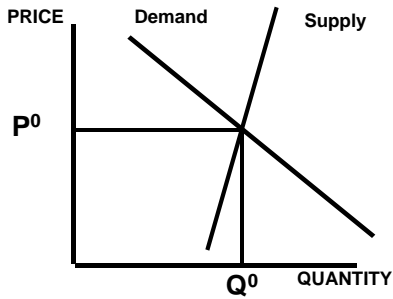


Looking Ahead In The Cattle Market

James Mintert, Ph.D.
Professor
&
Extension Ag. Economist, Livestock Marketing
Department of Agricultural Economics
Kansas State University

K-State Research & Extension

Cattle Price Determination



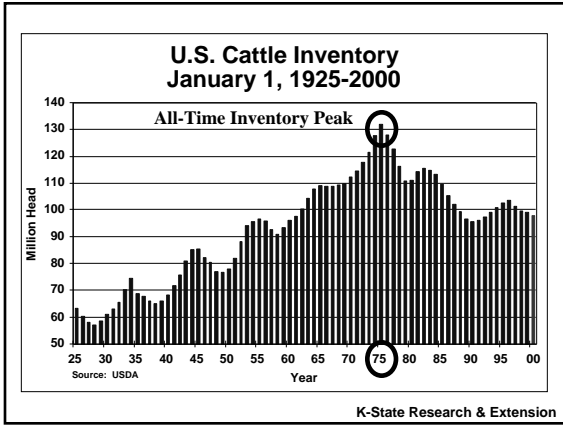
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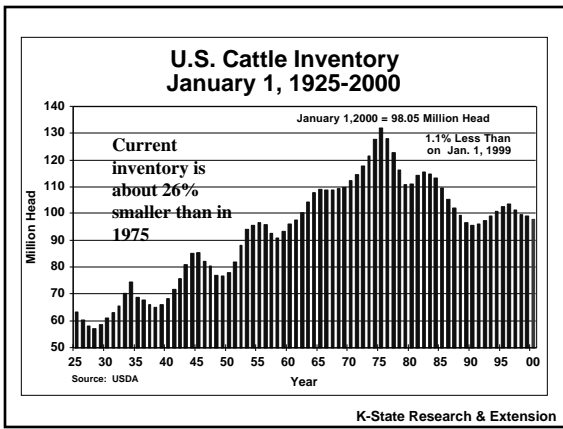
Test Your Knowledge of Cattle Cycles?

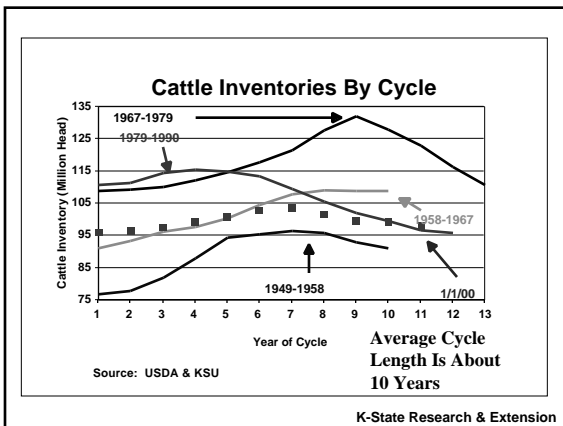
- ① When did the U.S. cattle inventory reach its all-time peak?
- ② How many head were in the U.S. cattle herd (all cattle & calves) at its peak?
- ③ How does this compare with today?
- ④ How long is the "average" cattle cycle?

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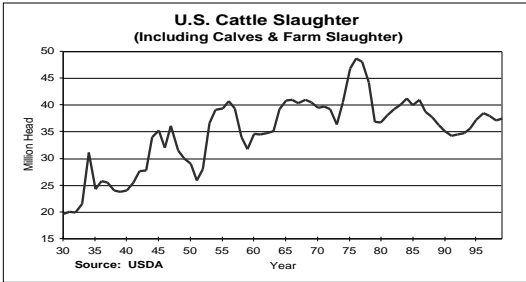
James Mintert, Ph.D.
Kansas State University
May 23, 2000







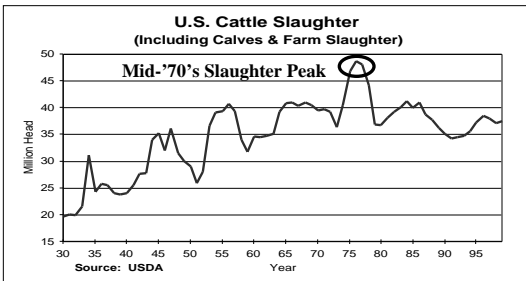
Cattle Slaughter Varies Cyclically



18

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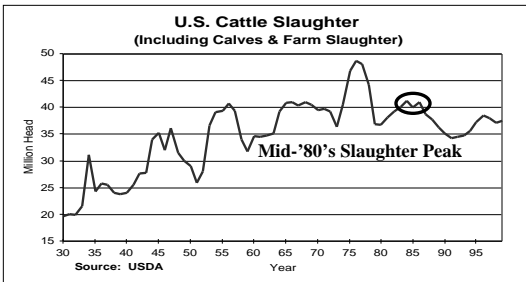
Cattle Slaughter Varies Cyclically



19

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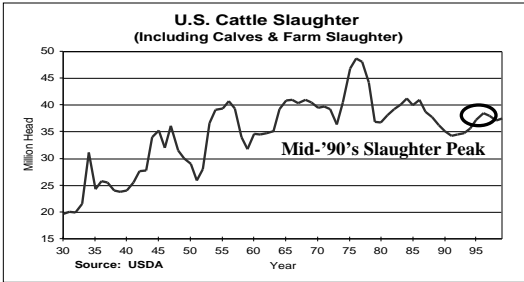
Cattle Slaughter Varies Cyclically



20

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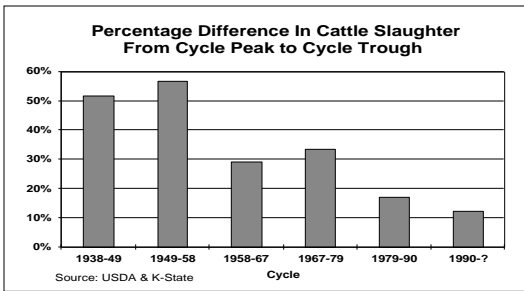
Cattle Slaughter Varies Cyclically



21

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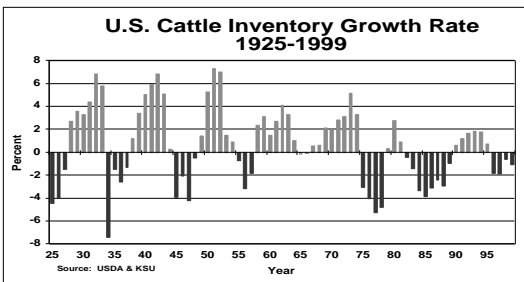
But Cyclical Slaughter Variation Is Smaller Now Than In The Past



22

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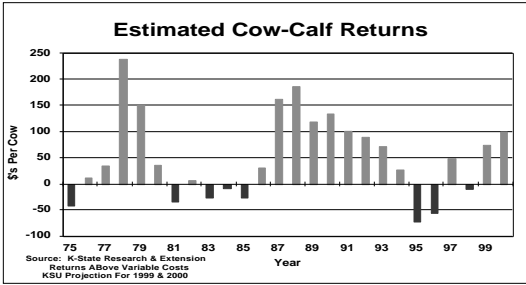
Examining Rate of Change In Herd Size Is Useful When Predicting Slaughter



23

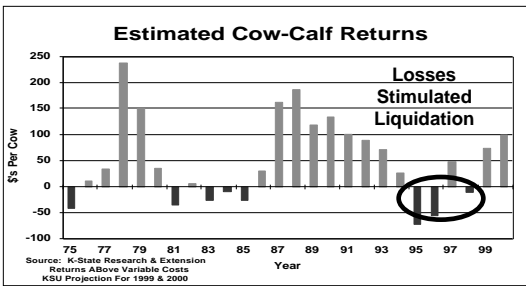
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Returns In The Cow-Calf Sector Stimulate Expansion & Contraction



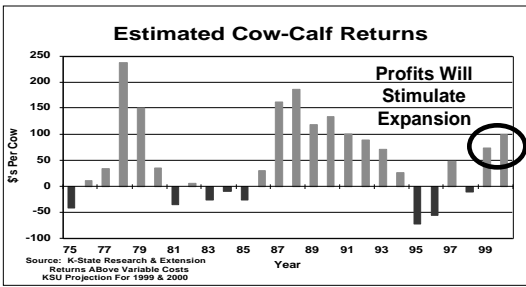
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Returns In The Cow-Calf Sector Stimulate Expansion & Contraction



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Returns In The Cow-Calf Sector Stimulate Expansion & Contraction



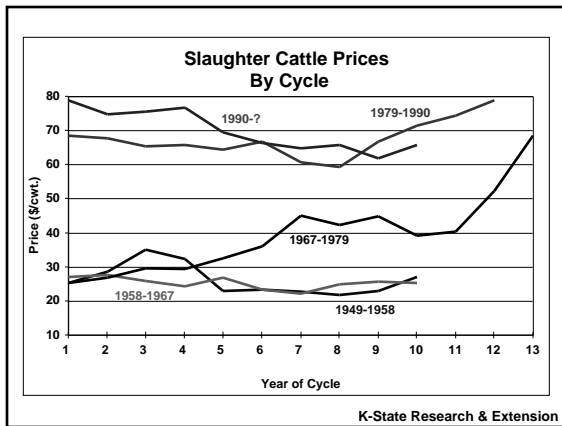
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Test Your Knowledge of Cattle Prices

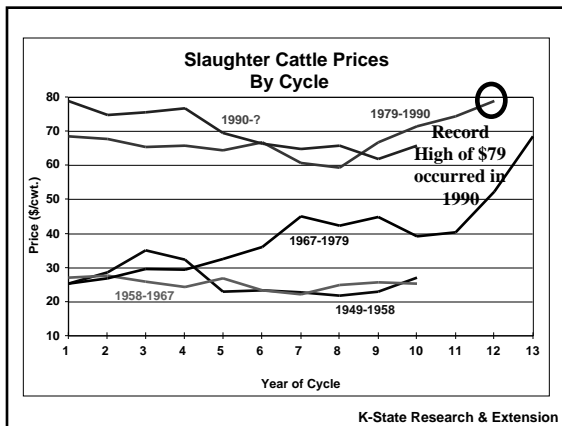
- ① What was the record high (annual average) for slaughter cattle prices?
- ② What was the low (annual average-since 1950) for slaughter cattle prices?
- ③ Where are current cattle prices relative to 10 years ago?

27

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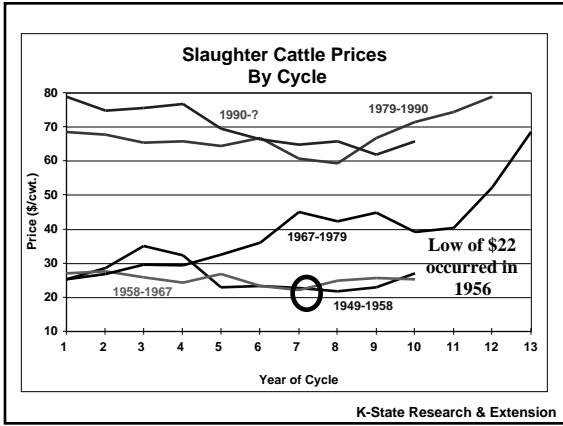


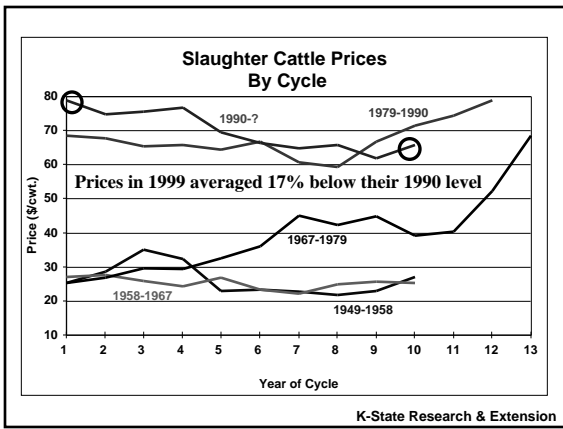
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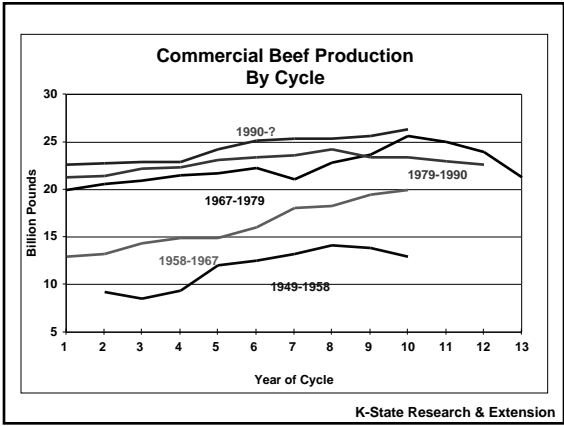
James Mintert, Ph.D.
 Kansas State University
 May 23, 2000

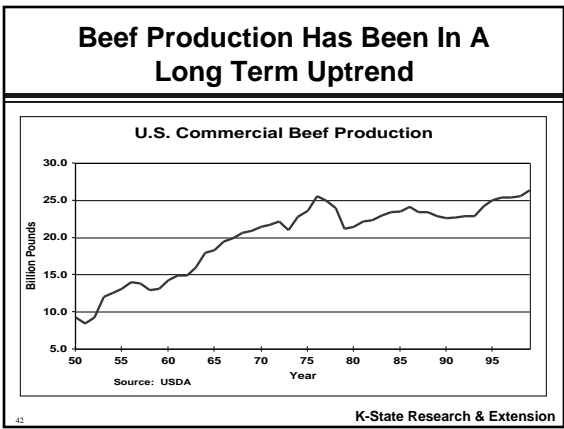


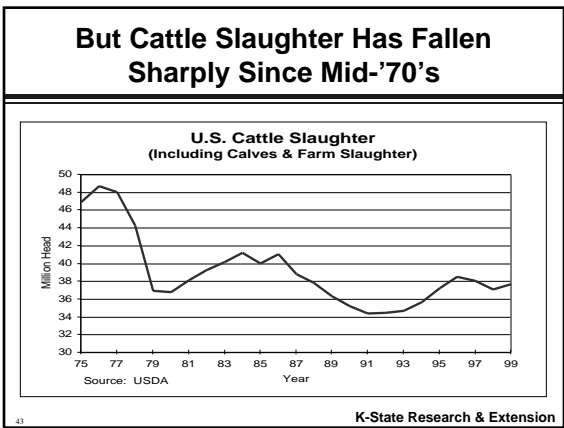


Are Changes In Cattle Inventories The Only Factor That Affects Supplies?

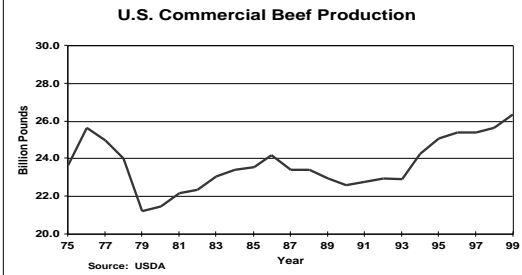
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& Beef Production Has Been Relatively Stable Since Mid-70's



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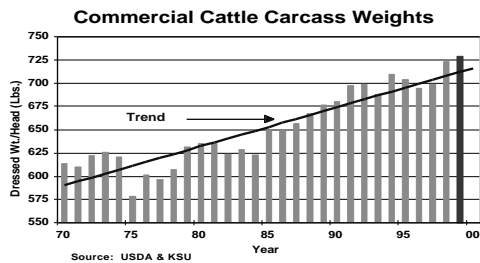
Are Changes In Cattle Inventories The Only Factor That Affects Supplies?

What caused the long-term trend up in beef production?

Why has beef production been relatively stable since the mid-'70's while cattle slaughter was declining?

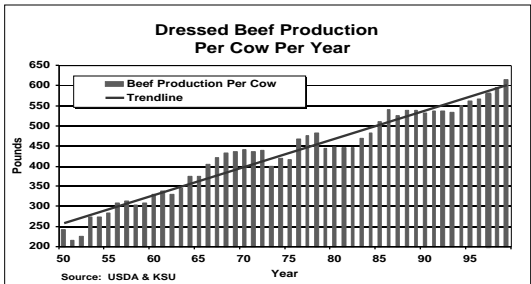
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Slaughtering Cattle at Heavier Weights



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& Technology Improvements



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Cattle Cycle Summary

- Cattle inventories vary cyclically
- Point in cattle cycle important in determining annual slaughter
 - Herd liquidation or expansion is important
 - Most dramatic slaughter (& beef production) decline occurs when producers start to expand inventories

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Cattle Cycle Summary

- Cattle inventories vary cyclically
- Point in cattle cycle important in determining annual slaughter
 - Herd liquidation or expansion is important
 - Most dramatic slaughter (& beef production) decline occurs when producers start to expand inventories & this could start to happen in late 2000 or early 2001

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Cattle Cycle Summary

- But other factors also affect supplies
 - cattle weights
 - cattle & beef trade

50

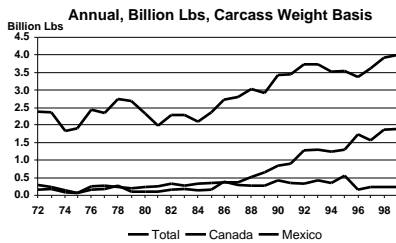
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Beef & Cattle Trade Has Become An Important Component of Beef Supply & Demand

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U.S. Beef, Veal and Live Animal Imports



Source: Livestock Marketing Information Center & MSU Trade Research Center
1999 Values are Estimates

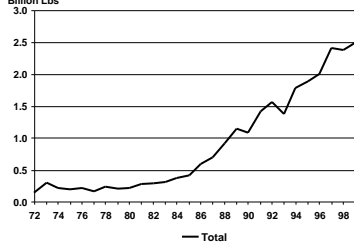
52

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James Mintert, Ph.D.
Kansas State University
May 23, 2000

U.S. Beef, Veal and Live Animal Exports

Annual, Billion Lbs, Carcass Weight Basis



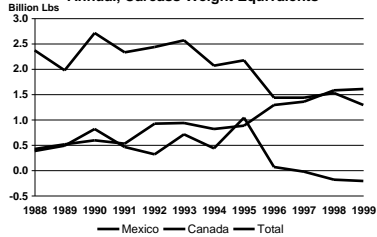
Source: Livestock Marketing Information Center & MSU Trade Research Center
1999 Values are Estimates

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U.S. Beef, Veal and Live Animal Net Imports

Annual, Carcass Weight Equivalents

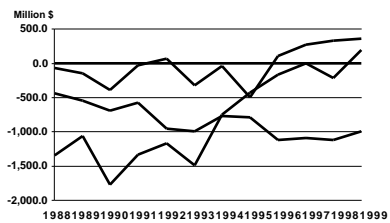


Source: Livestock Marketing Information Center & MSU Trade Research Center
1999 Values are Estimates

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Value of U.S. Beef, Veal and Live Animal Net Imports/Exports



Source: Livestock Marketing Information Center & MSU Trade Research Center
1999 Values are Estimates

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Effect of Beef Trade

- ① U.S. has a comparative advantage in high quality beef production
- ② U.S. exports high & low quality beef, but the low quality beef is primarily by-products
- ③ On balance, beef & cattle trade has effectively reduced the beef supply available for domestic consumption resulting in higher U.S. prices

56

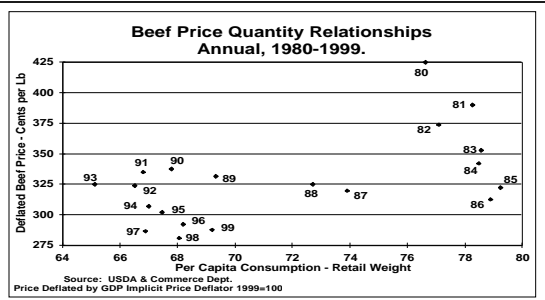
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What About Beef Demand?

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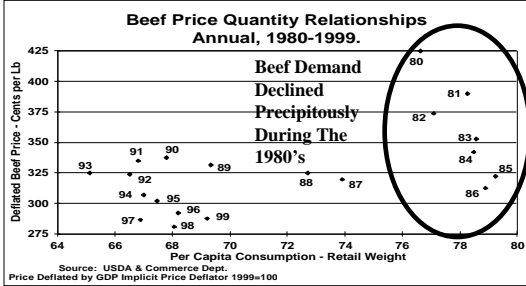
Plotting Inflation Adjusted Price vs. Per Capita Consumption Provides A Picture of Beef Demand



58

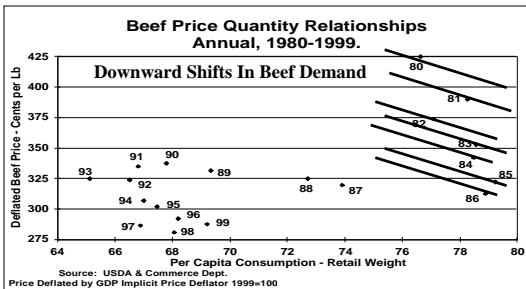
K-State Research & Extension

Declining Demand Has Plagued The Beef Industry For 20 Years



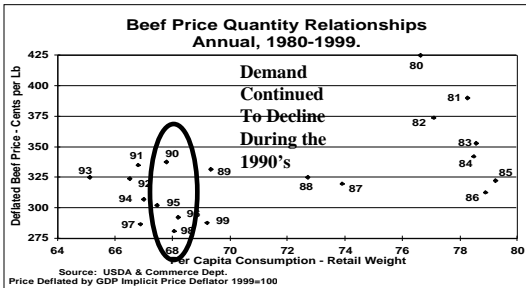
K-State Research & Extension

Declining Demand Has Plagued The Beef Industry For 20 Years



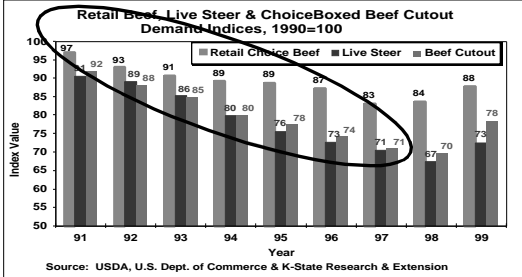
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Declining Demand Has Plagued The Beef Industry For 20 Years



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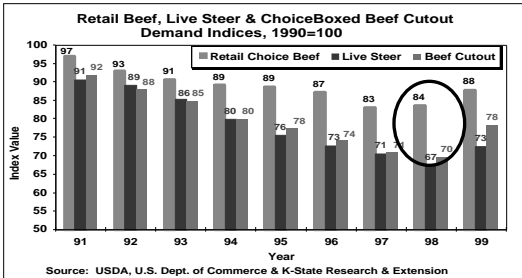
Beef Demand Was Declining Through 1997



Source: USDA, U.S. Dept. of Commerce & K-State Research & Extension

K-State Research & Extension

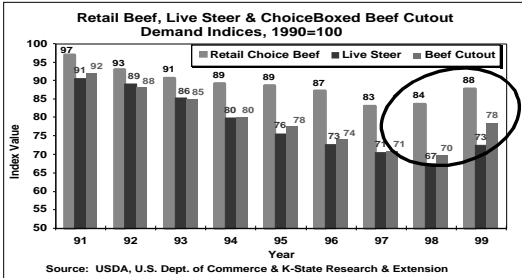
Beef Demand Showed Signs of Stabilizing in 1998



Source: USDA, U.S. Dept. of Commerce & K-State Research & Extension

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Beef Demand Improved In 1999



Source: USDA, U.S. Dept. of Commerce & K-State Research & Extension

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Beef Demand Summary

- Beef Demand declined for approximately 20 years through 1997
- Recovery in beef demand during 1999 was modest, (i.e., 1999 demand was still well below level of early 1990's), but significant in that it signaled a trend change
- Beef demand strength will be critical in determining how high prices go the next several years

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Other Sources of Information

- Cattle On Feed
- Fed Cattle Marketings
- Placements of Cattle On Feed

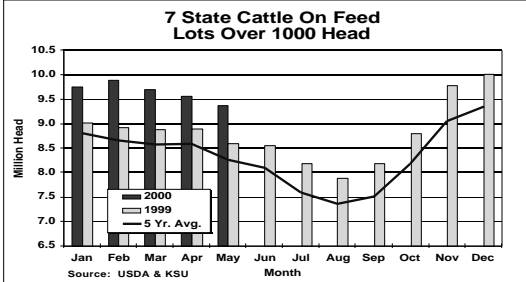
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Cattle On Feed Reports

- Primarily useful as a short to intermediate run indicator of supplies

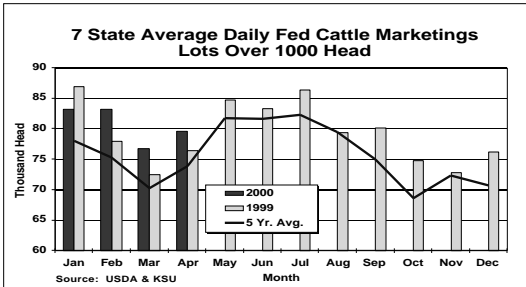
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This Year The On Feed Inventory Has Been Large



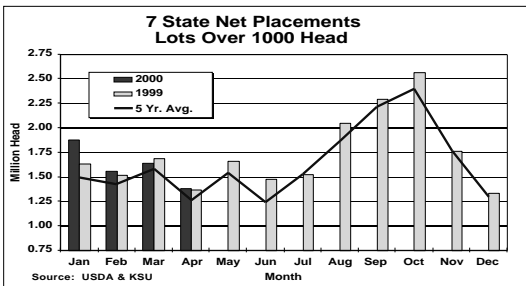
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& Fed Cattle Marketings Have Also Been Large



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Placements Finally Dropped Below A Year Ago During March



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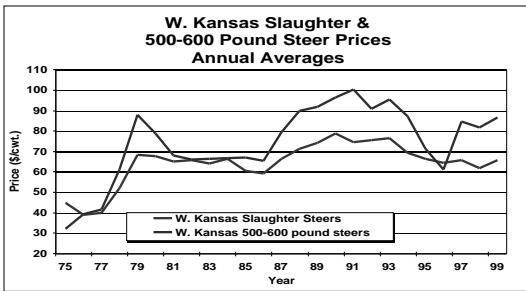
What About Feeder Cattle & Calf Prices?

- Feeder Cattle & Calf Prices are derived from expected slaughter cattle prices & the expected cost of raising cattle to slaughter weight

74

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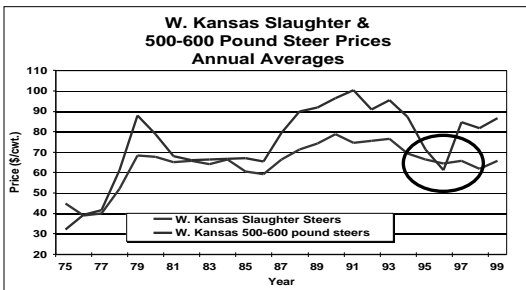
Slaughter Steer & Steer Calf Prices Are Highly Correlated



75

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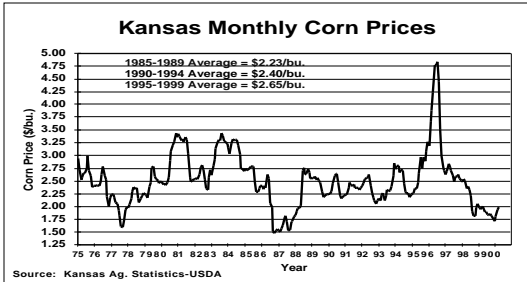
But They Are Not Perfectly Correlated



76

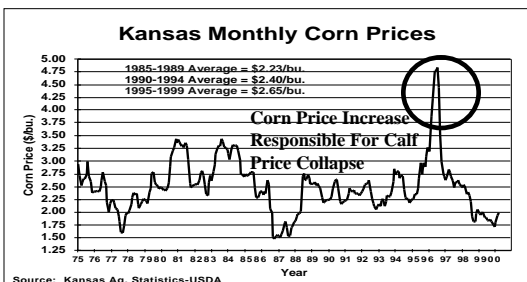
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Discrepancy Between Slaughter & Feeder Price Movement Accounted for by Changes In Feed Costs



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Discrepancy Between Slaughter & Feeder Price Movement Accounted for by Changes In Feed Costs



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What About Feeder Cattle & Calf Prices?

■ Annual models indicate

- a \$1 increase in annual slaughter steer price is associated with a \$1.85 increase in 500-600 lb. steer price annual average
- A \$0.10 increase in annual corn price is associated with a \$0.85/cwt. decline in 500-600 lb. steer price annual average

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Seasonal Price Patterns

- Cattle prices tend to follow strong seasonal patterns, i.e., prices tend to reach their peak and their lows at about the same time each year
- Knowledge of the seasonal pattern is helpful in identifying the path prices will follow within a year

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Slaughter Steer Prices Peak in Spring & Again In Fall

Month	Percent of Annual Average
Jan	101
Feb	101
Mar	103
Apr	103
May	100
Jun	97
July	96
Aug	97
Sep	98
Oct	100
Nov	102
Dec	101

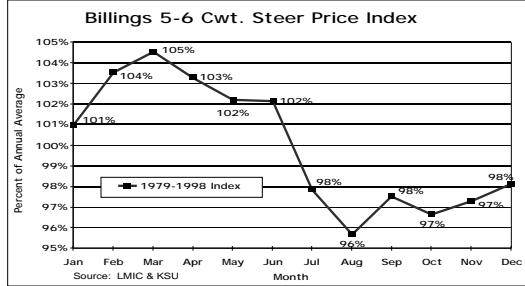
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Heavy Feeder Prices Are Strongest in Late Winter

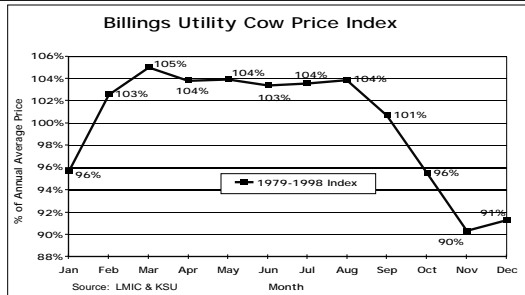
Month	Percent of Annual Average
Jan	101%
Feb	102%
Mar	101%
Apr	100%
May	99%
Jun	100%
Jul	99%
Aug	100%
Sep	100%
Oct	99%
Nov	99%
Dec	99%

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Light Weight Steer Prices Peak In Spring



Cull Cow Prices Bottom Out In Fall



Futures Market Based Forecasts

- Futures markets are relatively efficient
- Consequently, it's difficult to generate forecasts that consistently outperform futures market forecasts
- Futures markets are a source of continuously updated price forecasts

Futures Market Based Forecasts

- How do we use futures prices to generate a cash market forecast?

Recall that

$\text{Basis} = \text{Cash Price} - \text{Futures Price}$
rearranging

$\text{Basis} + \text{Futures Price} = \text{Cash Price}$

- To obtain a cash price forecast, insert a basis forecast into the above equation

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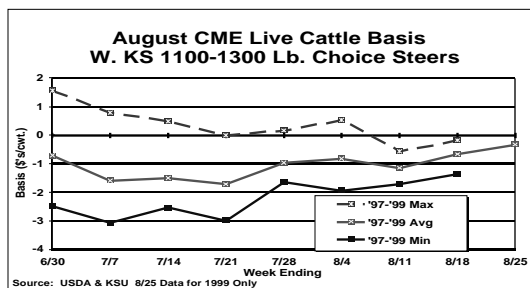
Forecasting Basis

- Basis is straightforward to forecast
- Basis follows seasonal patterns & is much easier to forecast than either cash or futures prices
- KSU research indicates that the most recent 3 year average basis generally yields the best cattle basis forecasts

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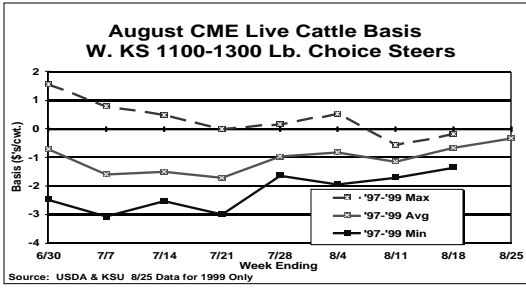
Example of Basis Data to Use When Forecasting Basis



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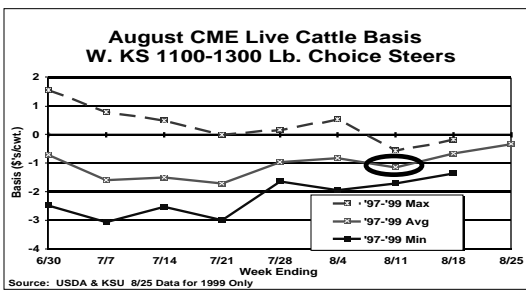
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What's A Reasonable Basis Forecast for mid-August?



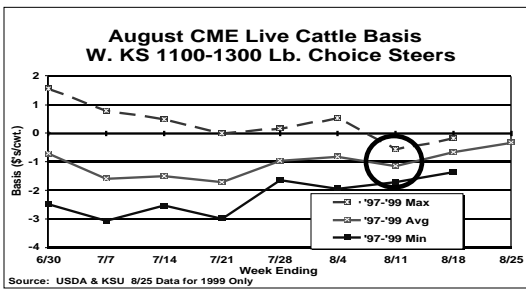
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What's A Reasonable Basis Forecast for mid-August?



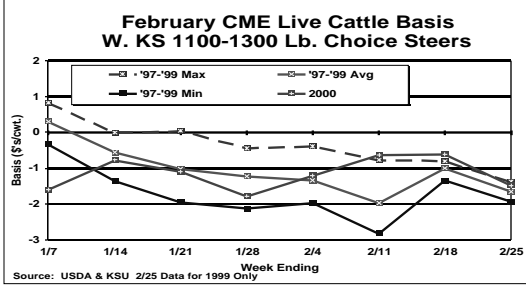
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What's The Risk Associated With This Basis Forecast?



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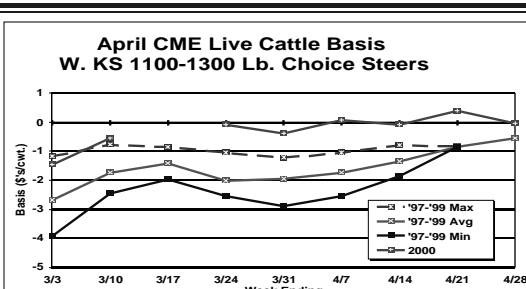
How Has This Basis Forecasting Technique Performed in 2000?



Source: USDA & KSU 2/25 Data for 1999 Only

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How Has This Basis Forecasting Technique Performed in 2000?



Source: USDA & KSU 4/28 Data for 1999 Only

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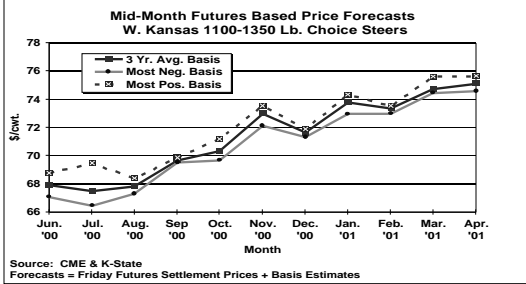
Using Futures To Generate A Price Forecast

Current futures price
+ Basis forecast (for time of delivery)

Cash Price Forecast

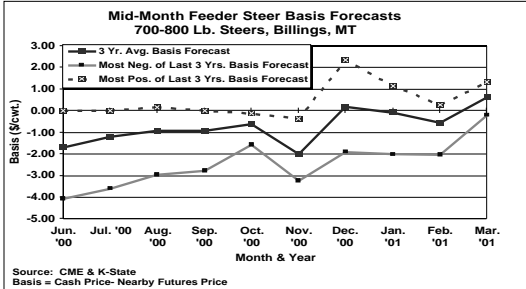
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Example of Futures Based Slaughter Steer Price Forecasts



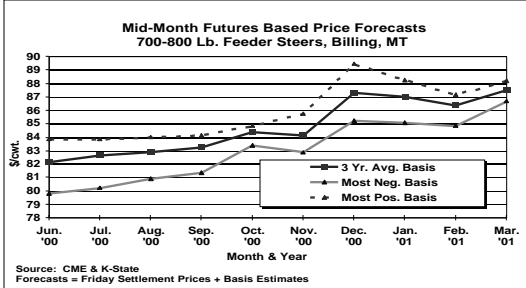
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Example of Feeder Steer Basis Forecasts



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Example of Futures Based Feeder Steer Price Forecasts



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**Updated Cash Price Forecasts
Available Every Week**

Where?

K-State Livestock & Meat Marketing Web Site

www.agecon.ksu.edu/livestock

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What's Current Situation?

- We are in 11th year of current cycle
- Cow-calf returns are positive
- Barring a dramatic feed grain price rise, odds favor a transition from cattle herd liquidation to expansion sometime in the next year
- When that happens, slaughter & beef production will decline rapidly & prices will rise

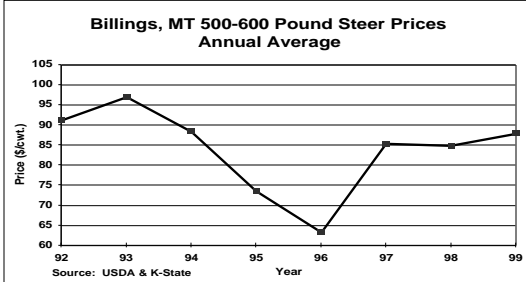
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What's Current Situation?

- Slaughter cattle price improvement in 1999 and 2000 has been demand (not supply) driven
- Big question is how strong beef demand will be the rest of 2000 & 2001
- If demand remains strong, odds favor establishing new record high slaughter cattle prices over the next two years

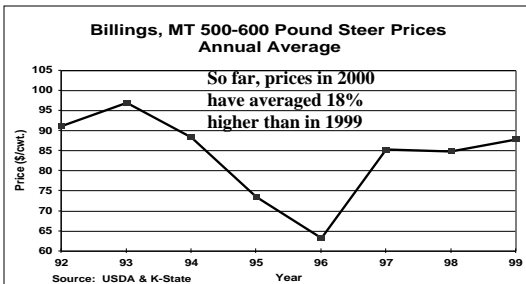
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& Set New Highs For Calf Prices



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& Set New Highs For Calf Prices



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Increasing Returns To Information

- A growing percentage of cattle will be marketed under a grid pricing system which rewards carcass quality characteristics
- Producers that have information regarding the carcass quality characteristics of their cattle will have an advantage

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Alternative Ways to Market Pen

186 steers on feed 147 days, ADG=3.8, Conversion=6.9,
883 lb carcass

Attribute	USDA Grid	
Prime	+\$8.00	Base Price \$99.40/cwt Dressed Basis
CAB	+\$2.50	
Choice	+\$0.00	Live Price \$61.00/cwt Choice Dressed \$99.40/cwt
Select	-\$5.00	
Standard	-\$15.00	Select Dressed \$94.40/cwt
Outs	-\$25.00	
YG 1	+\$2.00	
YG 2	+\$1.00	
YG 3	+\$0.00	
YG 4	-\$12.00	
YG 5	-\$17.00	
<550 lbs.	-\$20.00	
>950 lbs.	-\$20.00	

Value of Managing Cattle Attributes

Attribute	USDA Grid	Percent
Prime	+\$8.00	6.2
CAB	+\$2.50	24.9
Choice	+\$0.00	46.5
Select	-\$5.00	21.0
Standard	-\$15.00	0.7
Outs	-\$25.00	0.7
YG 1	+\$2.00	1.5
YG 2	+\$1.00	33.2
YG 3	+\$0.00	61.2
YG 4	-\$12.00	3.6
YG 5	-\$17.00	0.5
<550 lbs.	-\$20.00	0
>950 lbs.	-\$20.00	7.3
PRICE		\$97.57/cwt carcass weight

186 steers on feed 147 days, ADG=3.8, Conversion=6.9,
883 lb carcass, Choice, YG-3 price = \$99.40/cwt

Value of Managing Cattle Attributes

Attribute	USDA Grid	Percent	Percent
Prime	+\$8.00	6.2	6.2
CAB	+\$2.50	24.9	24.9
Choice	+\$0.00	46.5	46.5
Select	-\$5.00	21.0	21.0
Standard	-\$15.00	0.7	0.7
Outs	-\$25.00	0.7	0.7
YG 1	+\$2.00	1.5	1.5
YG 2	+\$1.00	33.2	33.2
YG 3	+\$0.00	61.2	61.2
YG 4	-\$12.00	3.6	3.6
YG 5	-\$17.00	0.5	0.5
<550 lbs.	-\$20.00	0	0
>950 lbs.	-\$20.00	7.3	0.00
PRICE		\$97.57/cwt	\$99.03/cwt
			\$2,397 pen revenue

186 steers on feed 147 days, ADG=3.8, Conversion=6.9,
883 lb carcass, Choice, YG-3 price = \$99.40/cwt

Value of Managing Cattle Attributes

<u>Attribute</u>	<u>USDA Grid</u>	<u>Percent</u>	<u>Percent</u>
Prime	+\$8.00	6.2	6.2
CAB	+\$2.50	24.9	24.9
Choice	+\$0.00	46.5	46.5
Select	-\$5.00	21.0	21.0
Standard	-\$15.00	0.7	0.7
Outs	-\$25.00	0.7	0.7
YG 1	+\$2.00	1.5	1.5
YG 2	+\$1.00	33.2	33.2
YG 3	+\$0.00	61.2	65.3
YG 4	-\$12.00	3.6	0.0
YG 5	-\$17.00	0.5	0.0
<550 lbs.	-\$20.00	0	0
>950 lbs.	-\$20.00	7.3	0.0
PRICE		\$97.57/cwt	\$99.55/cwt
			\$3,246 pen revenue

186 steers on feed 147 days, ADG=3.8, Conversion=6.9,
883 lb carcass, Choice, YG-3 price = \$99.40/cwt

Value of Managing Cattle Attributes

<u>Attribute</u>	<u>USDA Grid</u>	<u>Percent</u>	<u>Percent</u>
Prime	+\$8.00	6.2	6.2
CAB	+\$2.50	24.9	24.9
Choice	+\$0.00	46.5	57.9
Select	-\$5.00	21.0	10.0
Standard	-\$15.00	0.7	0.0
Outs	-\$25.00	0.7	0.0
YG 1	+\$2.00	1.5	1.5
YG 2	+\$1.00	33.2	33.2
YG 3	+\$0.00	61.2	65.3
YG 4	-\$12.00	3.6	0.0
YG 5	-\$17.00	0.5	0.0
<550 lbs.	-\$20.00	0	0
>950 lbs.	-\$20.00	7.3	0.0
PRICE		\$97.57/cwt	\$100.38/cwt
			\$4,608 pen revenue

186 steers on feed 147 days, ADG=3.8, Conversion=6.9,
883 lb carcass, Choice, YG-3 price = \$99.40/cwt
