Non Cash Costs			
Unpaid Labor	10.35	10.85	4.78%
Machinery Depreciation	3.08	3.52	14.13%
Building/Fence Depreciation	1.61	2.22	37.84%
Non-Cash Interest	<u>13.13</u>	<u>13.29</u>	1.20%
Total Non Feed Non Cash Costs	28.18	29.88	6.02%
Total Cost of Production	86.34	94.86	9.86%
Net Returns (over all costs)	-24.20	-20.54	15.15%
Cost and Returns Summary: \$/Cwt			
Total Returns	62.14	74.32	19.60%
Feed Costs	35.13	41.87	19.19%
Non Feed Costs	<u>51.21</u>	<u>52.99</u>	3.46%
Net Returns (over all costs)	-24.20	-20.54	15.15%
Costs Summary: \$/Cwt			
Feed Costs	35.13	41.87	19.19%
Non Feed Cash Costs	23.03	23.11	0.34%
Non Feed Non Cash Costs	<u>28.18</u>	<u>29.88</u>	6.02%
Total Cost of Production	86.34	94.86	9.86%

**Table 5. Cash Flow Analysis
for Kentucky Cow-Calf Beef Herds
(Calves Sold)
2003 Enterprise Summary**

			Per Cwt.	Per Cow
Total Beef Returns				
Cash Sales:				
	Calves	83.59%	Sold	
			72.95	378.79
	Culls	12.67%	Sold	
			12.84	66.69
	Change in Inventory & Death Loss		<u>-11.47</u>	<u>-59.48</u>
TOTAL			74.32	386.00
Cash Costs				
	Purchased Concentrates		5.87	30.00
	Purchased Hay and Other		2.09	10.87
	Veterinary & Livestock Supplies		3.28	17.05
	Fuel & Oil		2.47	12.82
	Machinery Repair		3.42	17.78
	Bldg/Fence Repair		3.28	17.05
	Machinery Hire		0.14	0.74
	Utilities		1.30	6.73
	Light Vehicle-Farm Share		0.23	1.17
	Paid Labor		5.04	26.16
	Insurance, Property Taxes, Misc.		2.14	11.14
	Cash Interest		<u>1.80</u>	<u>9.37</u>
	Sub-total		31.07	160.87
	Returns to Home Raised Feed, Land, Unpaid Labor, & Equity Capital		43.25	225.13
Non Cash Costs				
	Home Raised Feed		33.91	176.13
	Unpaid Labor		10.85	56.34
	Machinery Depreciation		3.52	18.27
	Building/Fence Depreciation		2.22	11.50
	Non-Cash Interest		<u>13.29</u>	<u>69.02</u>
	Sub-total		63.78	331.25
	Total Cost of Production		94.86	492.13
	Net Returns		-20.54	-106.13

**Table 6. Cost and Returns (Per Cow).
for Kentucky Cow-Calf Beef Herds
(Calves Sold)
1999 to 2003**

	1999	2000	2001	2002	2003	5-Year Average	Trend Projection 2004
Number of Enterprises	13	13	37	39	47		
Number of Cows	92.0	81.0	73.8	83.5	79.0	81.9	86.6
Total Beef Returns - \$ per Cow	378	421	382	358	386	385	418
Feed Costs							
Purchased Concentrates	20	28	27	30	30	27	27
Purchased Hay and Other	7	9	8	9	11	9	8
Home Raised Feed	<u>177</u>	<u>154</u>	<u>167</u>	<u>163</u>	<u>176</u>	<u>168</u>	<u>172</u>
Total Feed Costs	205	191	202	202	217	203	208
Non Feed Costs							
Veterinary & Livestock Supplies	24	20	30	19	17	22	22
Fuel & Oil	9	14	12	12	13	12	12
Machinery Repair	14	18	17	19	18	17	17
Bldg/Fence Repair	9	15	17	19	17	16	16
Machinery Hire	2	1	1	1	1	1	1
Utilities	6	7	7	5	7	6	6
Light Vehicle-Farm Share	1	2	2	2	1	2	1
Paid Labor	27	26	26	25	26	26	26
Insurance, Property Taxes, Misc.	10	13	12	12	11	12	12
Cash Interest	<u>9</u>	<u>25</u>	<u>20</u>	<u>19</u>	<u>9</u>	<u>16</u>	<u>16</u>
Total Non Feed Cash Costs	111	141	144	133	120	130	130
Non Feed Non Cash Costs							
Unpaid Labor	54	59	48	60	56	55	55
Machinery Depreciation	12	16	17	18	18	16	14
Building/Fence Depreciation	9	10	17	9	12	11	11
Non-Cash Interest	<u>81</u>	<u>79</u>	<u>74</u>	<u>76</u>	<u>69</u>	<u>76</u>	<u>80</u>
Total Non Feed Non Cash Costs	156	164	155	162	155	158	159
Total Cost of Production	472	496	501	497	492	492	497
Net Returns (over all costs)	-94	-75	-119	-139	-106	-107	-79
Cost and Returns Summary: \$/Cow							
Total Returns	378	421	382	358	386	385	418
Feed Costs	205	191	202	202	217	203	208
Non Feed Costs	<u>267</u>	<u>305</u>	<u>299</u>	<u>295</u>	<u>275</u>	<u>288</u>	<u>289</u>
Net Returns (over all costs)	-94	-75	-119	-139	-106	-107	-79
Costs Summary: \$/Cow							
Feed Costs	205	191	202	202	217	203	208
Non Feed Cash Costs	111	141	144	133	120	130	130
Non Feed Non Cash Costs	<u>156</u>	<u>164</u>	<u>155</u>	<u>162</u>	<u>155</u>	<u>158</u>	<u>159</u>
Total Cost of Production	472	496	501	497	492	492	497

**Table 7. Cost and Returns (Per Cwt).
for Kentucky Cow-Calf Beef Herds
(Calves Sold)
1999 to 2003**

	1999	2000	2001	2002	2003	5-Year Average	Trend Projection 2004
Number of Enterprises	13	13	37	39	47		
Pounds Produced	49,139	43,105	39,272	48,083	40,997	44,119	46,380
Pounds Produced per Cow	534.1	532.2	532.1	575.9	519.2	539.0	535.9
Total Beef Returns	73.46	80.29	71.74	62.14	74.32	72.39	78.00
Feed Costs							
Purchased Concentrates	3.99	5.12	5.02	5.29	5.87	5.06	5.06
Purchased Hay and Other	1.23	1.57	1.40	1.49	2.09	1.56	1.58
Home Raised Feed	<u>34.92</u>	<u>29.65</u>	<u>31.60</u>	<u>28.35</u>	<u>33.91</u>	<u>31.69</u>	<u>32.10</u>
Total Feed Costs	40.14	36.34	38.02	35.13	41.87	38.30	38.74
Non Feed Costs							
Veterinary & Livestock Supplies	4.33	3.77	5.57	3.37	3.28	4.06	4.11
Fuel & Oil	1.79	2.60	2.33	2.08	2.47	2.25	2.28
Machinery Repair	2.66	3.54	3.15	3.23	3.42	3.20	3.21
Bldg/Fence Repair	1.91	3.20	3.24	3.37	3.28	3.00	2.98
Machinery Hire	0.42	0.11	0.12	0.14	0.14	0.19	0.19
Utilities	1.06	1.24	1.32	0.83	1.30	1.15	1.19
Light Vehicle-Farm Share	0.18	0.38	0.31	0.30	0.23	0.28	0.28
Paid Labor	4.84	4.80	4.98	4.26	5.04	4.78	4.85
Insurance, Property Taxes, Misc.	1.90	2.50	2.32	2.12	2.14	2.20	2.20
Cash Interest	<u>1.64</u>	<u>4.66</u>	<u>3.71</u>	<u>3.33</u>	<u>1.80</u>	<u>3.03</u>	<u>2.97</u>
Total Non Feed Cash Costs	20.73	26.80	27.05	23.03	23.11	24.15	24.25
Non Feed Non Cash Costs							
Unpaid Labor	10.45	11.47	8.98	10.35	10.85	10.42	10.44
Machinery Depreciation	2.53	3.07	3.14	3.08	3.52	3.07	2.67
Building/Fence Depreciation	1.92	1.90	3.10	1.61	2.22	2.15	2.09
Non-Cash Interest	<u>16.58</u>	<u>15.66</u>	<u>13.88</u>	<u>13.13</u>	<u>13.29</u>	<u>14.51</u>	<u>16.33</u>
Total Non Feed Non Cash Costs	31.48	32.10	29.10	28.18	29.88	30.15	31.53
Total Cost of Production	92.35	95.24	94.17	86.34	94.86	92.59	94.52
Net Returns (over all costs)	-18.89	-14.95	-22.43	-24.20	-20.54	-20.20	-16.52
Cost and Returns Summary: \$/Cwt							
Total Returns	73.46	80.29	71.74	62.14	74.32	72.39	78.00
Feed Costs	40.14	36.34	38.02	35.13	41.87	38.30	38.74
Non Feed Costs	<u>52.21</u>	<u>58.90</u>	<u>56.15</u>	<u>51.21</u>	<u>52.99</u>	<u>54.29</u>	<u>55.78</u>
Net Returns (over all costs)	-18.89	-14.95	-22.43	-24.20	-20.54	-20.20	-16.52
Costs Summary: \$/Cwt							
Feed Costs	40.14	36.34	38.02	35.13	41.87	38.30	38.74
Non Feed Cash Costs	20.73	26.8	27.05	23.03	23.11	24.15	24.25
Non Feed Non Cash Costs	<u>31.48</u>	<u>32.1</u>	<u>29.10</u>	<u>28.18</u>	<u>29.88</u>	<u>30.15</u>	<u>31.53</u>
Total Cost of Production	92.35	95.24	94.17	86.34	94.86	92.59	94.52

**Table 8. Production Summary
for Kentucky Cow-Calf Beef Herds
(Calves Backgrounded)
2003 Enterprise Summary**

	2002	2003	Percent Change
Number of Enterprises	44	45	
Total Beef Returns	47,431	56,929	20.03%
Total Feed Costs	<u>31,187</u>	<u>32,969</u>	5.71%
Returns Above Feed Cost	16,243	23,960	47.50%
Total Non feed Costs	<u>37,022</u>	<u>38,868</u>	4.99%
Net Returns (over all costs)	-20,779	-14,909	28.25%
Other Economic Variables			
Returns per \$100 Feed Fed	152.08	172.67	13.54%
Price Rec'd per CWT.: Market	77.68	83.27	7.20%
Price Rec'd per CWT.: Breeding	53.38	45.68	-14.42%
Capital Investment per Cow			
Livestock	971	1,009	3.91%
Non Livestock	<u>574</u>	<u>563</u>	-1.87%
Total	1,544	1,572	1.76%
Other Production Variables			
Number of Cows	114.0	114.2	0.10%
Animal Units in Herd	178.2	178.3	0.10%
Total Beef Produced (LB)	74,682	75,203	0.70%
Pounds of Beef per Cow	654.8	658.8	0.60%
Death Loss: % of Lbs Produced	4.96%	5.70%	14.97%
Total Concentrates	172	194	12.79%
Hay & Dry Roughage	848	774	-8.73%
Corn Silage	108	210	94.44%
Other Silage	13	21	100.00%
Pasture Days per Animal Unit	217	230	5.99%
Hay Equivalents - Tons	7.0	7.2	2.86%
Labor Summary			
Months per Cow	0.05	0.05	-2.49%
Hours per Cow	11.4	11.1	-2.49%
Beef Production/Worker/Year	143,746	148,305	3.17%

**Table 9. Cost and Returns (Per Cow).
for Kentucky Cow-Calf Beef Herds
(Calves Backgrounded)
2003 Enterprise Summary**

	2002	2003	Percent Change
Number of Enterprises	44	45	
Number of Cows	114.0	114.2	0.10%
Total Beef Returns	416	499	19.95%
Feed Costs			
Purchased Concentrates	45	59	31.11%
Purchased Hay and Other	38	32	-15.80%
Home Raised Feed	<u>190</u>	<u>198</u>	4.24%
Total Feed Costs	273	289	5.86%
Non Feed Costs			
Veterinary & Livestock Supplies	29	29	-1.94%
Fuel & Oil	11	13	19.39%
Machinery Repair	23	25	6.60%
Bldg/Fence Repair	16	23	47.46%
Machinery Hire	3	3	-0.13%
Utilities	3	4	57.10%
Light Vehicle-Farm Share	2	1	-23.73%
Paid Labor	14	17	20.96%
Insurance, Property Taxes, Misc.	14	14	1.45%
Cash Interest	<u>22</u>	<u>12</u>	-45.47%
Total Non Feed Cash Costs	136	141	3.54%
Non Feed Non Cash Costs			
Unpaid Labor	85	91	7.31%
Machinery Depreciation	13	15	14.82%
Building/Fence Depreciation	3	5	38.67%
Non-Cash Interest	<u>87</u>	<u>88</u>	1.80%
Total Non Feed Non Cash Costs	188	199	5.86%
Total Cost of Production	598	629	5.33%
Net Returns (over all costs)	-182	-130	28.16%
Cost and Returns Summary: \$/Cow			
Total Returns	416	499	19.95%
Feed Costs	273	289	5.86%
Non Feed Costs	<u>325</u>	<u>340</u>	4.89%
Net Returns (over all costs)	-182	-130	28.16%
Costs Summary: \$/Cow			
Feed Costs	273	289	5.86%
Non Feed Cash Costs	136	141	3.54%
Non Feed Non Cash Costs	<u>188</u>	<u>199</u>	5.86%
Total Cost of Production	598	629	5.33%

**Table 10. Cost and Returns (Per Cwt.).
for Kentucky Cow-Calf Beef Herds
(Calves Backgrounded)
2003 Enterprise Summary**

	2002	2003	Percent Change
Number of Enterprises	44	45	
Pounds Produced	74,682	75,203	0.70%
Total Beef Returns	63.51	75.70	19.19%
Feed Costs			
Purchased Concentrates	6.92	8.89	28.47%
Purchased Hay and Other	5.85	4.89	-16.31%
Home Raised Feed	<u>29.00</u>	<u>30.06</u>	3.63%
Total Feed Costs	41.77	43.84	4.96%
Non Feed Costs			
Veterinary & Livestock Supplies	4.46	4.35	-2.53%
Fuel & Oil	1.68	1.99	18.68%
Machinery Repair	3.59	3.80	5.97%
Bldg/Fence Repair	2.38	3.49	46.58%
Machinery Hire	0.41	0.40	-0.73%
Utilities	0.43	0.67	56.16%
Light Vehicle-Farm Share	0.27	0.21	-24.18%
Paid Labor	2.15	2.58	20.24%
Insurance, Property Taxes, Misc.	2.08	2.10	0.85%
Cash Interest	<u>3.36</u>	<u>1.82</u>	-45.79%
Total Non Feed Cash Costs	20.81	21.42	2.92%
Non Feed Non Cash Costs			
Unpaid Labor	12.94	13.80	6.67%
Machinery Depreciation	2.04	2.33	14.13%
Building/Fence Depreciation	0.52	0.71	37.84%
Non-Cash Interest	<u>13.27</u>	<u>13.43</u>	1.20%
Total Non Feed Non Cash Costs	28.76	30.27	5.23%
Total Cost of Production	91.34	95.52	4.58%
Net Returns (over all costs)	-27.83	-19.82	28.77%
Cost and Returns Summary: \$/Cow			
Total Returns	63.51	75.70	19.19%
Feed Costs	41.77	43.84	4.96%
Non Feed Costs	<u>49.57</u>	<u>51.68</u>	4.26%
Net Returns (over all costs)	-27.83	-19.82	28.77%
Costs Summary: \$/Cow			
Feed Costs	41.77	43.84	4.96%
Non Feed Cash Costs	20.81	21.42	2.92%
Non Feed Non Cash Costs	<u>28.76</u>	<u>30.27</u>	5.23%
Total Cost of Production	91.34	95.52	4.58%

**Table 11. Cash Flow Analysis
for Kentucky Cow-Calf Beef Herds
(Calves Backgrounded)
2003 Enterprise Summary**

			Per Cwt.	Per Cow
Total Beef Returns				
Cash Sales:				
Calves	96.36%	Sold	80.63	531.18
Culls	15.77%	Sold	12.80	84.34
Change in Inventory & Death Loss			<u>-17.74</u>	<u>-116.53</u>
TOTAL			75.70	499.00
 Cash Costs				
Purchased Concentrates			8.89	59.00
Purchased Hay and Other			4.89	32.23
Veterinary & Livestock Supplies			4.35	28.63
Fuel & Oil			1.99	13.14
Machinery Repair			3.80	25.04
Bldg/Fence Repair			3.49	22.97
Machinery Hire			0.40	2.65
Utilities			0.67	4.41
Light Vehicle-Farm Share			0.21	1.37
Paid Labor			2.58	17.02
Insurance, Property Taxes, Misc.			2.10	13.84
Cash Interest			<u>1.82</u>	<u>12.01</u>
Sub-total			35.20	232.32
 Returns to Home Raised Feed, Land, Unpaid Labor, & Equity Capital				
			40.50	266.68
 Non Cash Costs				
Home Raised Feed			30.06	197.77
Unpaid Labor			13.80	90.90
Machinery Depreciation			2.33	15.33
Building/Fence Depreciation			0.71	4.69
Non-Cash Interest			<u>13.43</u>	<u>88.49</u>
Sub-total			60.33	397.17
 Total Cost of Production				
			95.52	629.49
 Net Returns				
			-19.83	-130.49

**Table 12. Cost and Returns (Per Cow).
for Kentucky Cow-Calf Beef Herds
(Calves Backgrounded)**

	1999 to 2003					5-Year Average	Trend Projection 2004
	1999	2000	2001	2002	2003		
Number of Enterprises	10	21	47	44	45		
Number of Cows	71.0	67.0	109.8	114.0	114.2	95.2	68.5
Total Beef Returns	452	461	453	416	499	456.2	462
Feed Costs							
Purchased Concentrates	33	28	37	45	59	40	33
Purchased Hay and Other	16	36	35	38	32	31	27
Home Raised Feed	<u>226</u>	<u>194</u>	<u>188</u>	<u>190</u>	<u>198</u>	<u>199</u>	<u>211</u>
Total Feed Costs	275	258	260	273	289	271	271
Non Feed Costs							
Veterinary & Livestock Supplies	26	32	49	29	29	33	29
Fuel & Oil	7	12	12	11	13	11	10
Machinery Repair	25	22	23	23	25	24	24
Bldg/Fence Repair	17	11	18	16	23	17	15
Machinery Hire	1	2	2	3	3	2	2
Utilities	5	4	5	3	4	4	4
Light Vehicle-Farm Share	1	2	2	2	1	2	2
Paid Labor	17	14	16	14	17	16	15
Insurance, Property Taxes, Misc.	18	14	15	14	14	15	16
Cash Interest	<u>16</u>	<u>18</u>	<u>15</u>	<u>22</u>	<u>12</u>	<u>17</u>	<u>17</u>
Total Non Feed Cash Costs	133	131	156	136	141	140	134
Non Feed Non Cash Costs							
Unpaid Labor	71	77	70	85	91	79	72
Machinery Depreciation	13	12	14	13	15	13	13
Building/Fence Depreciation	4	3	7	3	5	4	4
Non-Cash Interest	<u>94</u>	<u>99</u>	<u>102</u>	<u>87</u>	<u>88</u>	<u>94</u>	<u>97</u>
Total Non Feed Non Cash Costs	182	191	192	188	199	191	186
Total Cost of Production	590	581	609	598	629	601	591
Net Returns (over all costs)	-138	-120	-156	-182	-130	-145	-129
Cost and Returns Summary: \$/Cow							
Total Returns	452	461	453	416	499	456	462
Feed Costs	275	258	260	273	289	271	271
Non Feed Costs	<u>315</u>	<u>322</u>	<u>349</u>	<u>325</u>	<u>340</u>	<u>330</u>	<u>320</u>
Net Returns (over all costs)	-138	-119	-156	-182	-130	-145	-129
Costs Summary: \$/Cow							
Feed Costs	275	258	260	273	289	271	271
Non Feed Cash Costs	133	131	156	136	141	140	134
Non Feed Non Cash Costs	<u>182</u>	<u>191</u>	<u>192</u>	<u>188</u>	<u>199</u>	<u>191</u>	<u>186</u>
Total Cost of Production	590	581	609	598	629	601	591

**Table 13. Cost and Returns (Per Cwt).
for Kentucky Cow-Calf Beef Herds
(Calves Backgrounded)
1999 to 2003**

	1999	2000	2001	2002	2003	5-Year Average	Trend Projection 2004
Number of Enterprises	10	21	47	44	45		
Pounds Produced	44,093	42,350	72,525	74,682	75,203	61,771	42,860
Pounds Produced per Cow	621.0	607.0	660.5	654.8	658.8	648.8	615.8
Total Beef Returns	73.35	76.59	68.61	63.51	75.70	71.55	75.00
Feed Costs							
Purchased Concentrates	5.38	4.59	5.65	6.92	8.89	6.29	5.34
Purchased Hay and Other	2.84	5.09	4.95	5.85	4.89	4.72	4.34
Home Raised Feed	<u>36.77</u>	<u>34.37</u>	<u>28.83</u>	<u>29.00</u>	<u>30.06</u>	<u>31.81</u>	<u>34.30</u>
Total Feed Costs	44.99	44.05	39.43	41.77	43.84	42.82	43.99
Non Feed Costs							
Veterinary & Livestock Supplies	4.17	4.99	7.37	4.46	4.35	5.07	4.72
Fuel & Oil	1.12	2.10	1.88	1.68	1.99	1.76	1.70
Machinery Repair	4.01	3.93	3.49	3.59	3.80	3.76	3.90
Bldg/Fence Repair	2.75	2.05	2.77	2.38	3.49	2.69	2.43
Machinery Hire	0.23	0.31	0.34	0.41	0.40	0.34	0.30
Utilities	0.86	0.64	0.68	0.43	0.67	0.66	0.70
Light Vehicle-Farm Share	0.23	0.35	0.29	0.27	0.21	0.27	0.29
Paid Labor	2.82	2.28	2.37	2.15	2.58	2.44	2.48
Insurance, Property Taxes, Misc.	2.87	2.45	2.27	2.08	2.10	2.35	2.54
Cash Interest	<u>2.56</u>	<u>2.79</u>	<u>2.22</u>	<u>3.36</u>	<u>1.82</u>	<u>2.55</u>	<u>2.68</u>
Total Non Feed Cash Costs	21.60	21.90	23.68	20.81	21.42	21.88	21.75
Non Feed Non Cash Costs							
Unpaid Labor	11.39	13.51	10.57	12.94	13.80	12.44	12.61
Machinery Depreciation	2.09	2.03	2.07	2.04	2.33	2.11	2.02
Building/Fence Depreciation	0.69	0.61	1.00	0.52	0.71	0.70	0.71
Non-Cash Interest	<u>15.22</u>	<u>17.46</u>	<u>15.48</u>	<u>13.27</u>	<u>13.43</u>	<u>14.97</u>	<u>16.52</u>
Total Non Feed Non Cash Costs	29.39	33.61	29.12	28.76	30.27	30.23	31.86
Total Cost of Production	95.98	99.56	92.23	91.34	95.52	94.93	97.60
Net Returns (over all costs)	-22.63	-22.97	-23.62	-27.83	-19.82	-23.38	-22.60
Cost and Returns Summary: \$/Cwt							
Total Returns	73.35	76.59	68.61	63.51	75.70	71.55	75.00
Feed Costs	44.99	44.05	39.43	41.77	43.84	42.82	43.99
Non Feed Costs	<u>50.99</u>	<u>55.51</u>	<u>52.80</u>	<u>49.57</u>	<u>51.68</u>	<u>52.11</u>	<u>53.61</u>
Net Returns (over all costs)	-22.63	-22.97	-23.62	-27.83	-19.82	-23.38	-22.60
Costs Summary: \$/Cwt							
Feed Costs	44.99	44.05	39.43	41.77	43.84	42.82	43.99
Non Feed Cash Costs	21.60	21.90	23.68	20.81	21.42	21.88	21.75
Non Feed Non Cash Costs	<u>29.39</u>	<u>33.61</u>	<u>29.12</u>	<u>28.76</u>	<u>30.27</u>	<u>30.23</u>	<u>31.86</u>
Total Cost of Production	95.98	99.56	92.23	91.34	95.52	94.93	97.60

**Table 14. Western Kentucky
Beef Enterprise Summary
2001 - 2003 Averages (per Cwt.)**

	2001 Average	2002 Average	2003 Average	Three-Year Average
Number of Enterprises	14	17	15	
Pounds Produced	138,986	122,575	109,103	123,555
Returns above Feed Costs	47.83	22.47	32.69	34.33
Non Feed Costs				
Livestock Supplies	1.95	2.08	2.05	2.03
Veterinary	1.70	1.82	1.78	1.77
Fuel & Oil	2.17	2.00	1.88	2.02
Machinery Repair	3.07	3.70	3.04	3.27
Bldg/Fence Repair	2.84	2.51	2.54	2.63
Machinery Hire	0.51	0.57	0.64	0.57
Utilities	1.13	0.71	1.17	1.00
Light Vehicle-Farm Share	0.22	0.26	0.39	0.29
Paid Labor	3.58	3.06	4.04	3.56
Insurance	1.18	1.33	1.28	1.26
R.E. Tax	0.05	0.05	0.10	0.07
Miscellaneous	0.53	0.64	0.55	0.57
Cash Interest	<u>3.66</u>	<u>3.27</u>	<u>2.28</u>	<u>3.07</u>
Total Non Feed Cash Costs	22.60	22.00	21.76	22.12
Non Feed Non Cash Costs				
Unpaid Labor	9.10	10.41	11.91	10.48
Machinery Depreciation	2.87	2.83	3.30	3.00
Bldg/Fence Depreciation	2.27	1.01	1.55	1.61
Non Cash Interest	<u>13.29</u>	<u>13.22</u>	<u>13.31</u>	<u>13.27</u>
Total Non Feed Non Cash Costs	27.53	27.48	30.07	28.36
Total Non feed Costs	50.13	49.48	51.83	50.48
Net Returns (over all costs)	-2.30	-27.01	-19.15	-16.16

**Table 15. Central Kentucky
Beef Enterprise Summary
2001 - 2003 Averages (per Cwt.)**

	2001 Average	2002 Average	2003 Average	Three-Year Average
Number of Enterprises	12	12	14	
Pounds Produced	99,895	48,561	54,375	67,610
Returns above Feed Costs	32.17	16.86	34.48	27.83
Non Feed Costs				
Livestock Supplies	2.42	3.81	3.15	3.13
Veterinary	2.11	3.32	2.75	2.73
Fuel & Oil	2.03	3.45	5.03	3.50
Machinery Repair	3.87	6.06	8.05	5.99
Bldg/Fence Repair	3.28	5.71	8.87	5.95
Machinery Hire	0.05	0.18	0.13	0.12
Utilities	0.84	1.12	1.38	1.12
Light Vehicle-Farm Share	0.40	0.68	0.11	0.40
Paid Labor	3.08	3.23	2.78	3.03
Insurance	1.21	2.26	2.40	1.96
R.E. Tax	0.11	0.21	0.13	0.15
Miscellaneous	0.88	2.00	1.89	1.59
Cash Interest	<u>2.76</u>	<u>5.72</u>	<u>1.98</u>	<u>3.48</u>
Total Non Feed Cash Costs	23.03	37.75	38.66	33.15
Non Feed Non Cash Costs				
Unpaid Labor	8.77	12.32	9.80	10.30
Machinery Depreciation	2.20	4.41	4.42	3.67
Bldg/Fence Depreciation	1.48	2.47	2.51	2.15
Non Cash Interest	<u>12.18</u>	<u>20.53</u>	<u>15.39</u>	<u>16.03</u>
Total Non Feed Non Cash Costs	24.63	39.73	32.12	32.16
Total Non feed Costs	47.66	77.47	70.78	65.30
Net Returns (over all costs)	-15.49	-60.61	-36.30	-37.47

Figure 1. Costs and Returns per Cow: Beef Calves Sold and Backgrounded

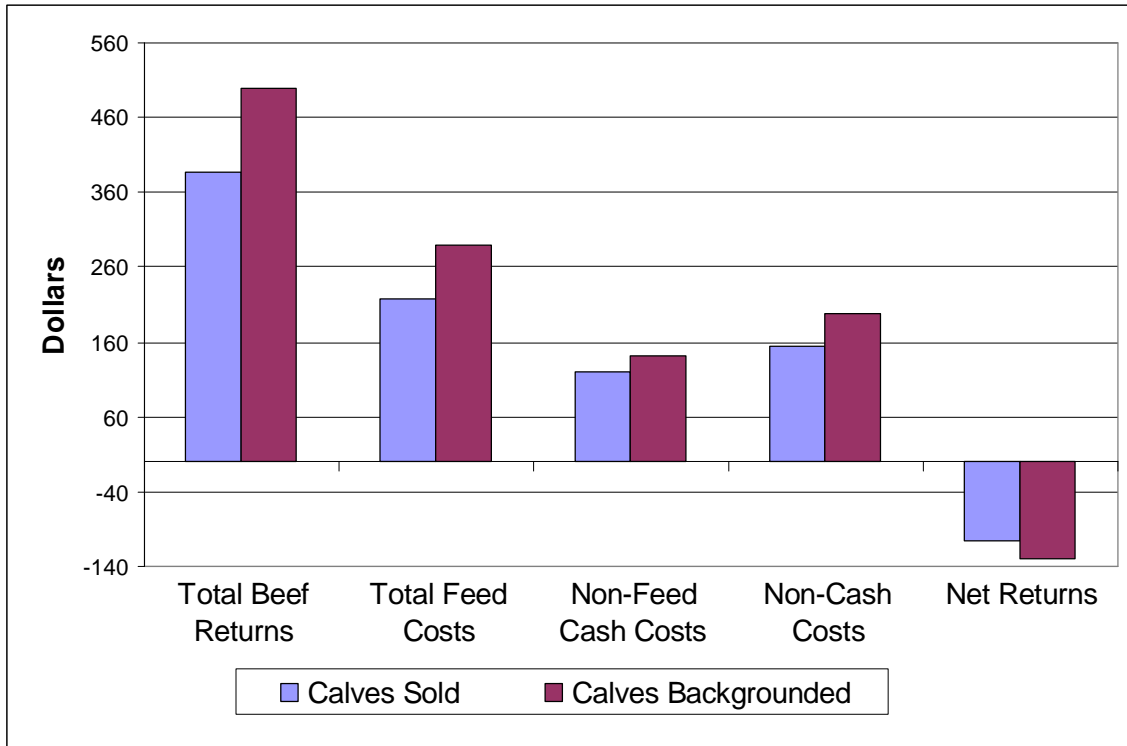


Figure 2. Costs and Returns per Cwt: Beef Calves Sold and Backgrounded

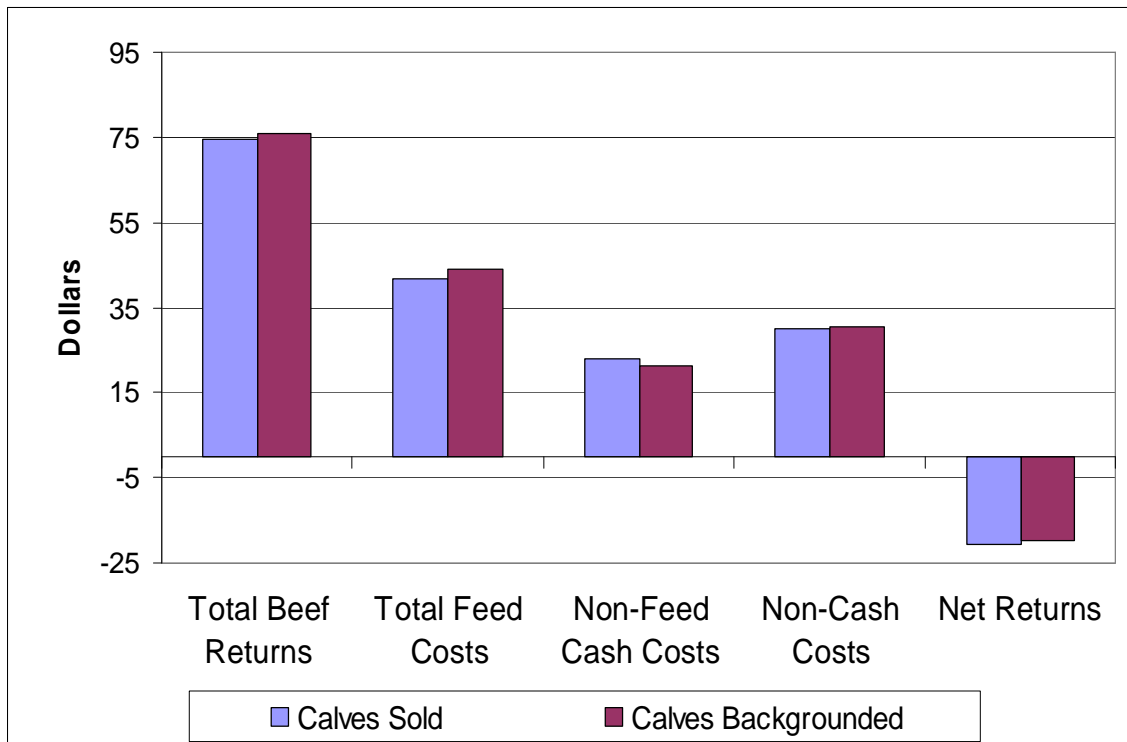


Figure 3. Pounds of Beef Produced per Cow

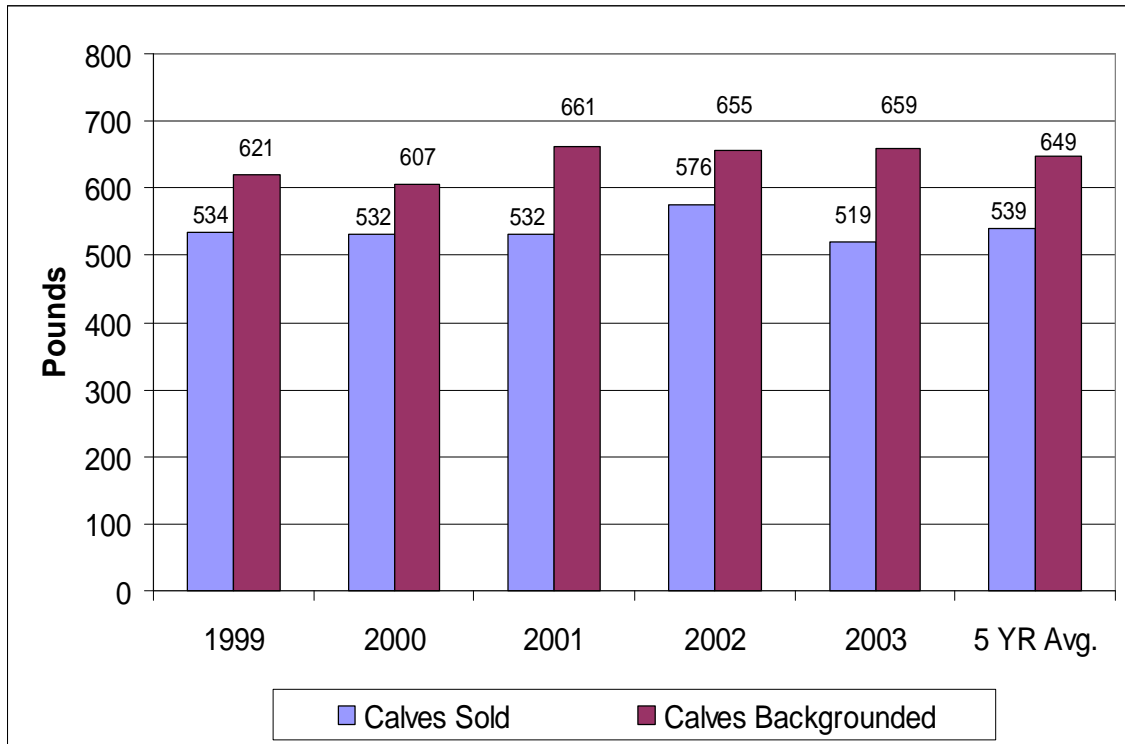


Figure 4. Returns per \$100 of Feed Fed

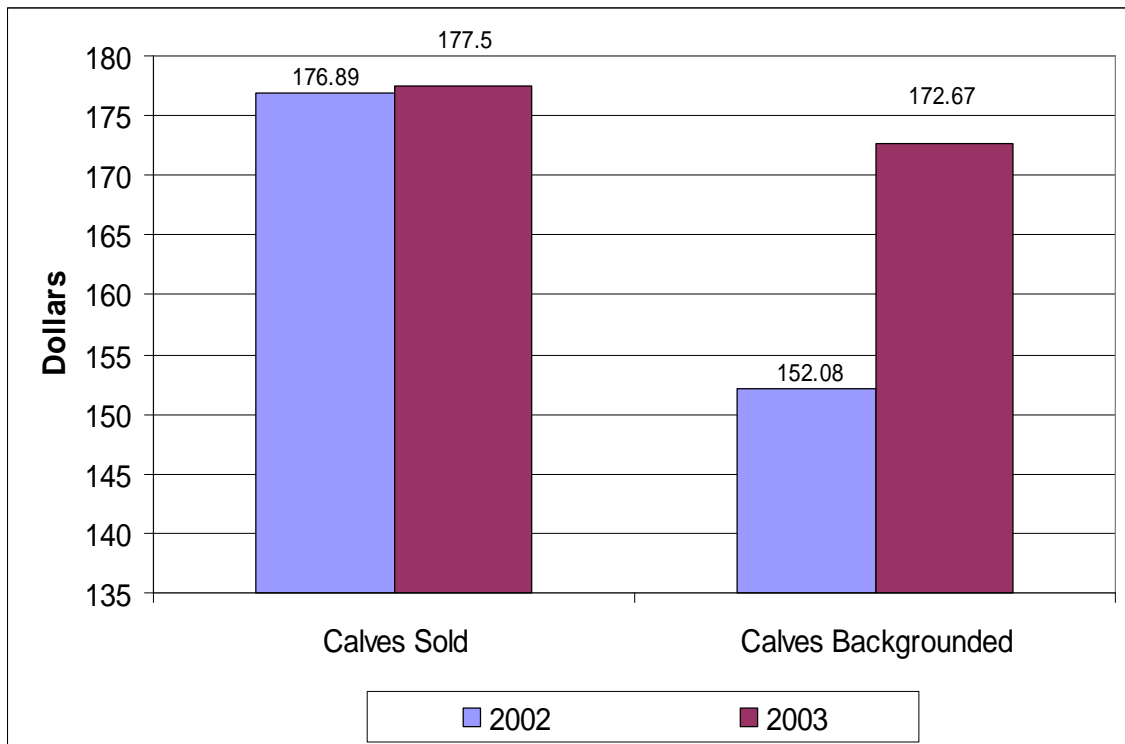


Figure 5. Total Beef Returns (\$/Cow)

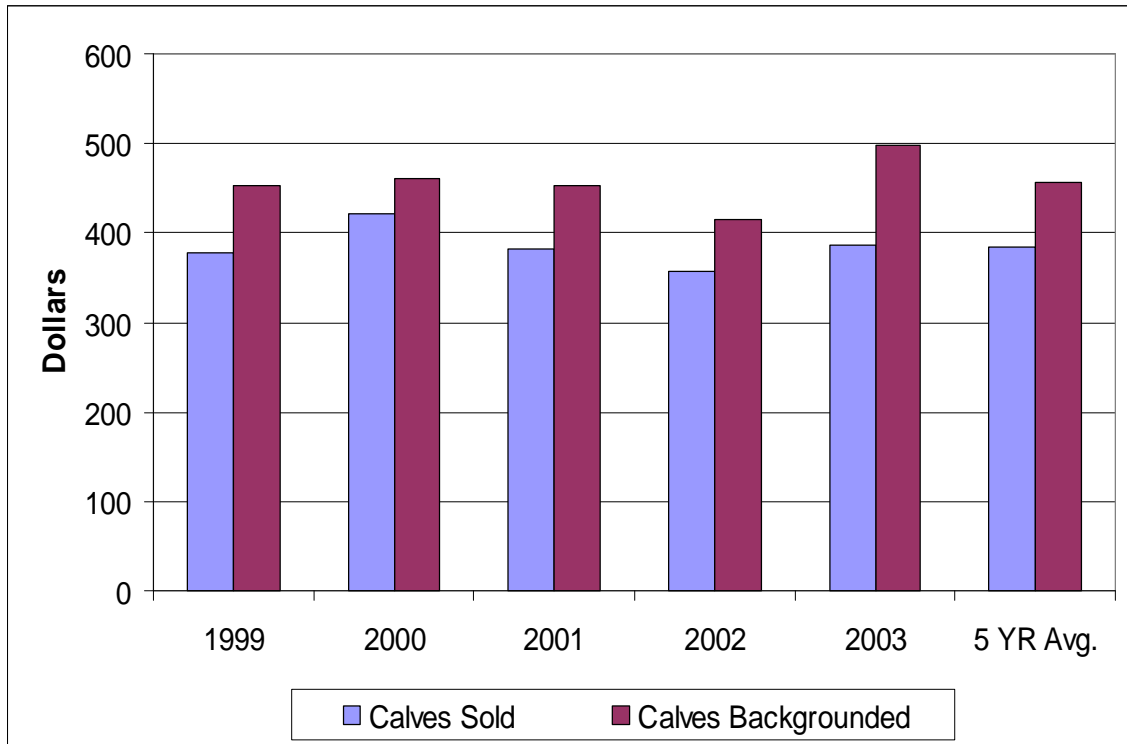


Figure 6. Total Beef Returns (\$/Cwt)

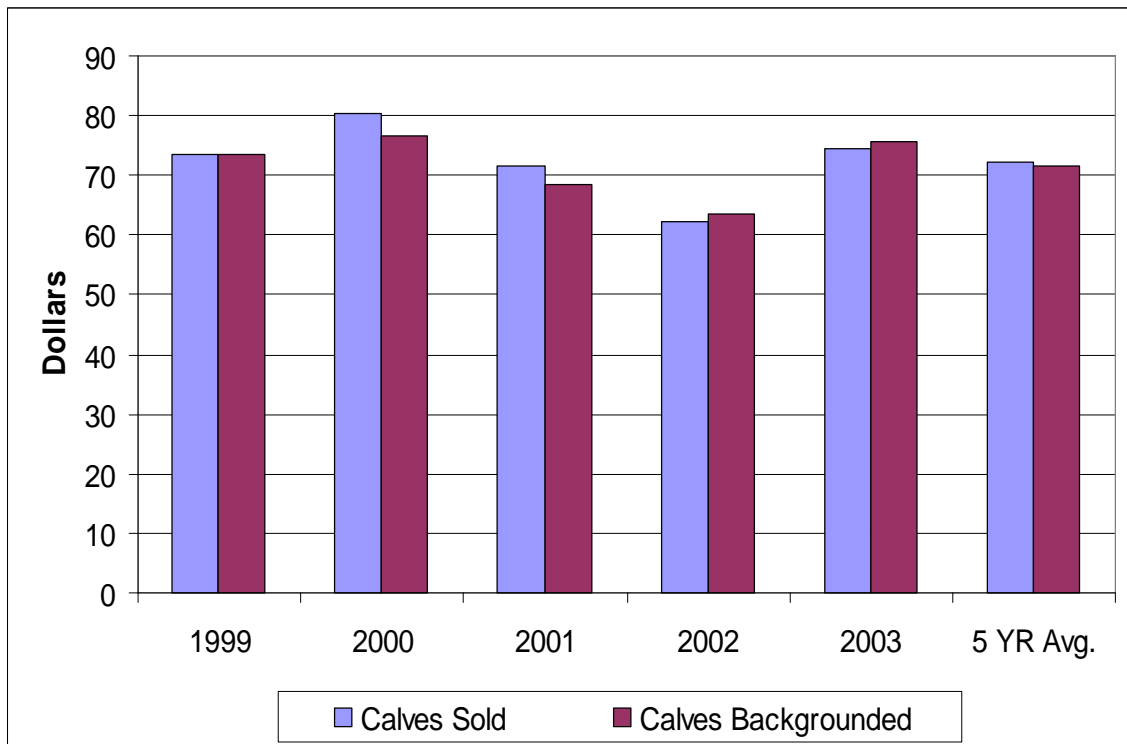


Figure 7. Total Feed Costs: Beef Calves Sold (\$/Cow)

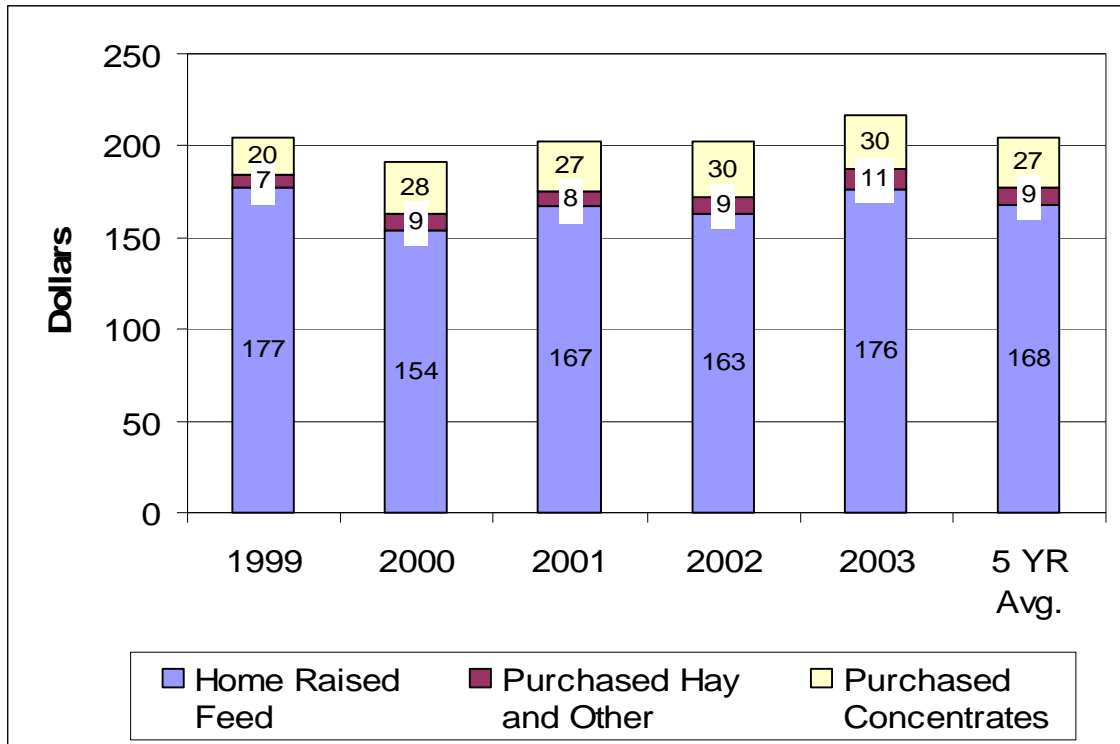


Figure 8. Total Feed Costs: Beef Calves Sold (\$/Cwt)

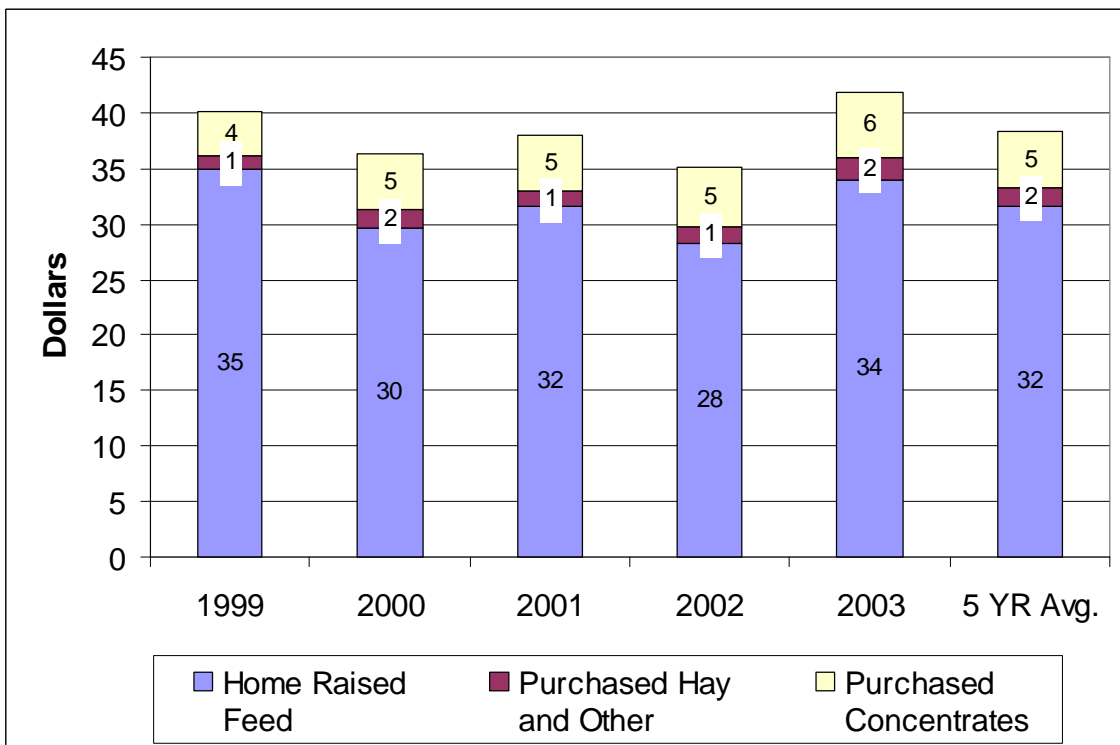


Figure 9. Total Feed Costs: Beef Calves Backgrounded (\$/Cow)

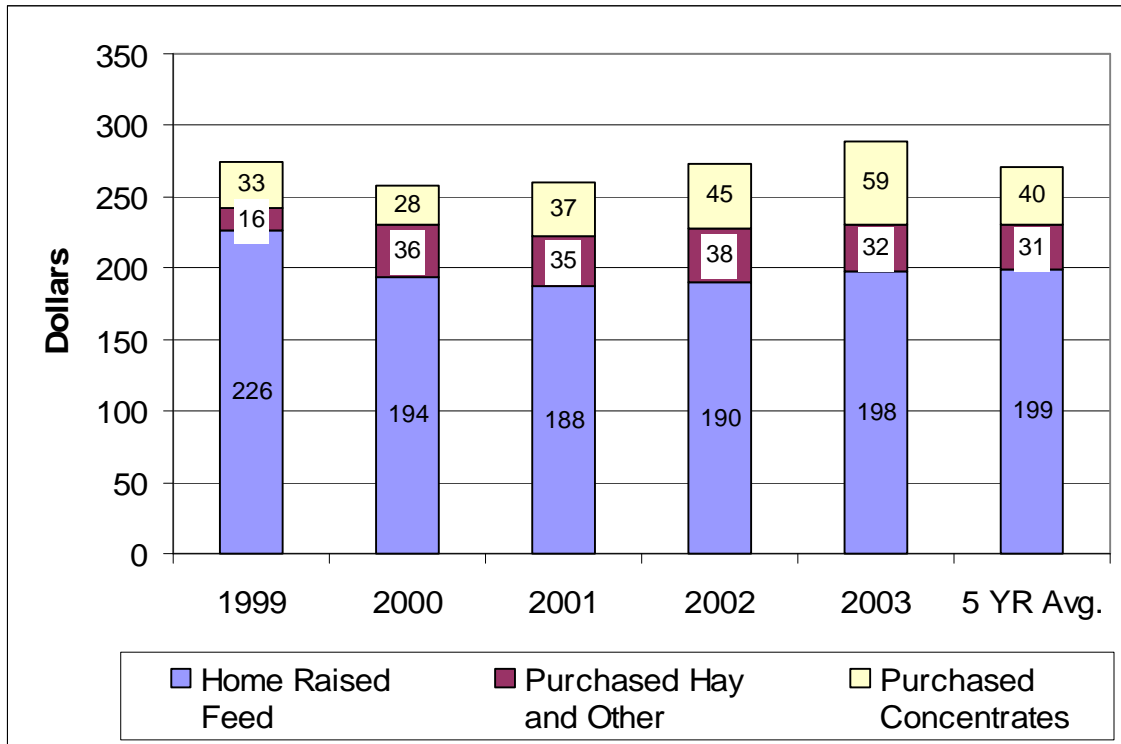


Figure 10. Total Feed Costs: Beef Calves Backgrounded (\$/Cwt)

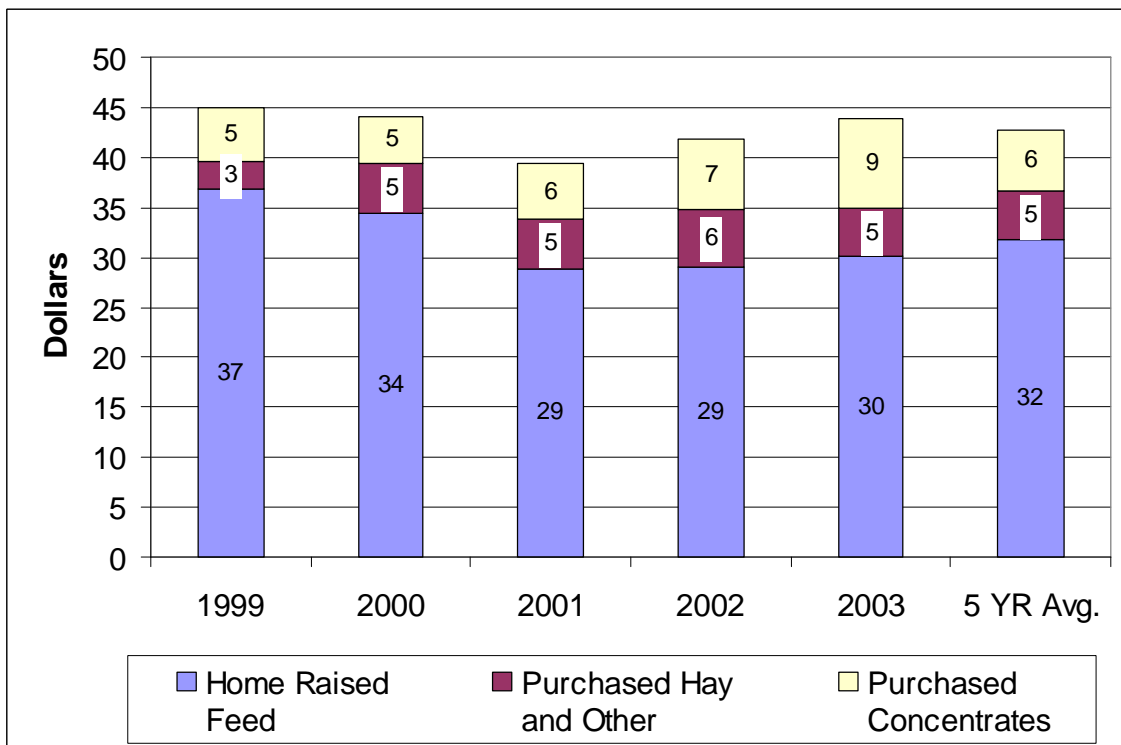


Figure 11. Cost and Return Summary: Beef Calves Sold (\$/Cow)

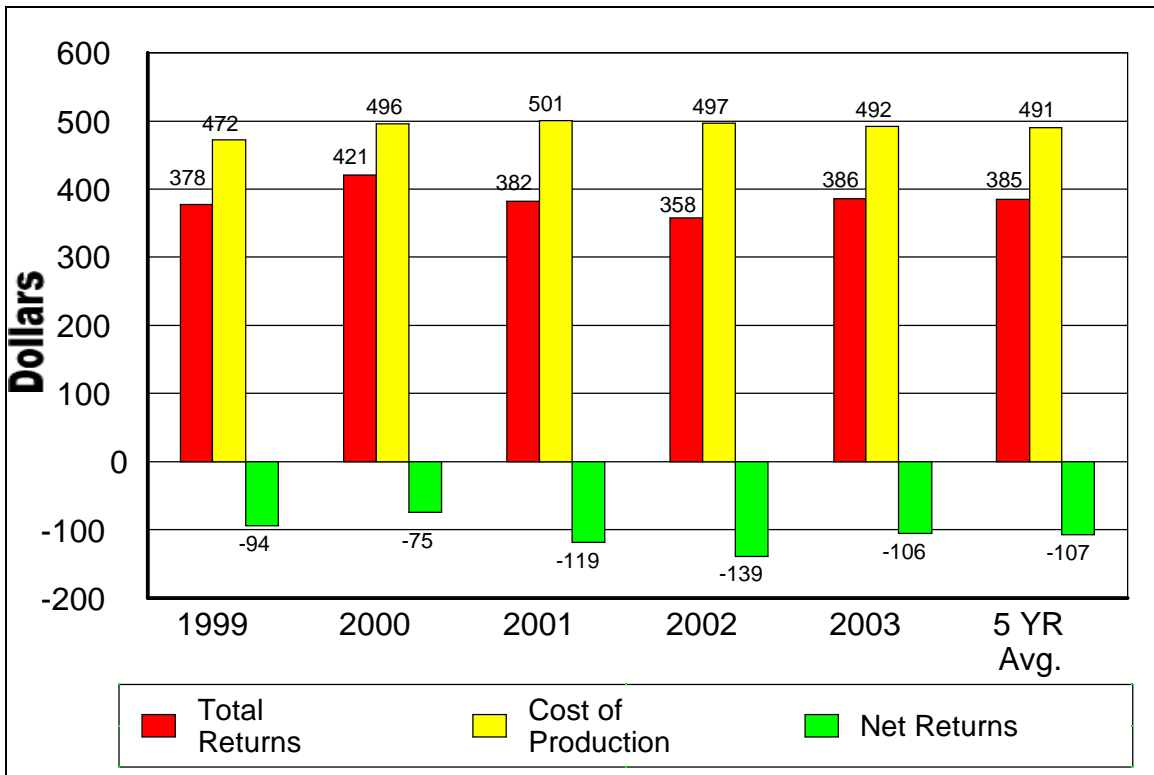


Figure 12. Cost and Return Summary: Beef Calves Backgrounded (\$/Cow)

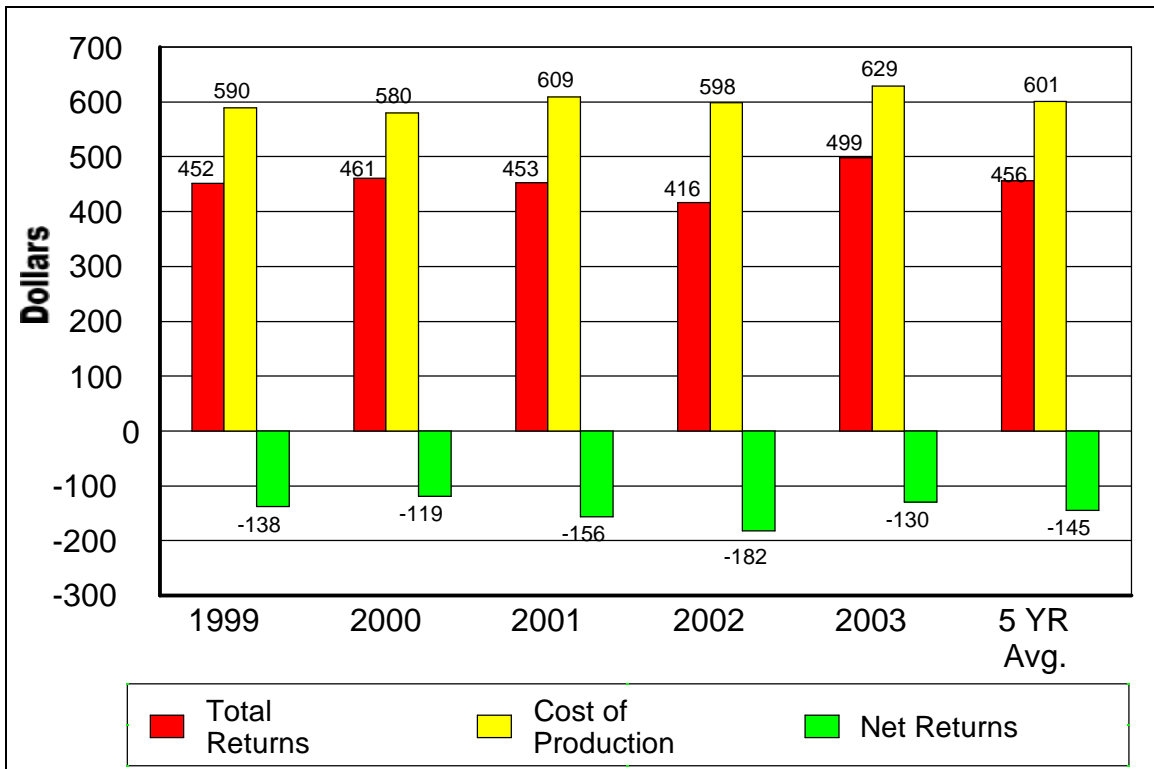


Figure 13. Cost and Return Summary: Beef Calves Sold (\$/Cwt)

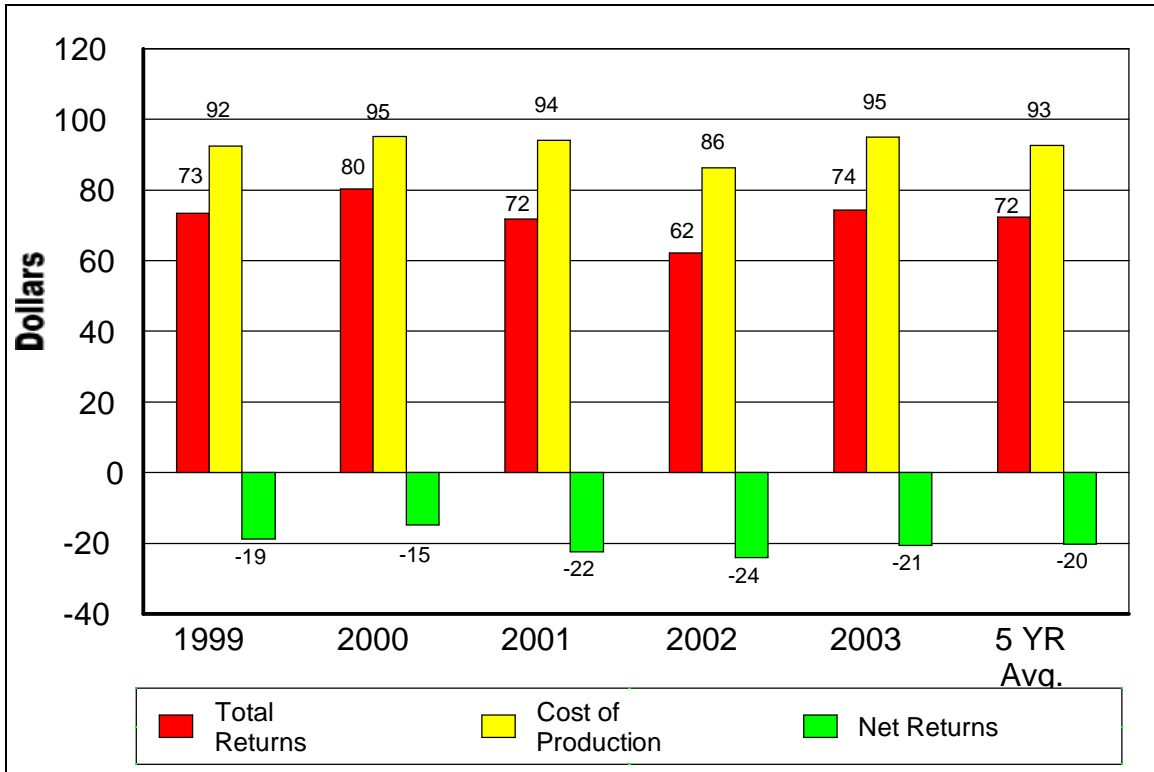


Figure 14. Cost and Return Summary: Beef Calves Backgrounded (\$/Cwt)

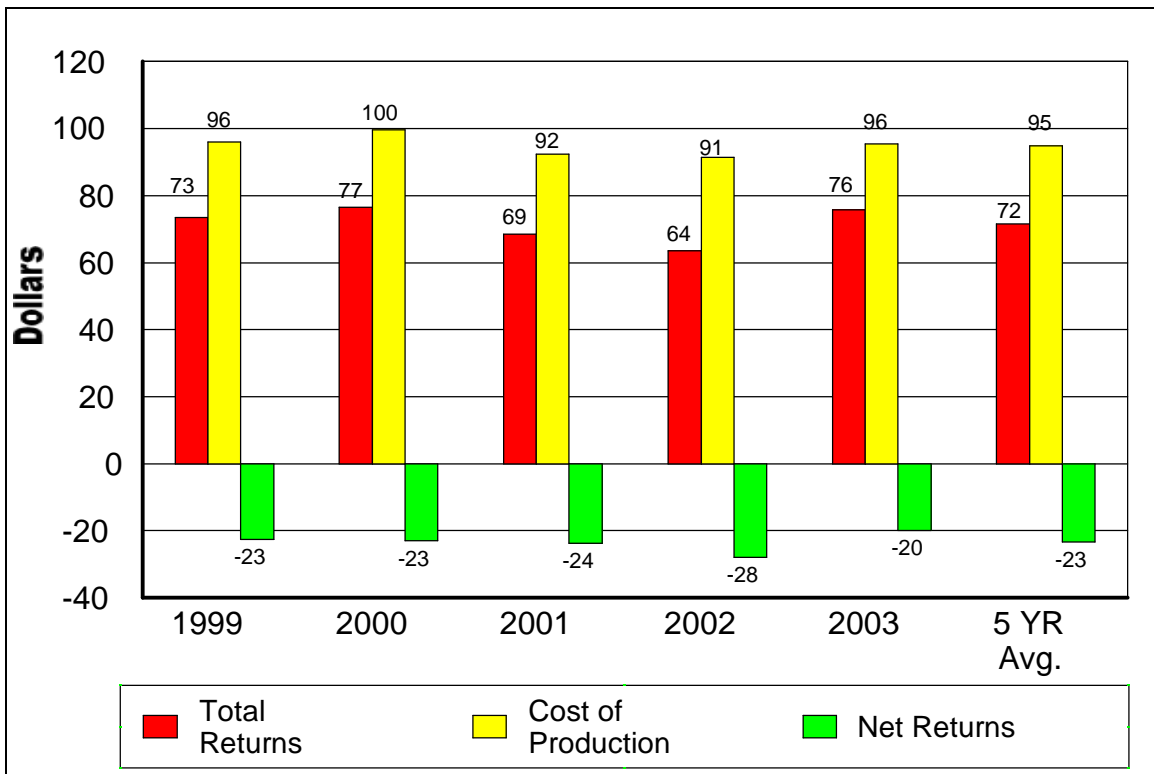


Figure 15. Return Over Cash Costs and Purchased Feed: Beef Calves Sold (\$/Cow)

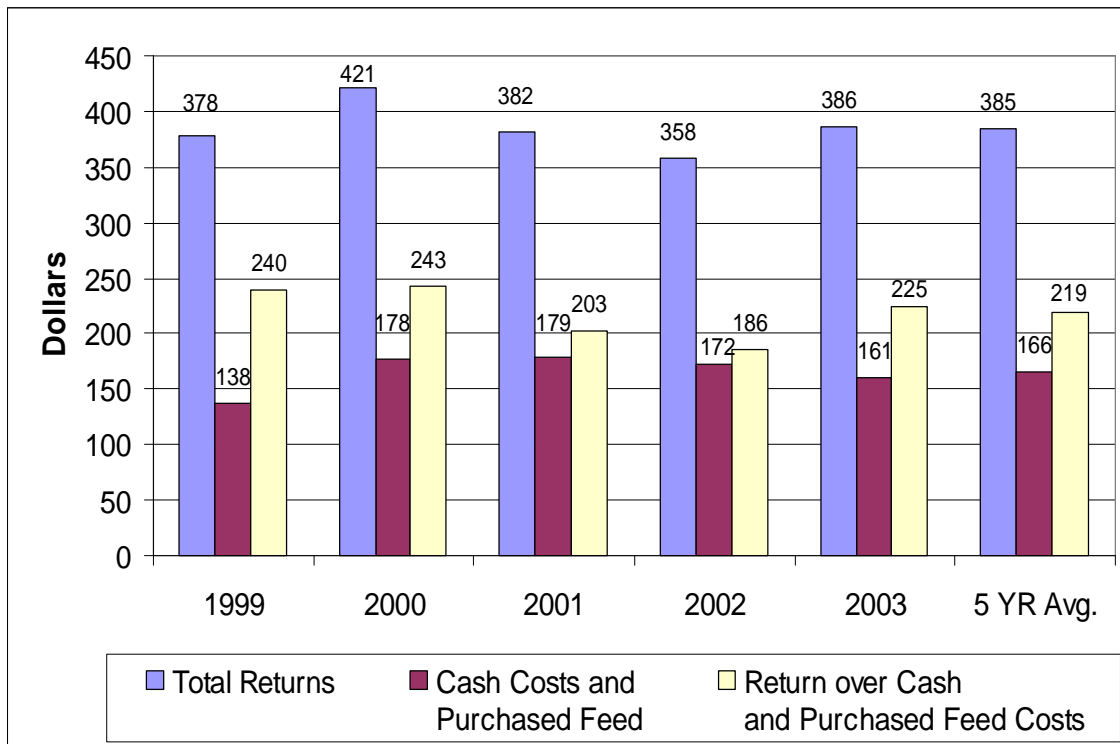


Figure 16. Return Over Cash Costs and Purchased Feed: Beef Calves Backgrounded (\$/Cow)

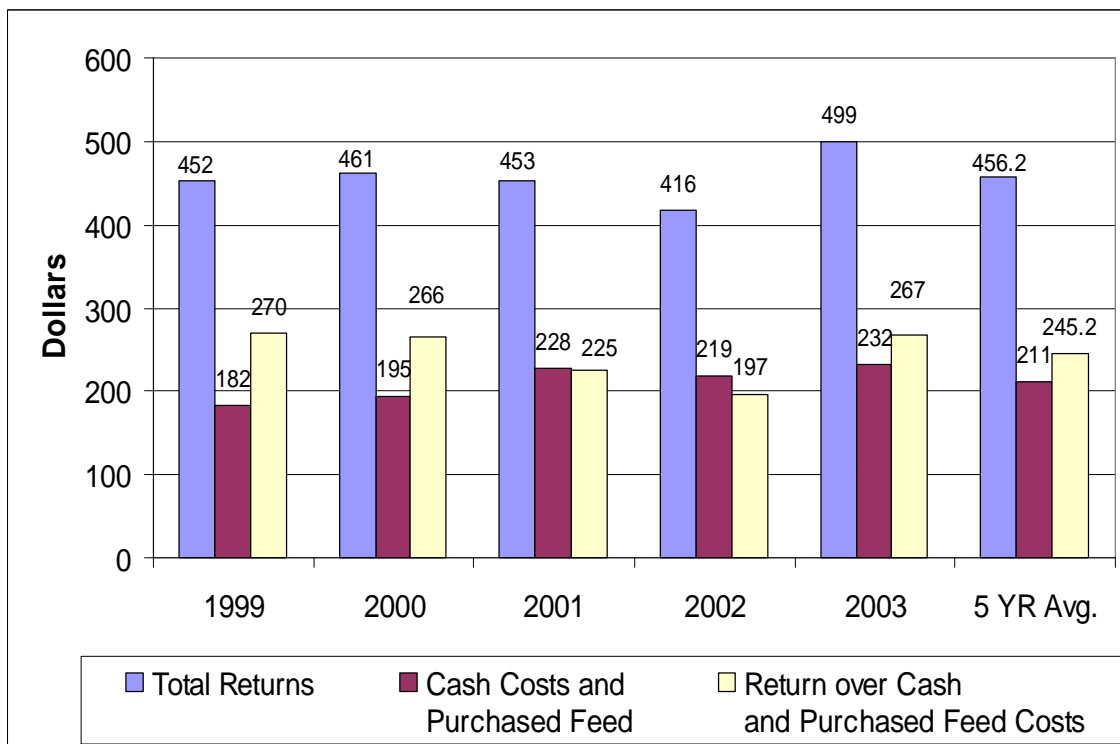


Figure 17. Return Over Cash Costs and Purchased Feed: Beef Calves Sold (\$/Cwt)

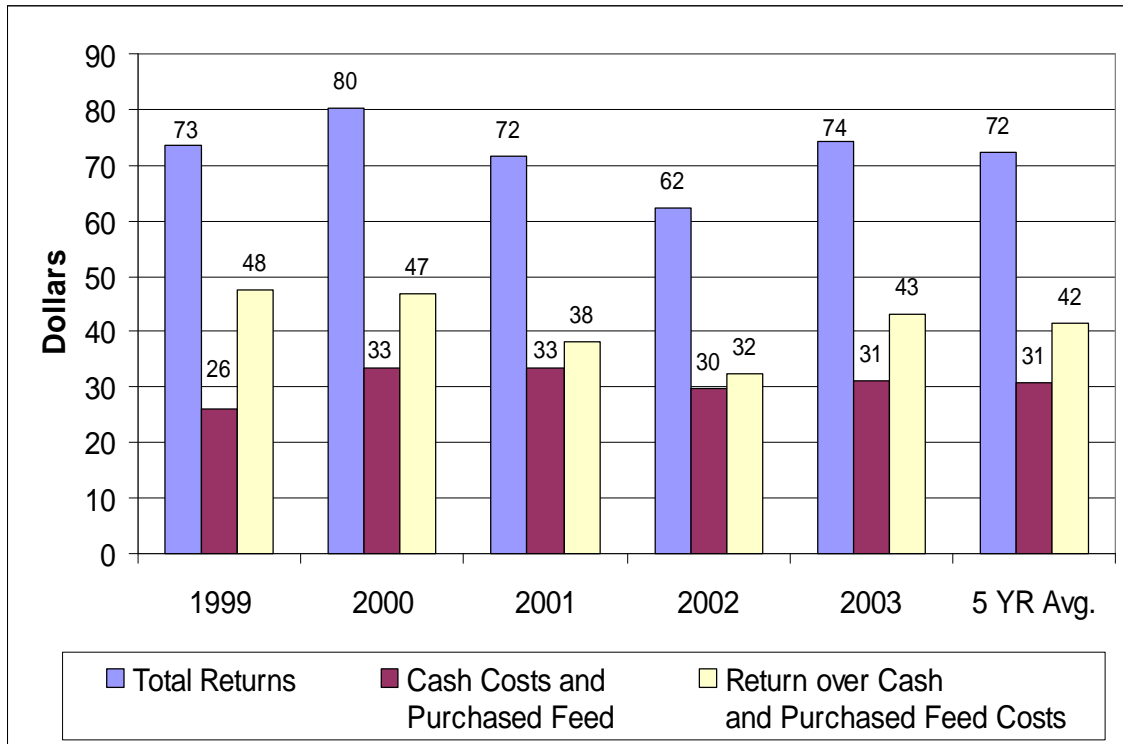
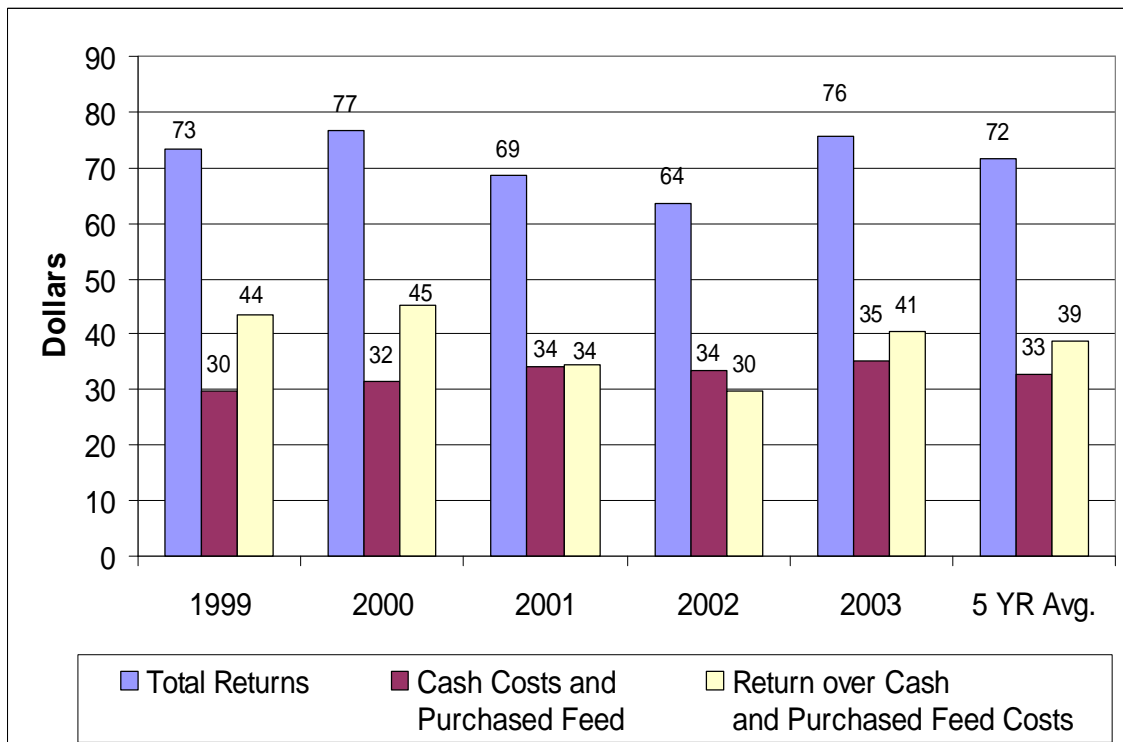


Figure 18. Return Over Cash Costs and Purchased Feed: Beef Calves Backgrounded (\$/Cwt)



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