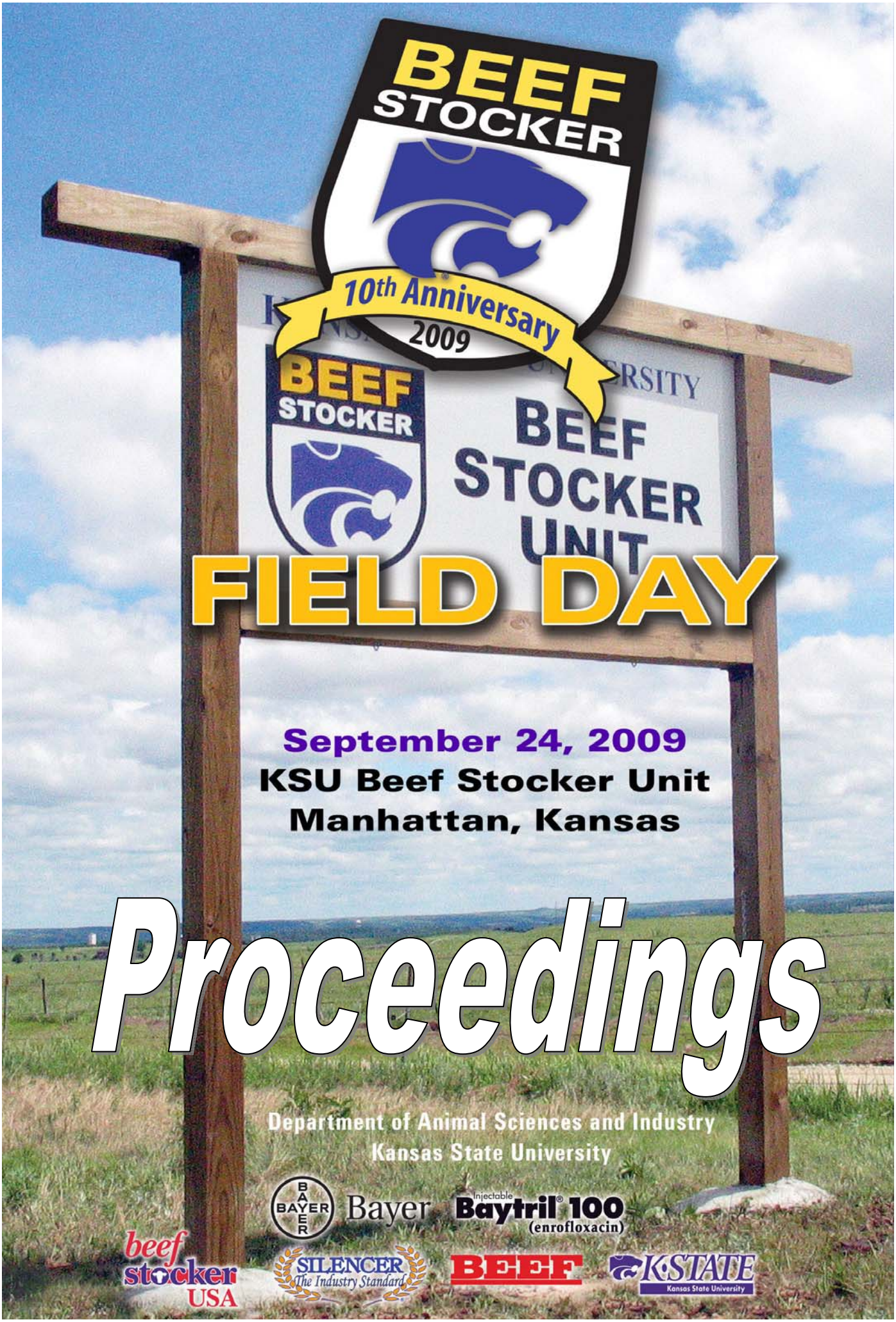

BEEF STOCKER
10th Anniversary
2009
BEEF STOCKER
BEEF STOCKER UNIT
FIELD DAY
September 24, 2009
KSU Beef Stocker Unit
Manhattan, Kansas
Proceedings
Department of Animal Sciences and Industry
Kansas State University
Bayer
Injectable Baytril® 100 (enrofloxacin)
beef stocker USA
SILENCER The Industry Standard
BEEF
K-STATE Kansas State University

Beef Stocker Field Day 2009
September 24, 2009
KSU Beef Stocker Unit

Table of Contents

Beef Stocker Field Day 2009
September 24, 2009
KSU Beef Stocker Unit

Welcome to the 10th anniversary of the KSU Beef Stocker Field Day. We appreciate your attendance and support of this educational event. We are fortunate to have assembled an outstanding list of presenters and topics that we believe are relevant to your bottom line.

As always, if you have any questions on the program or suggestions for future topics, please let us know. Our strength in delivering relevant information lies in working closely with you, our stakeholder.

Sincerely,

Dale A. Blasi, PhD
Extension Beef Specialist
Department of Animal Sciences and Industry
College of Agriculture

THANK YOU

We would like to express a special "THANK YOU" to Bayer Animal Health for their support of today's educational program and activities for the beef stocker segment. With their financial assistance, we are able to deliver the caliber of programming that today's events have in store for you. Please take a moment to stop by their display to see the line of products that they have to offer.

Beef Stocker Field Day 2009
September 24, 2009
KSU Beef Stocker Unit

9:30 a.m.	Registration/Coffee
10:15 a.m.	Introductions
10:30 a.m.	**Buying and Selling Right** *Dr. Kevin Dhuyvetter, Kansas State University*
11:15 a.m.	**Panel: Partnering with Feedlots – Who Brings What to the Table?** *Jerry Bohn, Pratt Feeders* *Dan Dorn, Decatur County Feed Yard* *Jim Reeves, JMR Cattle Company*
12:00 Noon	Barbecue Lunch
1:00 p.m.	**Thinking Outside the Shots** *Dr. Dan Thomson, Kansas State University*
1:45 p.m.	**Panel: Negotiating Custom Grazing Arrangements** *Mike Collinge, Hamilton, Kansas* *Tim Miser, Cottonwood Falls, Kansas* *Alan Hess, Alma, Kansas*

2:30 - 5:00 p.m. **Breakout Sessions**

Cattle Financing in a Tight Credit Market
Gary Cotterill, Community National Bank, Chanute, KS

Producing Value-Added Cattle
Brian Bertelson, US Premium Beef

Weed and Woody Plant Control for Pastures
Dr. Walt Fick, Kansas State University

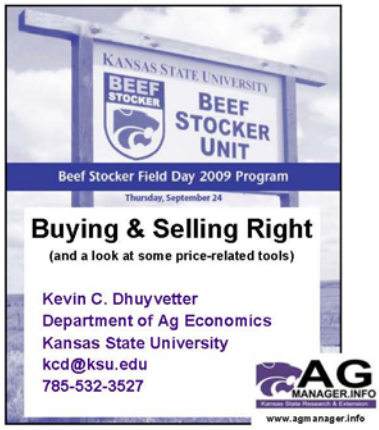
Utilization of Byproducts on Pasture
Dr. Lyle Lomas, Kansas State University

5:00 p.m. Cutting Bull's Lament BBQ and 10th Anniversary Celebration

Notes – Notes -- Notes

Buying and Selling Right

Dr. Kevin Dhuyvetter
Kansas State Univeristy



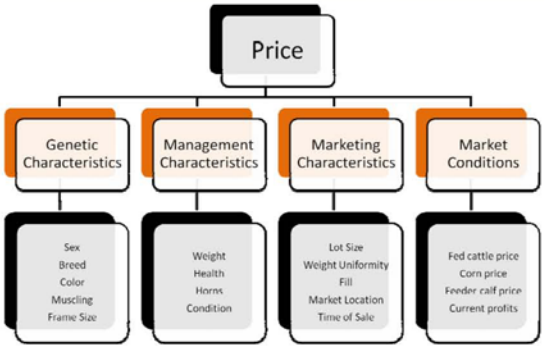
Buying and selling "right"…

What exactly does "*right*" mean?

- Buy low – sell high ➔ make lots of money!
  (of course this doesn't work for everybody as some are buying from those selling)
- As a seller, know what your buyers are looking for and strive to deliver it to them.
- As a buyer, recognize how the various traits and characteristics are valued and buy what best fits your program (i.e., your comparative advantage).

2009 K-State Stocker Field Day *Manhattan, KS*

What drives/determines feeder calf prices?



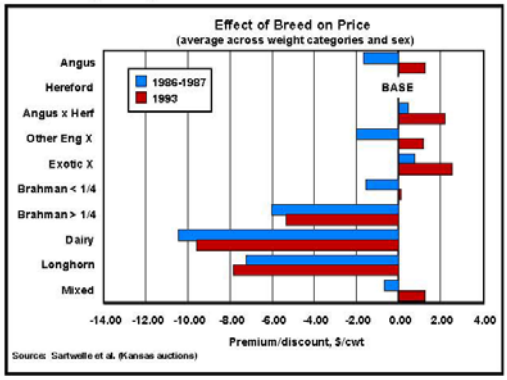
2009 K-State Stocker Field Day *Manhattan, KS*

Numerous studies examining factors impacting feeder cattle prices…

- Factors Affecting Feeder Cattle Price Differentials - *Western Journal of Agricultural Economics* 1988 (Schroeder, T.C., J.R. Mintert, F.K. Brazle, O. Grunewald)
- Buying and Selling Feeder Cattle: The Impact of Selected Characteristics on Feeder Cattle Prices - *Kansas Cooperative Extension Service Publication 1996*
  - http://www.agmanager.info
- Improving the Value of Your Calf Crop: The Impact of Selected Characteristics on Calf Prices - *Kansas Cooperative Extension Service Publication 1996*
  - http://www.agmanager.info
- Effect of Selected Characteristics on the Sale Price of Feeder Cattle in Eastern Oklahoma: 1997 & 1999 Summary - *Oklahoma Agr. Exp. Station Research Report 2000*
  - www.ansi.okstate.edu/research/2000rr/04.htm
- Factors affecting the selling price of feeder cattle sold at Arkansas livestock auctions in 2005 - *Journal of Animal Science 2005* (Barham, B.L. and T.R. Troxel)
- Buyer Preferences for Feeder Calf Traits - *Oklahoma Coop. Ext. Service Publication 2005*
  - http://www.agrisk.umn.edu/cache/ARL03116.pdf

2009 K-State Stocker Field Day *Manhattan, KS*

Breed impacts price...



Sources: Sartwelle et al. (Kansas auctions)

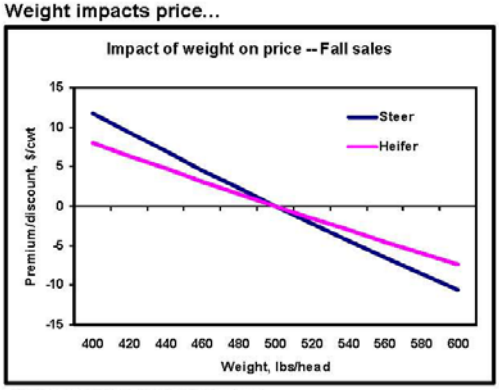
Sex and breed impacts price...

Sale	Fall99	Spr00	Fall00	Spr01	Fall01	Spr02	Fall02	Spr03	Fall03	Spr04
Heifer	($6.48)	($6.79)	($5.50)	($6.47)	($7.57)	($8.93)	($6.60)	($6.13)	($6.82)	($6.21)
Default	Black	Blk/BWF	Black	Black	Black	Black	Blk/BWF	Blk/BWF	Blk/BWF	Blk/BWF
BWF	$1.25	xxx	($0.23)	($1.48)	$0.55	$0.06	xxx	xxx	xxx	xxx
Continental	($1.71)	($5.03)	($5.53)	($1.47)	($3.38)	($3.03)	($1.33)	($2.58)	($3.35)	($2.54)
Hereford	($4.55)	($3.12)	($6.17)	($7.25)	($3.73)	($7.93)	($6.59)	($1.41)	($4.96)	($5.86)
RWF	xxx	xxx	($2.46)	($3.05)	xxx	xxx	xxx	xxx	xxx	xxx
Mix	($0.12)	($2.65)	($2.09)	($1.96)	$0.50	($1.02)	($0.35)	($1.36)	($1.90)	($0.76)
Other	($17.92)	xxx	($17.55)	($17.17)	($14.06)	($16.74)	($13.11)	xxx	($13.96)	($14.07)

Variables that are not statistically different from zero at the 90% confidence level.

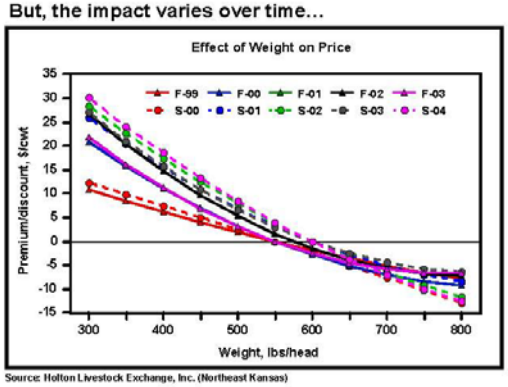
Source: Holton Livestock Exchange, Inc. (Northeast Kansas)

Weight impacts price...



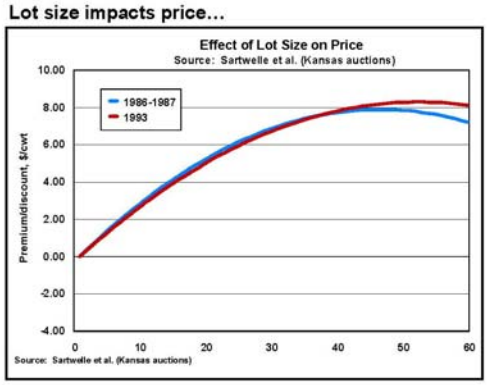
Source: CAB "Where's the Premium" study, 1999-2008

But, the impact varies over time...

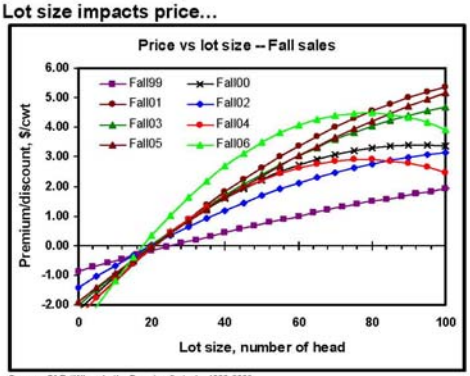


Source: Holton Livestock Exchange, Inc. (Northeast Kansas)

Lot size impacts price…



Lot size impacts price…



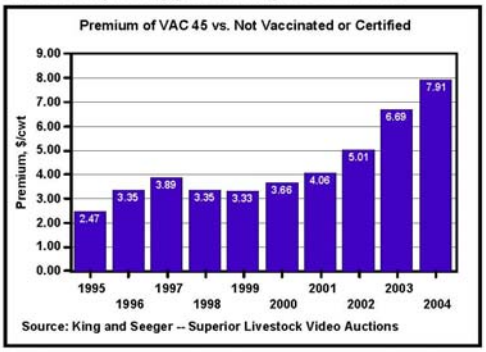
Source: CAB "Where's the Premium" study, 1999-2008

Several other factors impact price…

Feeder Cattle Trait	2001	2002	2003
Frame			
Large Frame	0.174	-1.674	-3.524
Medium Frame	Base	Base	Base
Small Frame	-13.642	N/A	3.154
Muscling			
Heavy Muscled	1.986	2.035	-2.475
Moderately Muscled	Base	Base	Base
Thin Muscled	-11.391	-7.224	N/A
Condition			
Thin Flesh	2.731	-2.419	3.754
Average Flesh	Base	Base	Base
Fat Flesh	-3.024	-3.327	1.025
Health			
Healthy	Base	Base	Base
Not Healthy	-5.789	-12.115	-7.82
Uniformity			
Uniform Lot	Base	Base	Base
Uneven Lot	-1.948	-3.154	-3.174

Source: Oklahoma Quality Beef Network (OQBN) auction sales

Factors impacting price change over time…



Motivation for updating previous work…

- Current economic environment makes each decision critically important for cattle producers
- Increase knowledge of link between prices and genetic, management, and marketing decisions
- Price effects of feeder cattle characteristics change with time – producers are wary of relying upon dated information when making decisions
- Historical results have not been available in a "user friendly" format for decision-making

Objectives of study…

- Assist cattle producers in identifying key factors impacting calf and feeder cattle prices
- Aid in analyzing the economic impact genetic, management, and marketing decisions have for individual operations
- Identify how manageable factors impacting prices have changed over time
- Develop a tool producers can use to incorporate research results into their decision-making process

Where are prices being determined?

(i.e., what prices did we analyze?)

Personnel involved in study
Kevin Dhuyvetter, AGEC
Lee Schulz, AGEC
Karl Harborth, ASI
Justin Waggoner, ASI
Others

- Weekly transaction-level beef calf and feeder cattle data
- Data collected by trained evaluators
- Kansas and Missouri Auctions
- Nov-Dec 2008 and Mar-Apr 2009
  - 22 separate sales (8,000+ lots)

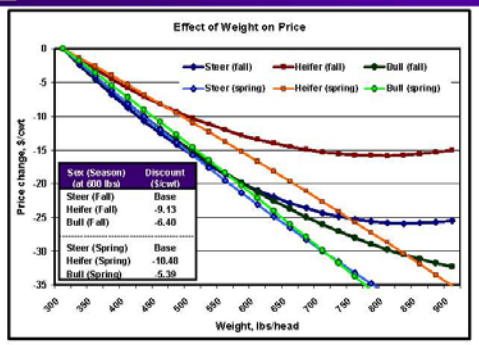
Information collected on each lot …

- Location
- Date
- Order in sale
- Number in lot
- Price
- Weight
- Sex
- Breed/color
- Frame size
- Muscle
- Fill
- Condition
- Health
- Uniformity
- Horns

Analyzing feeder cattle prices…

- Statistical analysis (hedonic model) used to identify premiums and discounts associated with various characteristics for representative lots of cattle
  - 8,168 lots analyzed (ranging from 1 to 287 head)
- Results indicate cattle producers can improve the prices they receive for feeder cattle and calves by closely monitoring a number of genetic, management, and marketing practices prior to and on the sale date

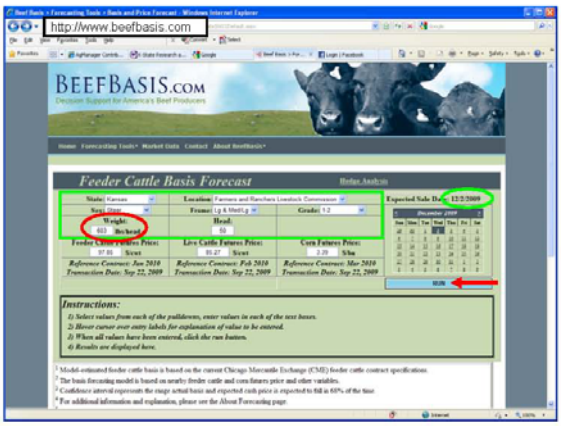
Genetic Characteristics

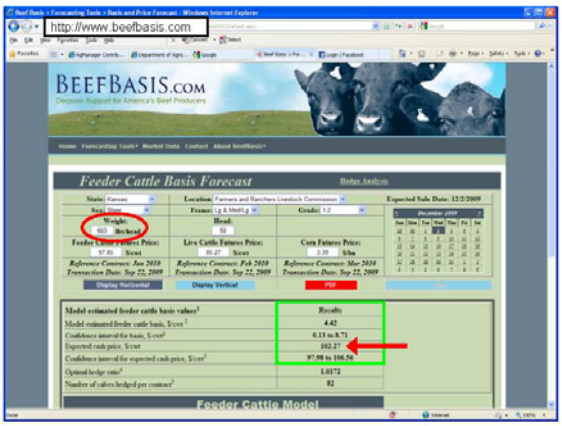


Discount on bulls – is it justified?

- Receiving trials at the KSU Stocker Unit looking at steers versus bulls (and other factors)
  (33 lots; 3,380 head; 65% bulls; 2006, 2007, and 2008)
- Average starting weight = 458 lbs
- Average days of receiving period head = 44 days
- Impact of castrating on ADG = 0.35
  (impact positively related to starting weight, but not statistically significant)
- Ending weight = 587 lbs (bulls)
  603 lbs (steers)

Sex (Season) (at 600 lbs)	Discount ($/cwt)
Steer (Fall)	Base
Heifer (Fall)	-9.13
Bull (Fall)	-6.40
Steer (Spring)	Base
Heifer (Spring)	-10.48
Bull (Spring)	-5.39





Discount on bulls – is it justified?

	Bull	Steer	Difference
Beginning weight, lbs/head	458	458	0
Days on feed	44	44	0
Average daily gains, lbs/day	2.94	3.29	-0.35
Ending weight, lbs/head	587	603	-15
Expected selling price, $/cwt	$103.42	$102.27	$1.15
Value of animal, $/head	$607.23	$616.33	-$9.10
Feeding cost of gain, $/cwt*	$82.20	$75.00	$7.20
Other cost, $/head	$5.00	$0.00	$5.00
Total cost of gain, $/head	$111.16	$108.49	$2.68
Desired profit, $/head	$10.00	$10.00	$0.00
Breakeven purchase price, $/cwt	$106.13	$108.70	-$2.57

* Feeding cost of gain for bull is based on cog for steer (combination of $/hd and $/lb)

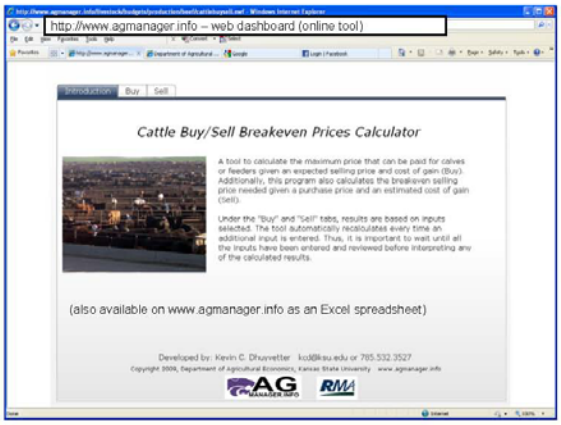
2009 K-State Stocker Field Day *Manhattan, KS*

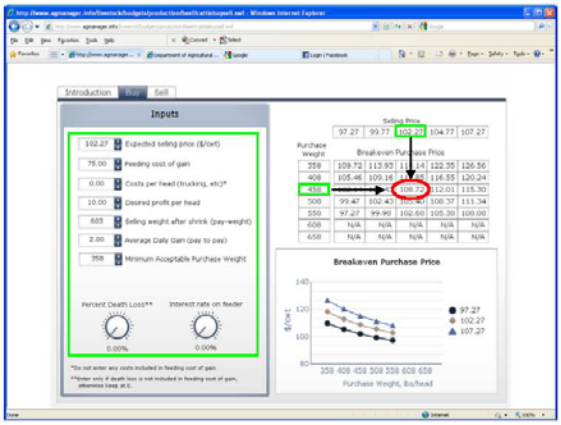
If ADG impact persists, discount grows…

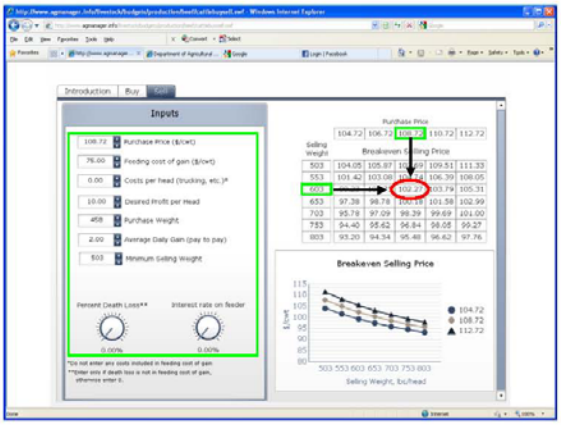
	Bull	Steer	Difference
Beginning weight, lbs/head	458	458	0
Days on feed	90	90	0
Average daily gains, lbs/day	2.94	3.29	-0.35
Ending weight, lbs/head	722	754	-32
Expected selling price, $/cwt	$96.69	$95.07	$1.61
Value of animal, $/head	$698.19	$716.70	-$18.51
Feeding cost of gain, $/cwt	$76.72	$70.00	$6.72
Other cost, $/head	$5.00	$0.00	$5.00
Total cost of gain, $/head	$207.67	$207.11	$0.56
Desired profit, $/head	$10.00	$10.00	$0.00
Breakeven purchase price, $/cwt	$104.92	$109.08	-$4.16

* Feeding cost of gain for bull is based on cog for steer (combination of $/hd and $/lb)

2009 K-State Stocker Field Day *Manhattan, KS*







Genetic Characteristics

Characteristic	% of Pens	Price Change ($/cwt)
Breed		
Angus	21.9	3.10*
Hereford	1.6	Base
Angus/Herford cross	6.6	2.73*
Other English crosses	7.3	0.66
Exotic crosses	50.9	1.78*
Longhorn	0.7	-10.86*
Brahman	3.0	-0.76
Dairy	0.6	-12.22*
Mixed breed	7.2	-0.82
Color		
Black	40.6	2.49*
Red	12.8	Base
White	10.2	1.01*
Mixed color	36.2	1.99*

* indicates statistical significance at 20% level

2009 K-State Stocker Field Day — Manhattan, KS

Genetic Characteristics

Characteristic	% of Pens	Price Change ($/cwt)
Muscling		
Light muscling	0.02	5.03
Average muscling	4.5	Base
Heavy muscling	94.3	6.62*
Extreme heavy muscling	1.2	5.29*
Frame Size		
Small	0.04	-5.98*
Medium	41.1	Base
Large	58.9	0.75*

* indicates statistical significance at 20% level

2009 K-State Stocker Field Day — Manhattan, KS

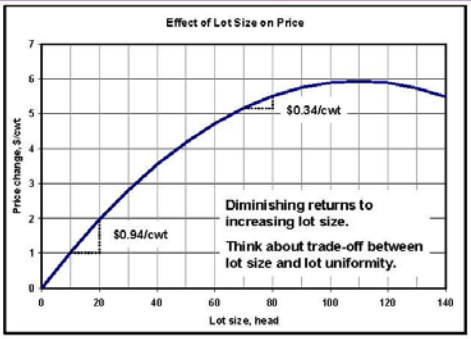
Management Characteristics

Characteristic	% of Pens	Price Change ($/cwt)
Health		
Healthy lot	99.7	Base
Non-healthy lot	0.3	-6.31*
Horns		
No horns	90.9	Base
Mixed horns	7.6	-0.70*
Horns	1.4	-2.18*
Condition		
Very thin	0.1	-10.83*
Thin	16.4	-1.23*
Moderate	77.2	Base
Fat	6.4	-0.86*
Very fat	0.04	-4.87

* indicates statistical significance at 20% level

2009 K-State Stocker Field Day — Manhattan, KS

Marketing Characteristics



2009 K-State Stocker Field Day — Manhattan, KS

Marketing Characteristics

Characteristic	% of Pens	Price Change ($/cwt)
Weight Uniformity		
Uniform lot	98.8	Base
Non-uniform lot	1.2	-2.11*
Fill		
Very gant	0.1	-3.60
Gant	5.8	-0.99*
Average fill	63.6	Base
Full	30.3	-0.72*
Very full	0.2	-4.02*
Time of Sale		
1st quarter	24.7	Base
2nd quarter	24.9	1.00*
3rd quarter	25.3	2.03*
4th quarter	25.1	0.62*

* indicates statistical significance at 20% level

What do premiums/discounts indicate...

- Lot size and uniformity are very important
- Breed/color impact price
- Time of sale important (probably hard to manage)
- Dehorn and castrate early
- Market healthy cattle
- Stay away from extremes (frame, condition, fill)

Application of this information to your own operation

Feeder Cattle Price Analyzer.xls

Decision tool developed

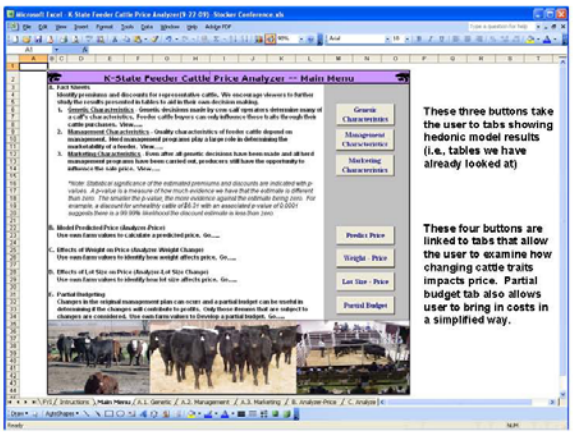
➔ *K-State Feeder Cattle Price Analyzer.xls*

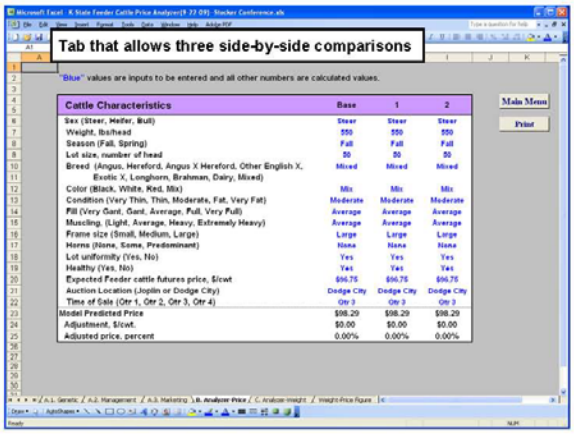
(available on www.agmanager.info)

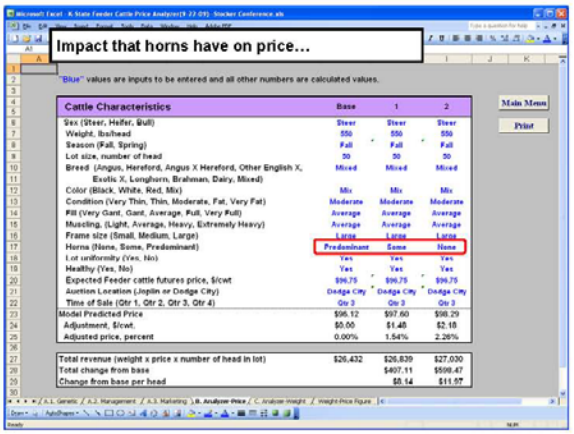
- www.agmanager.info/livestock/marketing/bulletins_2/marketing/default.asp
- www.agmanager.info/livestock/budgets/production/default.asp

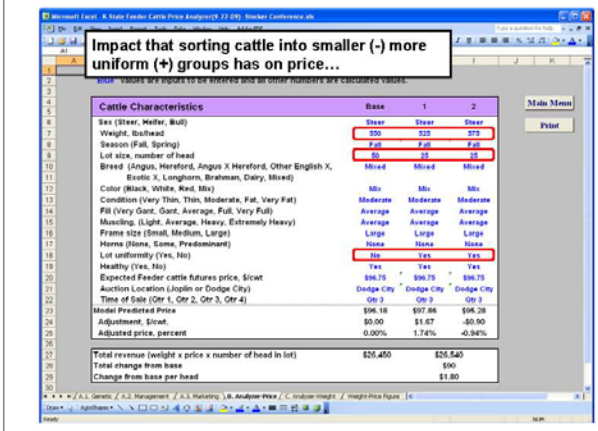
- Excel spreadsheet developed to help producers identify how genetic, management, and marketing decisions can affect prices and net returns of representative lots of cattle and calves
  - Model predicted price calculated as a function of user identified characteristics
  - Partial budget capable of analyzing management decisions

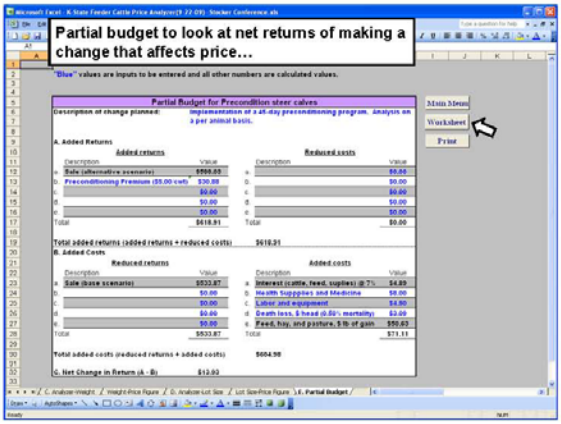

K-State Feeder Cattle Price Analyzer
A spreadsheet program to give producers the information and analytics they need to improve management and marketing decisions.
Version -- 9/22/2009 for MS Excel 2003 and 2007
"Knowledge to Life"
INSTRUCTIONS FOR THE USER:
Main Menu

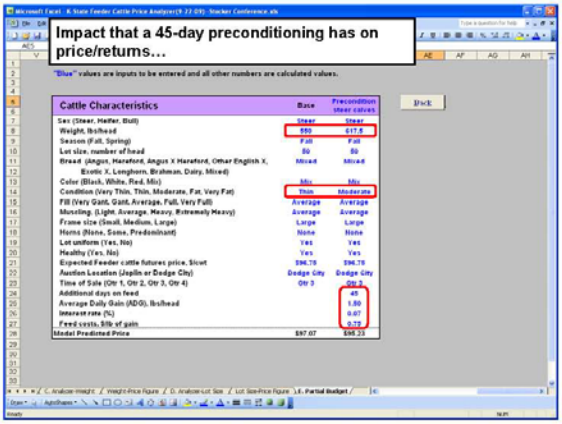

K-State Feeder Cattle Price Analyzer -- Main Menu
Generic Characteristics
Management Characteristics
Marketing Characteristics
Predict Price
Weight - Price
Lot Size - Price
Partial Budget
These three buttons take the user to tabs showing hedonic model results (i.e., tables we have already looked at)
These four buttons are linked to tabs that allow the user to examine how changing cattle traits impacts price. Partial budget tab also allows user to bring in costs in a simplified way.

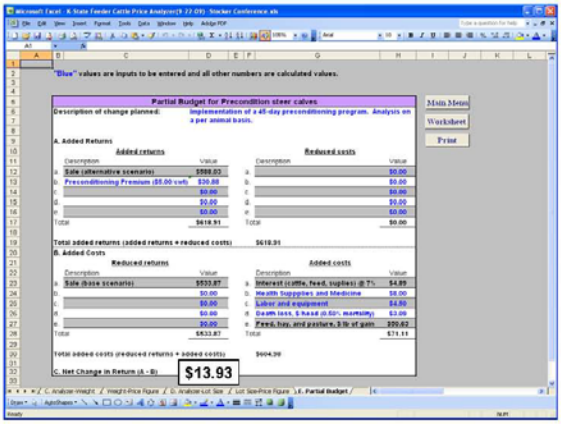

Tab that allows three side-by-side comparisons
"Blue" values are inputs to be entered and all other numbers are calculated values.
Cattle Characteristics
Base
1
2
Main Menu
Print

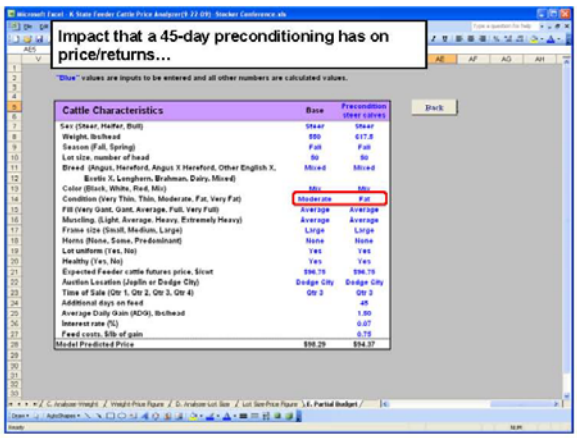

Impact that horns have on price...
"Blue" values are inputs to be entered and all other numbers are calculated values.
Cattle Characteristics
Base
1
2
Main Menu
Print

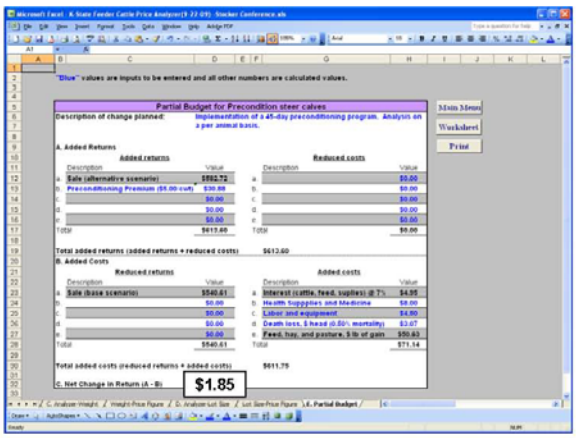

Impact that sorting cattle into smaller (-) more uniform (+) groups has on price…
Cattle Characteristics
Base
1
2
Main Menu
Print


Partial budget to look at net returns of making a change that affects price…
Partial Budget for Precondition steer calves
Main Menu
Worksheet
Print


Impact that a 45-day preconditioning has on price/returns…
Cattle Characteristics
Base
Precondition steer calves
Back


Partial Budget for Precondition steer calves
Main Menu
Worksheet
Print
$13.93





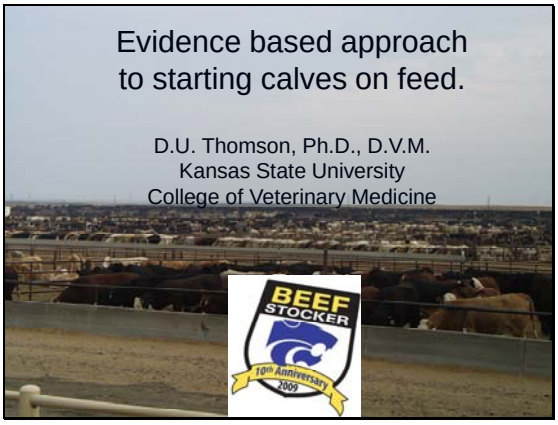
Future work...

- Collect more data (more locations and sales)
- Validate results where/when possible
- Provide the most up to date pricing information
- Update and revise tool with new research results and user feedback

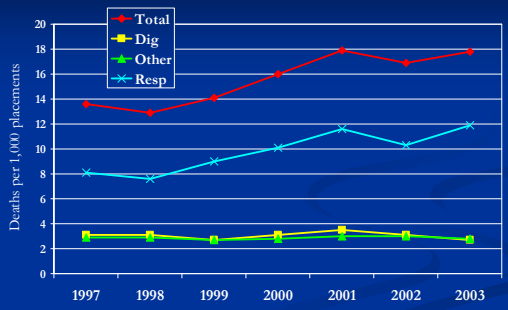
Presentation is also posted on www.agmanager.info – Click on Contributors and then on Dr. Kevin Dhuyvetter

Thinking Outside the Shots

Dr. Dan Thomson
College of Veterinary Medicine
Kansas State University



Mortalities by cause.



Loneragan, 2004

What is the first question during high mortality episodes?

- Morbidity problem
- Case fatality problem – the drug quit working
- CFR = $\frac{\text{number treated that died}}{\text{total number treated}}$

Scenario

- A producer had 1% death loss last year and this year he had a 5% death loss. He wants to change drugs or veterinarians.
- Last year we pulled 10% of the population
- This year we pulled 50% of the population
- Last year CFR = 10%
- This year CFR = 10%

Scenario

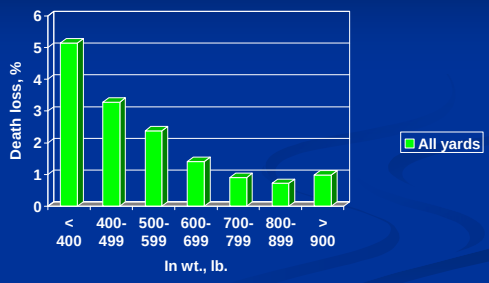
- The drug worked the same this year as it did last year. Our problem is morbidity.
  - Source
  - Viral antigens
  - Weather
  - People
  - Prior nutrition
  - Transportation
  - Evenness of cattle

Feedlot consultant survey

- Completed Summer 2009
- Invited 23 feedlot consultants to participate
- These veterinarians supply consultation for 11,295,001 hd of feeder cattle annually
- Average 491, 087 hd per practitioner

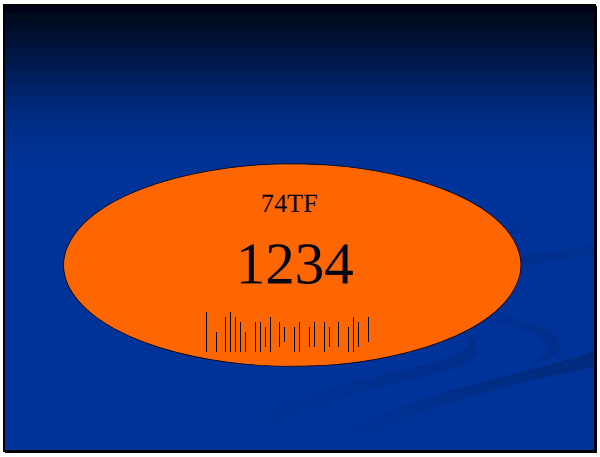
Factors affecting morbidity rates in newly arrived calves

Effects of initial weight on death loss of feeder cattle.



Pathognomonic

- "Characteristic or indicative of a disease, denoting especially one or more typical symptoms, findings, or pattern of abnormalities specific for a given disease and not found in any other condition"
- Stedman's Medical Dictionary, 1995


74TF
1234


ONE ORDER BUYER = 32 SALE BARNS
CF
SB
SB
SB
SB
SB
OB
SB
SB

Adding on pens

- More large pens being built or were built?
- Increased number of add ons?
- How many days to build a pen?

Transportation

- Common place to haul cattle over 8 hours
- Air circulation in trailers
- Metal tops
- Smoke stacks

Weather and receiving pens?

Water and a place to lay down

Cattle flow

- The more new high risk cattle you have at a facility the higher risk your low risk cattle become.
- Facilities and people
- Overwhelming the system
- Cattle market dictates cattle type and flow

Transitional diseases of beef industry

Processing is not a timed event!

Metaphylaxis and feed grade antibiotics

- Best tool to control BRD
- Questions
  - Cattle Type
  - Timing
- Combination of both

Vaccine recommendations by 23 consulting feedyard veterinarians

	High risk calves	Low risk calves
IBR	100%	100%
BVD Type 1	100%	95.6%
BVD Type 2	100%	95.6%
BRSV	65.2%	52.2%
PI3	60.9%	52.2%
Histophilus	21.7%	4.4%
Moraxella bovis	0%	0%
Mycoplasm bovis	0%	0%
Leptospira	4.34%	4.4%
Clostridials	60.9%	56.6%
Mannheimia	73.9%	0%
Pasturella	34.8%	0%

Terrell, Thomson et al. 2009

Current research on Mycoplasma diagnosis and vaccine efficacy

It's gonna be a wreck when…..

Effects of intact males on arrival

- Bulls have 140% higher morbidity rates than steers
- Bulls have 142% higher mortality rates than steers
- Bulls have 163% higher railer rates than steers

Renfro et al., 2004

Castration trials

- Method
  - Banding vs. knife cut
  - Prefer knife cut
  - Lidocaine vs. no lidocaine

- Timing
  - Arrival - best
  - Delayed 2 weeks – too many in hospital
  - Delayed to 1st reimplant - staggy

When and Why did the animal die?

Case Fatality Rate Problem

"WHICH WAY DID HE GO?

Three lung score categories

- None
  - No visible lung lesions

1,690 head Northern calves
In wt = 553

- Moderate
  - Visible lung lesions
    - Scars, fibrin tags, consolidation, etc.

- Severe
  - Lung missing due to severe adhesions

Lung scores of cattle pulled for respiratory disease

- 26% of the cattle on the trial were pulled for respiratory disease
- 62% of the cattle that were pulled for respiratory disease had lung lesions
- Characteristics of lung lesions
  - 57% of the lung lesions were moderate
  - 43% of the lung lesions were severe

Lung scores of cattle not pulled for respiratory disease

- 74% of the cattle were never pulled for respiratory disease
- **43% of the cattle not pulled for respiratory disease had lung lesions**
- Characteristics of the lung lesions
  - 67% of these lung lesions were moderate
  - **33% of these lung lesions were severe**

Areas of concern

- We treated 87 head of cattle that never had lung lesions
  - Baytril is $2.65/cwt ($15.90/dose on 600 lb. calf)
  - We spent $1,383.30 on cattle that weren't sick
- We didn't treat 527 head of cattle that had lung lesions
  - We didn't treat 172 head of cattle with severe lung lesions

What did the lung lesions cost us?

	Lung lesion status				
Item	None	Moderate	Severe	SEM	P =
Initial wt, lb.	553	552	552	4.7	.86
Reimplant, lb.	888	875	845	8.5	.01
Final wt., lb.	1333	1321	1280	12.8	.01
Carcass	863	855	829	8.5	.01
QG	8.4	8.5	8.3	.12	.47
YG	3.7	3.6	3.4	.10	.01

Reimplant = 85 DOF, Feeding period = 213 DOF

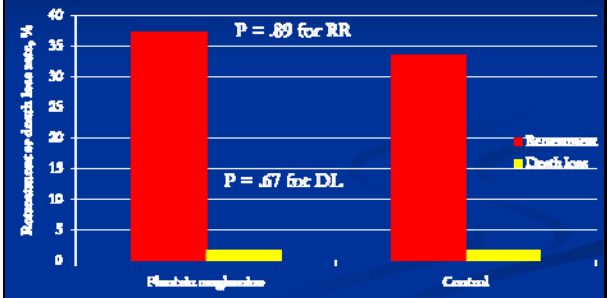
Therapy thoughts

- Don't use multiple day therapies - CFR
  - Which would you pick?
- Most drugs are labeled for 48 to 72 hrs some longer
- As we increase treatments, we increase risk of death
- Average number of days to retreatment

Ancillary therapy

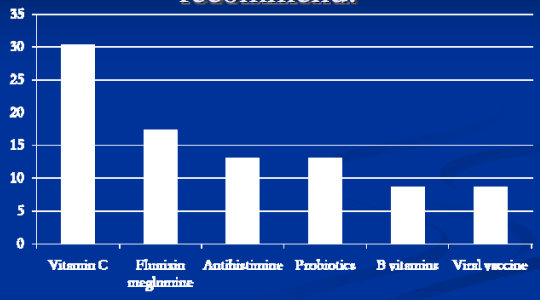
- Banamine
- B vitamins
- Vitamin C
- Dexamethosone
- Recover
- IBR vaccine
- Probiotics
- AVC closed door on Friday – no evidence for any

Retreatment and death loss rates in calves treated for BRD with or without flunixin meglumine.



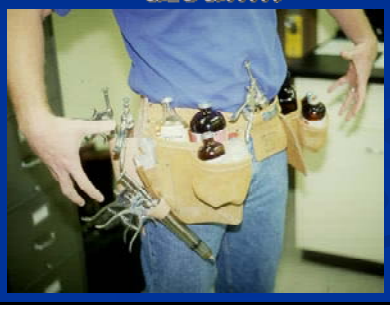
Linsenmeyer, Thomson, et al., 2009

Which ancillary therapies do the consulting veterinarians recommend?



Terrell, Thomson et al. 2009

I gave him $2000 worth of medicine and he still died!!!!!



Terminology for clinical data and BRD

- Fatal Disease Onset (FDO)
  - The day of first treatment of case that subsequently died or day of death if never treated.
- Treatment Death Interval (TDI)
  - Time interval in days between day of first treatment and death
- Day of Death in Feedyard (DOD)
  - Days after arrival to death

Fulton, 2003

Clinical data and treatment for BRD cases

Case or agent	FDO, d	TDI, d	DOD, d
All BRD	30	30	60
Fibrinous pneumonia	28	29	57
M. haemolytica	16	24	40
P. Multocida	24	38	62
Mycoplasma	26	26	55

Fulton, 2003

What's most the important factor for predicting feedlot morbidity or mortality

	Mean	Mode
Cattle health risk	1.32	1
Weather patterns	3.18	2
Amount and quality of labor	3.41	4
Receiving nutrition program	3.86	3
Class of antibiotic use for metaphylaxis	4.36	5
Class of Antibiotic use of treatment	5.64	6
Brand of Vaccine	6.23	7

Terrell, Thomson et al. 2009

Preconditioning and backgrounding is more than a marketing tool!

- Preconditioning for the feedyard
  - Premium or deductions
- Animal Welfare in Europe

- Would you send an eighth grader to college?
- Do you vaccinate kindergartners on the first day of school?

THANKS!!!!!!!

Notes – Notes -- Notes

Cattle Financing in a Tight Credit Market

Gary Cotterill
Community National Bank, Chanute, Kansas

Cattle Financing in a Tight Credit Market

Gary Cotterill
Community National Bank
Chanute, KS

As Bankers, we try and look @ each request in an analytical, unbiased and economic manner to allow us to provide good underwriting for each request.

We refer to the 5 C's of lending:

1. Character

2. Capacity

3. Collateral

4. Capital

5. Condition

With the aforementioned in mind, we can then move forward with our review of the customer needs, such as:

1. **What are your buying methods?**
   - ❑ Several sources vs age source verified

2. **What are your production plans?**
   - ❑ Short season vs Full Season
   - ❑ What is your Veterinary protocol?
   - ❑ Do you rely on your Veterinary for their expertise?

3. **What are your marketing plans?**
   - ❑ Sell @ the ranch, sale, etc.
   - ❑ Who are you marketing thru?

4. Risk protection

- Forward contract
- Futures
- Futures option

Can you afford to be without some form of risk protection?

Know your Breakeven and react accordingly.

Use a KSU enterprise analysis or some format to identify Breakeven.

Know your cost of gain.

Place emphasis on working capital to weather a storm.

What are your Bio security plans?

What are your physical security plans?

***Tax Returns**

1. Trends?

2. D.S.C. Debt Service Coverage? Global

3. D.S.C. 1.15 or better.

***Debt Service Coverage**

Having debt service coverage @ 1.30 allows for funding or partial funding of capital items and faster equity growth. The larger the total borrowing the greater the DSC should be.

D.S.C. = Adjusted Gross Income
+ Depreciation Expense
+ Interest Expense
- Family Living Expense
= Available for debt service

IE

85,000.	A.G.I.
+ 50,000.	Depreciation
+ 24,000.	Interest Expense
= 159,000.	Sub Total
- 40,000.	Family Living
119,000.	Available for debt service
- 91,538.	Scheduled *P/I includes c/c, etc*
27,462.	*= DSC 1.30*
	DSC @ 1.15 minimum

In this example maximum P/I would be 103,478.@ 1.15 DSC

***Balance Sheet**

1. Debt leverage
2. Working Capital & Current ratio
3. Debt structure
4. Liquidity
   * Current Ratio = CA divided by CL
   * IE 185,000 divided by 133,000=1.33:1
   * Working Capital = CA -CL
   * IE 185,000 -133,000 = 52,000
5. Consider diversification of your assets to include non ag.

***Solvency Issues**

Debt / Asset Ratio = $\frac{\text{Total Farm Liabilities}}{\text{Total Farm Assets}}$

IE 317,000 divided by 772,000= 0.4106 (41.06%)

Higher the ratio the greater the risk

***Solvency Issues**

Equity / Asset Ratio = $\frac{\text{Total Farm Equity}}{\text{Total Farm Assets}}$

IE 455,000 divided by 772,000 = 0.5893 (58.93%)

The higher the ratio the better (more capital supplied by owner and less by creditors.

***Solvency Issues**

Debt/Equity Ratio = Total Farm Liabilities / Total Farm Equity

IE 317,000 divided by 455,000 = 0.6967 (69.67%)

The lower the percentage the better

***Solvency Issues**

*Loan to Value or L.T.V. on stockers

75% or less (25%) owner equity

Owner can provide additional collateral to margin the 25%

***Financial Efficiency Ratios**

Operating Expense Ratio =

Total Operating Expense - Depreciation Expense / Value of Farm Production

IE 138,000 divided by 216,000 = 0.6388 (63.88%)

The lower the percentage the better

***Financial Efficiency Ratios**

Depreciation Expense Ratio =

$$\frac{\text{Depreciation Expense}}{\text{Value of Farm Production}}$$

IE 20,000 divided by 216,000= 0.9259
(9.25%)

Look @ repairs vs depreciation

***Financial Efficiency Ratios**

Interest Expense Ratio =

$$\frac{\text{Interest Expense}}{\text{Value of Farm Production}}$$

IE 16,000 divided by 216,000 = .0740 (7.4%)

***Financial Efficiency Ratios**

Total Expense Ratio =

$$\frac{\text{Total Farm Expense}}{\text{Value of Farm Production}}$$

IE 174,000 divided by 216,000 = .08055
(80.55%)

The lower % the better

What are financial ratios used for:

- ❑ Evaluate the condition of a business as a unit and it's risk bearing ability
- ❑ Single ratios can be misleading
  - IE Younger operators can have larger interest expense ratios
- ❑ However the younger operator may show a more desirable return to equity because of their lower equity base.
- ❑ Individual ratios help lenders identify the strength and weakness of a business
- ❑ Also ratios will tell us the indication of progress in a business

Summary:

- ➢ Inspections on Stockers once each six months

Summary:

- ➢ Branding is very helpful for ID perfection

Summary:

- Banks are extremely reluctant to do “split” lending in Livestock Portfolio.

Summary:

- Multiple lenders with the same borrower are opposed to lending on similar collateral.
- Purchase money interest and senior perfection is the preferred method.
- Multiple lenders with same entity can present a challenge for lenders.
- Bottom line is: If you are going to use multiple lenders:

  Use one for RE
  Use one for L/S
  Use one for Machinery

Summary:

- What about operating line?
  - Collateral to one of the previous

Summary:

- Excess loan value in a line with a borrower to be monitored for guidance line purposes

- Look for a lender you are comfortable with. IE same as your Doctor
- Look for a Bank large enough to handle your total needs. What is their lending limit?
- Be sure of Structure
  - IE stockers I yr
  - Cows 5-7 yr dependent on age
  - RLOC - should -0- out during the term of the loan
  - time P/I to come due 15-30 days after anticipated sales

- Incorporate risk management into all phases of your business
- Futures
- Future Options
- Forward Contract
- Life insurance coverage - Consider naming lenders as assignee as their interest may appear.

- Management succession in place?
- Provide tax return & financial statement in a timely manner
- Consider diversification of your assets
- Know your credit score
- What would a 2% rate increase do to your cash flow? Rate shock?

- Pricing of Cattle Money based on:
  - Compensating balances
  - Net worth of borrower
  - Length of rate lock
  - Margin in cattle vs total line
  - Collateral condition, type & quality

THANK YOU

Producing Value-Added Cattle

Brian Bertelsen
US Premium Beef

Producing Value-Added Cattle

Brian Bertelsen
Director of Field Operations
866-877-2525
www.uspremiumbeef.com

What is VALUE?

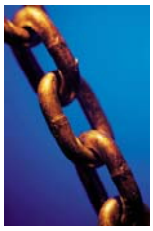
It is having:

- the ***right*** product at
- the ***right*** time in
- the ***right*** place in
- the ***right*** quantity at
- the ***right*** price.

*It's **demand** relative to **supply** at a given moment.*

Adding & Capturing Value

- What is value?
  - Is it already there?
  - Do you need to add it?
- Is there a demand?
- What is the risk?
- Move closer to the consumer
- What is the market value for the next user?

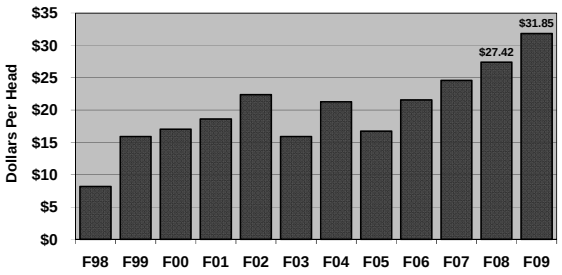


4

What has VALUE?

- Grid value
- General (commodity) value
  - Volume
  - Location
- Both
  - Health, Growth, Efficiency
  - Certified Attributes
  - Genetics (reputation)

USPB Average Total Grid Premium

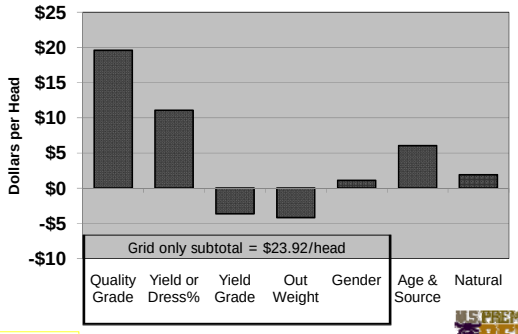


KS plants only

Factors Affecting Premiums

- Quality Grade
- Carcass Yield (Dressing %)
- Yield Grade
- Out-Weights
- Special Programs
- Uniformity

Where Premiums Come From

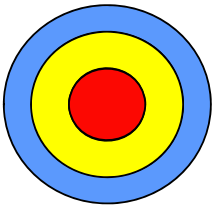


KS plants only

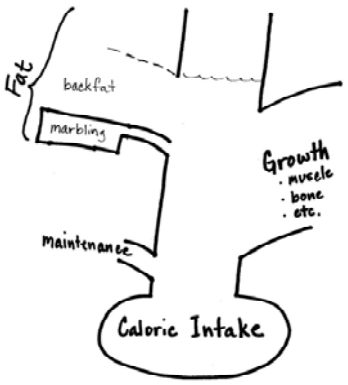
The U.S. Premium Beef Grid

High Marbling

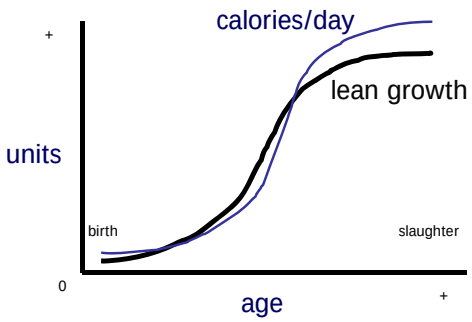
Big bullseye



Marbling 'Pathway'



Caloric intake and Growth

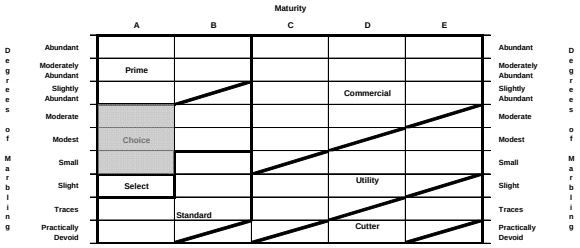


What has Grid VALUE?

1. Marbling (creating premium)
   a. The marbling 'pathway' of calories
   b. Many factors
2. Preventing/limiting discounts
   a. Out weights
      i. Placement weight
      ii. Steer/Heifer
   b. Uniformity
      i. Outliers
      ii. Outcome groups
      iii. Yield Grade (body composition)
3. Verification (rewards)

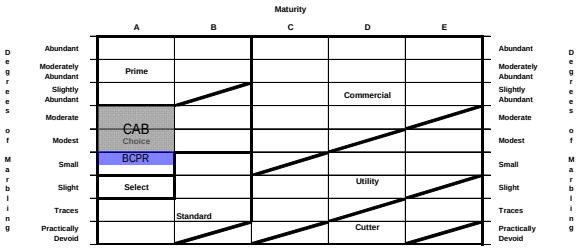
Quality Grade

Relationship between Marbling, Maturity and Quality Grade[1]



Quality Grade

Relationship between Marbling, Maturity and Quality Grade[1]



Marbling Factors - 1

- Genetic *Potential*
  - Heritability = 0.29 – 0.45
    - » (Minick,ISU, 2001; MacNeil, 2008 JAS 86:2518)
- Lifetime management (lifetime achievement)
  - – Maintain health (healthy immune system)
    - Vaccinate, minerals, vitamins, nutrients
  - – Reduce stress
    - Weaning, castration, dehorning
    - Environmental
    - Low stress animal handling & transportation
    - Deworming

Marbling Factors - 2

- Lifetime management
  - Manage calories (marbling 'pathway')
    - Nutrition (calories)
    - Don't graze too long / manage placement weight
    - Supplement when needed (added grid premium?)
    - Implant carefully
      - Potential carryover effects
      - Relative to nutrition
  - Vitamins
    - Sunlight (vit. D) - seasonal effects
    - Lush forage (vit. A) - wheat pasture ?

Marbling Factors - 3

- Lifetime management
  - Feedstuffs
    - Corn (high starch) or by-products (low starch)
    - Marbling 'pathway'
    - Fat cell proliferation at young age (mask genetics)
- Age: Calves vs. Yearlings
  - Cattle do NOT have to be old to marble.
  - Marbling 'pathway'
    - Total days of excess calories to store as Mb.
  - Must compare at equal body composition

Marbling Rewards

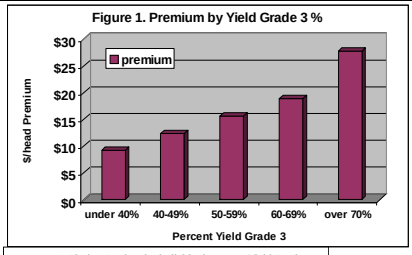
	$/cwt (HCW)*	$/head**
• Choice/Select spread – Seasonality – Opportunity to plan ahead	$7.49	$29.96
• Prime	$17.91	$173.24
• Certified Angus Beef (CAB)	$3.34	$56.68
• Black Canyon Prem. Res.	$1.84	$44.68

** Actual USPB grid input values for delivery week ending 9/19/09*

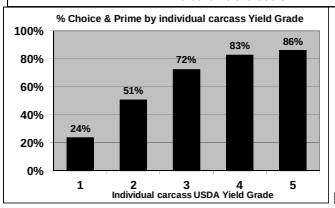
*** Assumes 800 lb carcass; Choice reward is compares a Choice carcass to base price of 50% Choice; Prime, CAB & BCPR values are additive to the Choice reward*

Feedlot Placement Weight

Fiscal Year 2009	HEIFER LOTS			STEER LOTS		
	7 wt	8 wt	9 wt	7 wt	8 wt	9 wt
Out Wt, lbs.	1224	1301	1344	1323	1358	1396
HCW	783	831	859	847	870	894
Yield, %	63.94	63.91	63.88	64.03	64.02	64.06
CH & PR	70.61	75.98	81.59	65.19	68.25	66.01
Hardbone	0.38	0.61	**1.17**	0.12	0.10	0.10
Over 30	1.12	1.50	**3.29**	0.95	0.99	0.70
YG 4&5	8.93	14.45	20.09	7.74	8.81	9.27
Avg YG	2.50	2.67	2.84	2.48	2.55	2.57
Heavy	0.54	2.58	4.76	3.80	5.22	7.59
Out Wt, $/hd	**-$1.15**	**-$3.62**	**-$6.67**	**-$5.29**	**-$7.19**	**-$10.52**
Subtotal, $/hd	**$22.96**	**$24.35**	**$17.00**	**$23.52**	**$24.18**	**$20.52**



Sorted by %YG3 by lot



Uniformity

By individual carcass

Age & Source Verification

- Premiums in the marketplace
  - $35 per head, fed cattle – USPB
  - Large differences between packers
  - $1.50 per cwt on calves – Superior Video
  - Consecutively at $35 for 18 months
  - Commitment through May, 2010
- Future Demand
  - Traceback (source verification)
  - When will the border open wider?

Examples of Program Compliant Tags

Visit www.uspremiumbeef for valuable fact sheets

Our Requirements

- Under 21 months at harvest
- Approved at 'Ranch level'
- Delivered from approved feedlot supplier
- A visual ear tag is mandatory
- L300 shipping document

Specific delivery times
EID is NOT mandatory

Certification / Verification

- Age & Source – Japan (also state of origin)
- Breed
- Natural (variable degrees)
- NHTC (non hormone treated cattle) - Europe
- Preconditioned
- Humanely raised
- Management practices
- PI – BVD tested
- DNA tested

➤ *Like options on a pickup truck*

General Cattle Type Differences

ENGLISH	EXOTIC
• higher marbling (QG)	• lower marbling (QG)
• less YG 1's & 2's	• more YG 1's & 2's
• more YG 4's	• less YG 4's
• less heavyweights	• more heavyweights
• lower yield	• higher yield

What are you going to produce?

- Commodity beef
- Value added beef
  - Branded beef label
  - Natural
  - Age & Source Verified
  - Marbling

27

Where do you fit in?

- What do you produce?
  - Strengths, weaknesses, attributes
- Know what you have
- Survey options
- Create & cultivate relationships
- Learn what has value
- Re-evaluate

28

Challenges & Opportunities

Life is full of challenges.
Some people choose to call them opportunities.

- *They both come from outside your operation*

29

Weed and Woody Plant Control for Pastures

Dr. Walt Fick
Department of Agronomy
Kansas State University

Weed and Woody Plant Control for Pastures

A common perception is that plants not grazed by livestock are weeds. Many of these so-called weeds are usually broadleaf plants more properly referred to as forbs. Weeds are plants growing out of place and may be forbs or grasses. Annual weeds of concern include Japanese brome, prairie threeawn, and broomweed. Perennial weeds include Baldwin ironweed, western ragweed, and goldenrods. A couple of noxious weeds that are problems on rangeland and pasture are musk thistle and sericea lespedeza. Woody vegetation considered undesirable for planned use of an area can be referred to as brush. These woody plants include shrubs such as buckbrush, smooth sumac, and roughleaf dogwood. Trees such as eastern redcedar, osageorange (hedge), and common honeylocust can become problems on grazing land.

Woody plants are not always undesirable as they do provide shade, winter protection, and cover. Cattle and sheep do eat some browse but deer and goats consume a larger percentage of their diet as browse. Livestock seek out shade during hot days during the summer. Properly located, trees can help distribute animals to underutilized areas of a pasture. Trees located near water often cause animals to loaf in these areas and may contribute to decreased water quality. Shelterbelts can be useful for winter protection and provide important habitat for many wildlife species. Although cattle are primarily grass eaters they do consume a significant amount of forbs in their diet at certain times of the year.

Reduction of fire frequency contributes to invasion by woody plants in many grasslands. Shrubs and trees will invade sites with deeper soils and more moisture first. Thus, lowlands and slopes are invaded before the uplands with shallow or claypan soils. Other factors influencing the invasion of woody plants include climatic fluctuations and seed transport by animals, wind, and water. Some unpalatable broadleaf species will invade grasslands due to overgrazing, but many of these species are opportunistic and respond more to weather patterns.

Factors Affecting Brush/Weed Control

- life cycle of plant
- stage of growth
- density and cover
- weather

Methods of Control

- grazing management
- prescribed burning
- mechanical
- chemical
- biological

Benefits of Brush/Weed Control

- increased forage production/availability
- easier livestock handling
- wildlife habitat manipulation
- increased water yields from watersheds
- clear area for other practices such as seeding
- reduction in fuel associated with damage from wildfires

Summary

Proper grazing management and prescribed burning will keep most invasive plant species from becoming a problem. Scattered individuals of shrubs and trees are not likely to be an economic detriment to forage production and livestock grazing. The time to control unwanted woody and herbaceous plants that are known to be invasive is when they first show up. Broadcast application of herbicides for control of broadleaf weed control is rarely recommended unless grazing distribution is affected. Integrated control using mechanical, biological, chemical, and/or prescribed burning methods will be the most effective approach to managing woody plant populations. It is important to analyze why these species invade rather than just treating the symptom of a problem.

Defoliation of buckbrush, Baldwin ironweed, and western ragweed 3 months post treatment.				
Herbicide[1]	Rate/acre	Buckbrush	Ironweed	Ragweed
2,4-D ester	4 pt	72	100	95
Cimarron Plus	0.5 oz	60	42	5
Chaparral	2 oz	36	100	90
Chaparral	3 oz	55	100	100
Chaparral + 2,4-D ester	2 oz + 2 pt	66	98	98
Untreated	--	1	9	0

[1] Herbicides applied June 8, 2009

Weed/Brush Species	Labeled herbicides	Example Recommendation
Balwin ironweed	e, f, g, h, k	Grazon P+D @ 2 pt/acre
Goldenrod	a, b, c, d, e, f, h, i	Cimarron Max (0.5 oz + 2 pt/acre)
Western ragweed	a, e, f, g, h, k	2,4-D LVE @ 3 pt/acre
Musk thistle	a, b, c, d, e, f, g, h	Milestone @ 3 fl oz/acre
Sericea lespedeza	b, c, d, i, j, k	Escort XP @ 0.5 oz/acre
Buckbrush	a, b, d, l	2,4-D LVE @ 4 pt/acre
Roughleaf dogwood	e, i, k, l	Surmount @ 0.5%
Smooth sumac	a, e, f, i, j, k, l	2,4-D @ 2-3 pt/acre
Honeylocust	f, g, i, j, k	Surmount @ 3-4 pt/acre
Osage orange (hedge)	b, i, j, k	5% Remedy Ultra in diesel (basal)

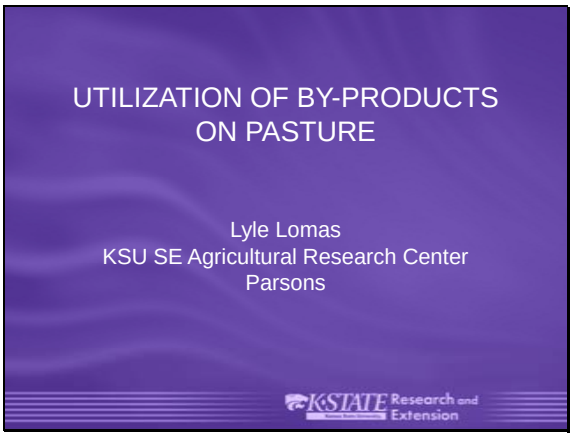
Herbicides

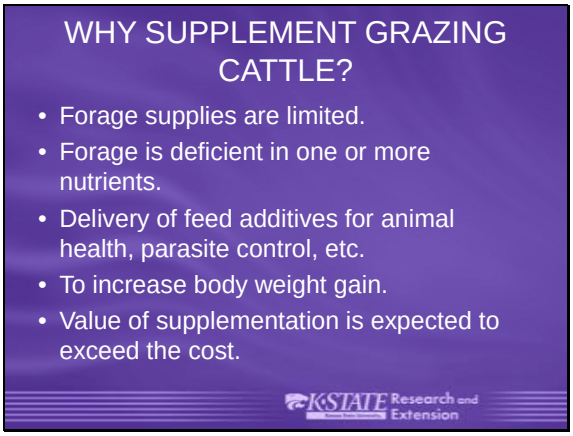
a. 2,4-D
b. Escort XP
c. Cimarron Max
d. Cimarron Plus
e. Tordon 22K
f. Grazon P+D
g. Milestone
h. ForeFront R&P
i. Surmount
j. Remedy Ultra
k. PastureGard
l. Spike 20P

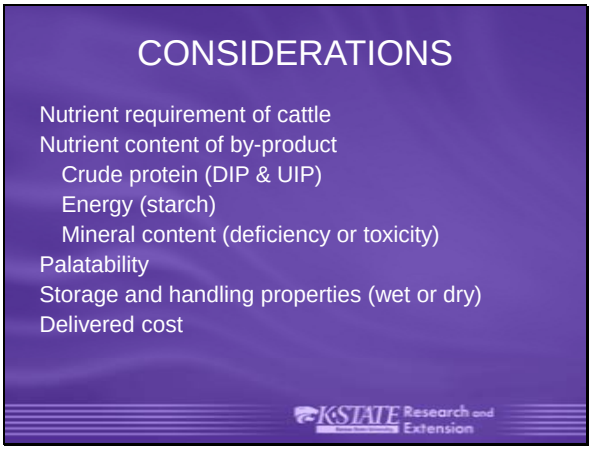
Notes – Notes -- Notes

Utilization of Byproducts on Pasture

Dr. Lyle Lomas
Kansas State University







COMMON BY-PRODUCTS

Feed	TDN %	CP%	UIP%
Wheat midds	83	18	23
Soybean hulls	80	12	42
Corn gluten	80	24	25
Distillers grains	88	30	73
Shelled corn	88	10	55

K-STATE Research and Extension

DISTILLERS GRAINS (DDG)

- By-product of the ethanol industry
- 1.4 million tons of DDG/year in Kansas
- 1 bushel of corn yields
  - 2.7 gallons of ethanol
  - 18 lbs DDGS
  - 18 lbs carbon dioxide

K-STATE Research and Extension

DDG NUTRIENT COMPOSITION

- 3X nutrient value of corn
- 25% crude protein (>30%)– high by-pass
- 9% crude fat (11%)
- High phosphorus (0.83%)
- Complements nutrient composition of mature forages to meet requirements of grazing cattle
- Highly palatable

K-STATE Research and Extension

DDG FEEDING CONSIDERATIONS

- High phosphorus
  - Potential problem in feedlot – nutrient management (3-4 X requirement)
  - Asset for grazing cattle
- High sulfur
  - From grain and sulfuric acid
  - Can be toxic when DDG fed at high levels
- Antibiotic residue?
  - Used in ethanol production

K-STATE Research and Extension

WET VS. DRY

	WET (35%DM)		DRY (88%DM)	
Date	$/ton	$/lb DM	$/ton	$/lb DM
Jan. 08	63.50	0.09	195	0.11
May 09	46.00	0.07	135	0.08
Sept. 09	35.50	0.05	100	0.06

- The delivered cost per lb of DM is equal between wet and dry distillers grain for a 25 ton load hauled 59 miles @$3.00 per loaded mile.

K-STATE Research and Extension

SUPPLEMENT CONVERSION

- Amount of supplement required for each additional lb of gain over that of unsupplemented control steers
- Amount of supplement fed/(Gain of supplemented steers – gain of unsupplemented control steers)

K-STATE Research and Extension

SMOOTH BROMEGRASS 2005-2007

- Steer calves grazed from April 6 to October 3 (180 days)
- Continuous stocking rate of 0.8 steer per acre or 1.25 acres per steer (473 lb)
- Supplemented with 0, 0.5, or 1.0% body weight DDG/head/day (as-fed) – group fed meal in bunks

K-STATE Research and Extension

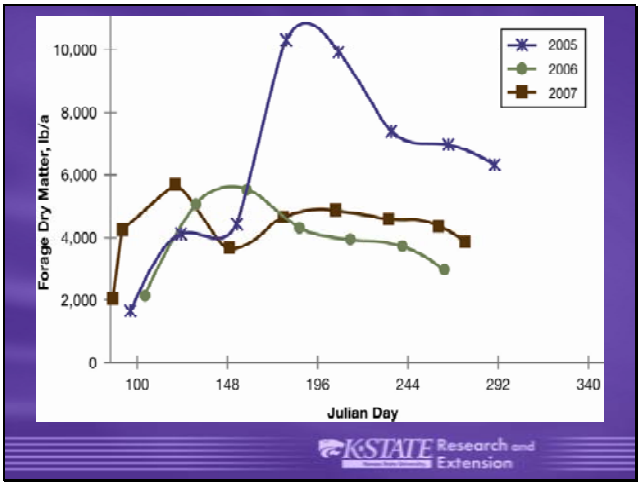
- Three replicates (pastures) of each treatment.
- Steer gains and available forage were measured and the amount of DDG fed was adjusted every 28 days.
- No feed additives or implants were used during the grazing phase.

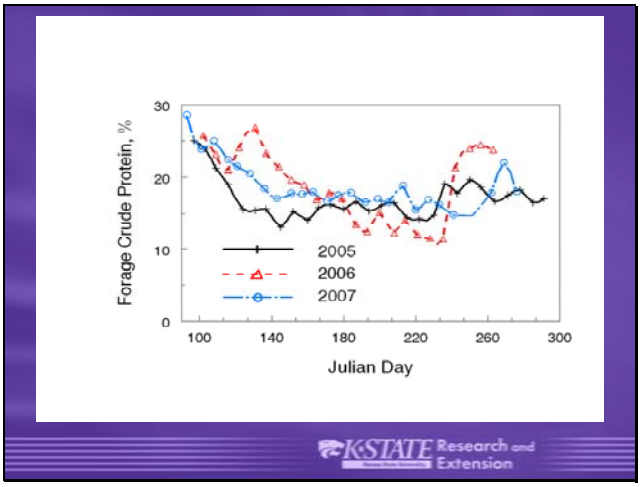
K-STATE Research and Extension

FINISHING PHASE

- Steers were implanted with Synovex-S.
- Steers were fed a finishing diet of 80% ground milo, 15% corn silage, and 5% supplement (DM basis) for 124 days.
- Steers were slaughtered and carcass data were collected.

K-STATE Research and Extension





SMOOTH BROMEGRASS
2005-2007 (180 days of grazing)

	DDG(%BW/hd/day)		
	0	0.5	1.0
Final wt, lb	738[a]	844[b]	871[c]
Gain, lb	266[a]	371[b]	398[c]
Daily gain, lb	1.48[a]	2.06[b]	2.21[c]
Gain/acre, lb	213[a]	297[b]	318[c]
Total DDG intake, lb	0	607	1211
Daily DDG intake, lb	0	3.4	6.7
DDG conversion	----	5.9	10.0

K-STATE Research and Extension

FINISHING PEFORMANCE (124 days)

	DDG(%BW/hd/day)		
	0	0.5	1.0
Daily gain, lb	3.85[a]	3.67[a,b]	3.51[b]
Feed:gain	6.73[a]	7.22[b]	7.63[b]
Hot carcass wt, lb	727[a]	783[b]	795[b]
Yield grade	2.7[a]	3.0[b]	3.1[b]
Percent Choice	69	69	72
Marbling score	SM[26]	SM[40]	SM[54]

K-STATE Research and Extension

OVERALL PERFORMANCE (304 days)

	DDG(%BW/hd/day)		
	0	0.5	1.0
Total gain, lb	742[a]	824[b]	833[b]
Daily gain, lb	2.45[a]	2.72[b]	2.74[b]
Total DDG intake, lb	0	607	1211

K-STATE Research and Extension

SMOOTH BROMEGRASS

- DDG supplementation increased grazing gains.
- Supplement conversion was more efficient for 0.5% than 1.0% level (5.9 vs. 10.0).
- DDG supplementation had no effect on quantity of available forage.

K-STATE Research and Extension

SMOOTH BROMEGRASS

- Steers supplemented with DDG during the grazing phase were heavier at slaughter and yielded heavier carcasses.
- Steers that were not supplemented with DDG during the grazing phase had higher finishing gain, lower slaughter weight and hot carcass weight, lower feed:gain, and lower yield grade than those that received 1.0% DDG.

K-STATE Research and Extension

- Steers that were supplemented with DDG during the grazing phase had higher overall gains that those that received no supplement.
- Overall gain was similar between 0.5% and 1.0% levels
- If ownership of cattle were retained to slaughter, the 0.5% level would be more profitable than the 1.0% level.

K-STATE Research and Extension

NATIVE GRASS 2005

- Epp et al. 2007, Manhattan, KS
- Big bluestem and Indian grass were dominant species, little bluestem and side oats grama were subdominant species.
- Yearling steers (573 lb) grazed from May 1 to August 3 (95 days)
- Pastures were double stocked (250 lb/acre for 90 days)

K-STATE Research and Extension

First 45 days (May 1-June 14)

- No supplement was fed.
- Oxytetracycline was offered in a mineral mix that was fed free-choice to control foot rot and pinkeye.

Last 50 days (June 15 – Aug. 1)

- Steers were supplemented with 0, 0.25, 0.5, or 0.75% body weight DDG/head/day (DM basis) – pellets fed in bunks
- Level of supplement was adjusted every 14 days based on a projected gain of 2.0 lb/head/day.
- DDG from grain sorghum
  - 34.6% crude protein
  - 8.8% crude fat

NATIVE GRASS (2005)

Date	Crude Protein(%)	ADF(%)
May	12.5	35.5
June	10.0	38.0
July	7.6	39.0

All samples were collected during the last week of each month.

NATIVE GRASS - 2005

	DDG(%BW/hd/day)			
	0	0.25	0.50	0.75
Final wt., lb	792 [a]	813[b]	819[bc]	833[c]
Gain, lb,	219[a]	240[b]	246[bc]	260[c]
Daily gain, lb	2.31[a]	2.53[b]	2.59[bc]	2.74[c]
Total DDG intake, lb	0	98	170	258
Daily DDG intake, lb	0	2.0	3.4	5.2
DDG conversion	---	4.7	6.3	6.3

K-STATE Research and Extension

FINISHING PERFORMANCE

	DDG(%BW/hd/day)			
	0	0.25	0.50	0.75
Daily gain, lb	3.77	3.58	3.68	3.36
Feed:gain	5.71	6.49	5.93	6.12

K-STATE Research and Extension

NATIVE GRASS

- All levels of DDG supplementation resulted in greater grazing gains than the unsupplemented control.
- Highest grazing gain was obtained with the 0.75% level.
- Supplement conversion was most efficient at the 0.25% level.
- Supplement conversion was similar between the 0.50 and 0.75% levels.

K-STATE Research and Extension

NATIVE GRASS

- Steers that received no supplement during the grazing phase had higher finishing gains and more efficient feed conversion that those that were supplemented with DDG.
- Finishing performance was lowest for steers that were supplemented with 0.75 DDG during the grazing phase.

K-STATE Research and Extension

SUMMARY

- Supplementation with DDG can improve gain of grazing stocker cattle.
- Supplement conversion is usually more efficient at lower levels of DDG supplementation.
- The optimum level of DDG for grazing stocker cattle is 0.5% BW daily.

K-STATE Research and Extension

- Supplementation of grazing stocker cattle with DDG may reduce gain and efficiency of feed conversion during the finishing phase.
- Supplement conversion, supplement cost, and cattle market will determine the optimum level of supplementation.

K-STATE Research and Extension


QUESTIONS?
K-STATE Research and Extension

Notes – Notes -- Notes

Be sure to visit the BeefStockerUSA website at:

www.beefstockerusa.org

An information site for stocker producers presented by Kansas State University Research and Extension:

Department of Animal Sciences & Industry

Food Animal Health and Management Center
College of Veterinary Medicine

"Knowledge for Life"