KANSAS LIVESTOCK ASSOCIATION

K-STATE Research and Extension

Ranch Management Field Day

W & S Ranch Inc.

Thursday, August 13, 2020 | 3:00 pm

Smith Center, Kansas

WS

Sponsored by:

FARM CREDIT ASSOCIATIONS OF KANSAS

BAYER

W & S Ranch, Inc.

A few years after Richard Weltmer returned home from serving in the Korean War, he and his wife, Avis (Sprague), put down roots southeast of Smith Center and founded Richard Weltmer Farms. They registered the W over S brand to represent Weltmer and Sprague, then, in later years, Weltmer & Sons. At its founding in 1955, the ranch consisted of a commercial cowherd, stockers, feedyard, farrow-to-finish hog operation and a farming business. Richard also ran Weltmer Livestock Auction for 36 years, with the last sale being held in March 2005.

By 1977, both of Richard and Avis' sons, Kenton and Mike, had returned to the ranch full time. Richard graduated from Kansas State University and Mike from Beloit Vo-Tech. In 1978, the name of the operation transitioned to W & S Ranch, Inc.

Although the family operation has evolved over the years, much has remained the same. W & S Ranch still has a cow-calf operation, although today it consists of both a registered Angus and commercial cowherd. The Angus bulls produced are used on the family's own cowherd and about 30 replacement heifers are retained each year. All the females are artificially inseminated and calve between January 20 and March 1. Those that do not calve within this 45-day period are culled.

The cattle are rotationally grazed on native and summer grasses from April 15 to October 1. They graze on corn stalks from October to April. The cows have access to native grass during calving season and are provided supplemental feed from mid-January until breeding season.

All the steers, along with the heifers not retained or sold as first-calf heifers, are finished in the family's feedyard, which has been expanded over time. The feed ration is a rolled corn and silage mix, with dried distillers' grain used for protein.

Their farming business is focused mainly on soybeans and corn, with a few acres of wheat planted. The Weltmers also maintain a fully licensed feed mill.

Mike and his wife, Ladonna, have two sons, Philip and Steven. Philip returned to the ranch full time in 2003. His wife, Jessica, joined him in 2004. Steven and his wife, Vanessa, live in Smith Center. Kenton and his wife, Deb, have one son, Timothy. He and his wife, Dayna, also live in Smith Center.

HEALTH NOTICE: The Center for Disease Control (CDC) has declared COVID-19 a global pandemic. We encourage attendees to visit the CDC website (https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html) to review its guidance "How to Protect Yourself & Others" prior to attending the field day. At the field day, we ask that attendees follow the CDC guidelines that include:

- Wash your hands often.
- Avoid close contact.
    - *Put 6 feet of distance between yourself and people who don't live in your household.*
- Cover your mouth and nose with a mask when around others.
    - *Everyone should wear a mask in public settings, especially when other social distancing measures are difficult to maintain.*
- Cover coughs and sneezes.
- Clean and disinfect.
- Monitor your health daily.

***Smith County has opted out of Governor Laura Kelly's facemask mandate, and as a result, KLA will not require facemasks to attend this field day, but KLA highly encourages attendees to wear a mask according to the CDC guidelines above. Masks will be available.**
***Hand sanitizer will be provided to each attendee.**
***The event will be set up to ensure proper spacing to accommodate social distancing protocol.**

LIABILITY NOTICE*: Participants agree and understand that by participating in the Kansas Livestock Association (KLA) field days, each participant is fully and personally responsible for their own health, safety, and actions during the event, and that each participant may be at risk of exposure to COVID-19. With full knowledge of the risks involved, by attending the KLA field days, participant hereby releases; waives and discharges; and agrees to indemnify, defend, and hold harmless the Kansas Livestock Association and its board of directors, officers, independent contractors, affiliates, and employees; Kansas State University; Farm Credit Associations of Kansas; Bayer Animal Health, LLC; Philip and Jessica Weltmer; and any other field day cooperator from any and all liabilities, claims, demands, and causes of action, whatsoever, either directly or indirectly, arising out of or related to any loss, damage, injury, or death that may be sustained by participant related to COVID-19 while participating in any activity while in, on, or around the premises related to the KLA field days.*

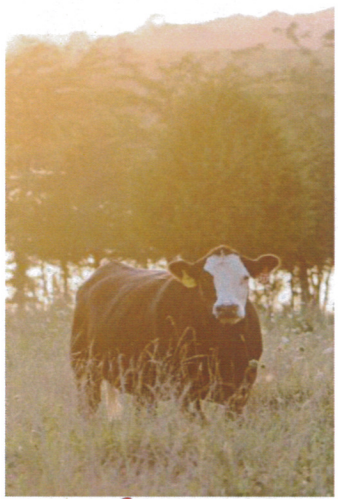
Matching Sires to Your Operation

Jon Herrick
Beef Sire Analyst

1

CATTLEMEN DEMAND...

- *Calving Ease*
- *Docility*
- *Pounds*
- *Quality*
- *Outcross*
- *Functional Traits (Structure, Feet, Udder, etc.)*
- *Phenotypic Marketability*
- *Marketing Flexibility (feeders, stockers, fat cattle)*



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HOW DO YOU MAKE GENETIC CHANGE IN YOUR HERD?

3

What should we consider in Sire Selection?

4

The Evolution of Livestock Measurement

WEANING AND YEARLING WEIGHTS

↓

WITHIN HERD RATIOS

↓

EXPECTED PROGENY DIFFERENCES

↓

$ VALUES: BIO-ECONOMIC INDEXES

↓

GENOMICALLY ENHANCED EPDs

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National Champion Angus Bull 1950s

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National Western Angus Bull 1980

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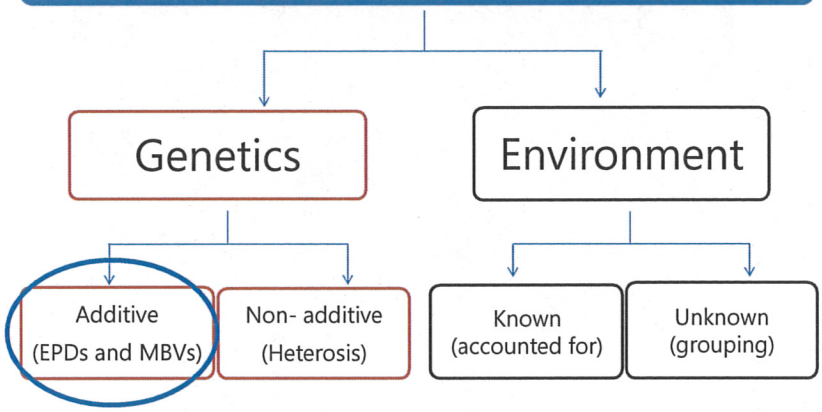
Performance



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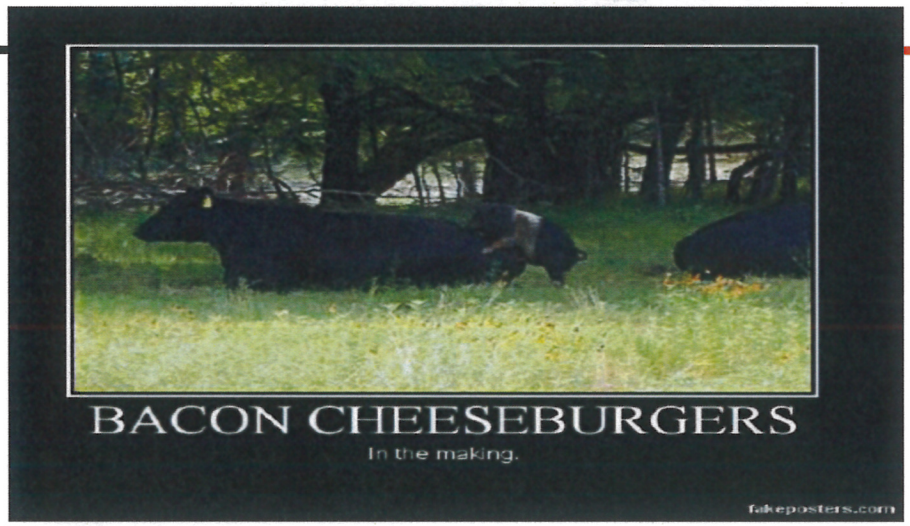
Crossbreeding



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EPD – EXPECTED PROGENY DIFFERENCE

- *Used to compare the genetic merit of animals for a variety of traits*
- *Expressed as the <u>difference</u> in performance of future offspring of a parent, compared to progeny of other parents, when each are bred to mates of equal value*
- *Units are industry standard for each trait*
  - *Pounds, inches, percent, etc.*

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Expected Progeny Difference

The first EPDs published by the American Angus Association were growth trait EPDs predicted with data collected through the structure sire evaluation and reported in the "Group 1 Report" in 1972

- Expected difference in future progeny performance of one individual compared to another.
- Used to compare cattle within a breed.
- EPD ≠ actual performance

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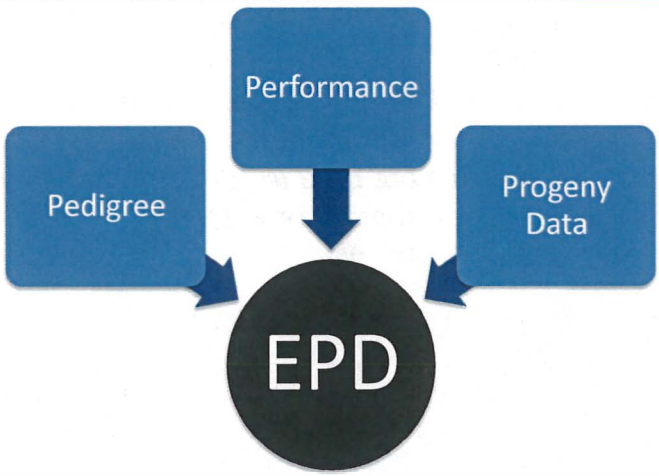

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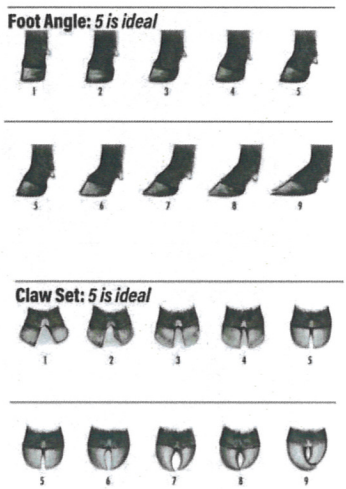
Foot Scoring Guidelines

- Angle
  - Score of 1 through 4 depicts straighter set through toes and front end
  - Score of 9 is extremely weak pastern set
  - 5 is ideal at 45 degree angle
- Claw
  - 5 is ideal, straight and symmetrical
  - Widely open, di vagrant toes would be 1
  - 7 or 8 are toes curling inward, with 9 being toes crossing over



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Foot EPD's Guidelines for Selection

- Percentile rank and accuracy important considerations at this stage
- Compare two bulls:

	Trait	EPD	Acc.	%
Bull A	Claw	0.45	0.53	25%
Bull A	Angle	0.45	0.54	25%

	Trait	EPD	Acc.	%
Bull B	Claw	0.59	0.36	90%
Bull B	Angle	0.55	0.36	75%

Trait	Difference
Claw	0.14
Angle	0.10

  - On average – progeny from Bull A will score 0.14 better for Claw set
  - On average – progeny from Bull A will score 0.10 better for Angle

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Financial Challenges in Agriculture

August 13, 2020

Ranch Management Field Day

W&S Ranch Inc.

Smith Center, KS

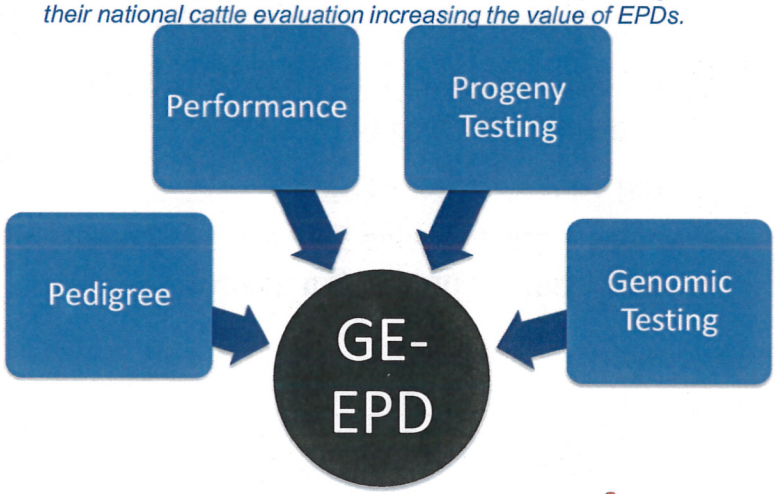
Mark A Wood

Agriculture Economist

Kansas Farm Management Association, NW

EPDs With Inclusion of Genomics

In 2010, the American Angus Association was the first to incorporate genomics into their national cattle evaluation increasing the value of EPDs.



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Genomics is a Transformative Technology in Beef Cattle Breeding

- Greatly accelerates the rate of genetic change
  - Evaluate more animals
  - For more traits
  - At earlier ages

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Bottom Line: Genomics is a risk reduction Tool

- Genomic-tested animals have similar accuracies to older animals with 7 to 24 progeny born and measured, depending on the trait
  - Young bulls = higher accuracy
  - Females = greater gains EPD accuracy than with a whole lifetime of production records

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SIRE SUMMARY TRAITS

Calving Ease
Birth Weight
Weaning Weight
Yearling Weight
Milk
Maternal Weaning Weight
Daughters Calving Ease
Yearling Hip Height
Mature Size
Mature Weight
Scrotal Size
Claw/Angle
Carcass Weight
Marbling / IMF
Ribeye Area
Fat Thickness
Cow Efficiency
Stayability
Docility
Gestation Length
Heifer Pregnancy
$ Value Indexes
$ Maternal
$ Combined

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ACC. - ACCURACY

- *A measure of reliability regarding the genetic merit of an animal*
- *Higher accuracy values increase reliability because more records have been incorporated*
- *Range from 0 to 1.0*

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EPD Details

Search Again | Home | Breed Association Codes | Genetic Condition Codes

G A R Home Town **Reg: AAA *19266718** **Bull**
[AMF-CAF-DZF-DDF-MYF-RNF-GNF-DSF-HDF] Click here for info
Birth Date: 09/06/2016 **Tattoo:** 7498
Parentage: SNP **Genomic:** HD50K
Parents Qualified
Breeder: 192604 - Gardiner Angus Ranch Inc, Ashland KS
Owner(s): 192604 - Gardiner Angus Ranch Inc, Ashland KS

		G A R Daylight	AAA+*16933585
	G A R Early Bird	AAA*17354178	
		G A R Progress 830	AAA+*16734713
G A R Ashland	AAA+*18217198 (HDF)		
		B/R Ambush 28	AAA+*14188956
	Chair Rock Ambush 1018	AAA+*16934264	
		G A R Yield Grade N366	AAA+*15614371
		Connealy In Sure 8524	AAA#*16205036
	G A R Sure Fire	AAA+*17328461 (DDF)	
		Chair Rock 5050 G A R 8086	AAA+16431932
Chair Rock Sure Fire 6095	AAA+*18644754		
		G A R Progress	AAA#+*16290873
	Chair Rock Progress 3005	AAA+*17589100	
		Chair Rock 5050 G A R 9057	AAA+16634968

*# Pathfinder + Embryo Transplant * Parents Qualified*

EPD Percentiles — As of 08/04/2020

Production									Maternal						
CED Acc % Prog	EPD Acc % Prog	WW Acc % Prog	YW Acc % Prog	RADG Acc % Prog	DMI Acc % Prog	YH Acc % Prog	SC Acc % Prog		MP Acc % Prog	CEM Acc % Prog	Milk Acc %	M&H M&D	Mat Acc % Prog	MH Acc % Prog	SEN %
+16	-.5	+48	+129	+.31	+1.39	+.4	+1.81		+13.4	+12	+20		+71	+.3	-28
.35	.50	.43	.46	.31	.31	.45	.46		.20	.24	.21		.33	.26	
1%	15%	15%	10%	4%	80%	65%	35%		25%	1%	20%		30%	50%	50%

Click here to show/hide Management EPD Section

Management			
Doc Acc % Prog	Claw Acc % Prog	Angle Acc % Prog	FAP Acc % Prog
+25	+.49	+.45	+.34
.35	.23	.23	.19
15%	45%	25%	30%

Carcass						SValues					
CW Acc %	Marb Acc %	RE Acc %	Fat Acc %	Carc Grp Prog	Lbnd Grp Prog	$M %	$FY %	$F %	$G %	$B %	$C %
+60	+1.81	+1.10	-.032			+72	+77	+114	+116	+229	+369
.40	.36	.37	.34								
10%	1%	2%	10%			20%	10%	2%	1%	1%	1%

192604 DD 11152018

EPD & $Value Definitions

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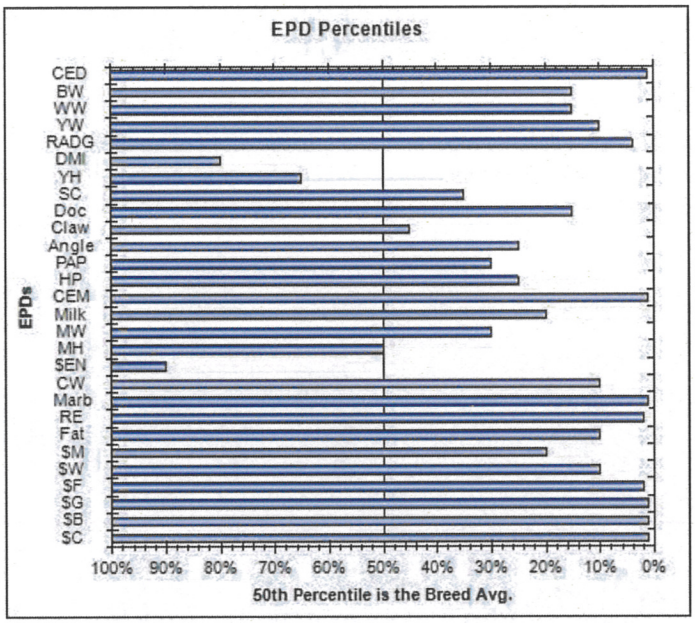

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$ Values are powerful selection tools

Multiple traits and their economic impact combined in one index value

EPDs *for* PROFIT

- Challenging to develop
  - Economic assumptions based on 3 year rolling averages
  - Updated yearly
- Simplistic to use: Create directional change in multiple traits
- Two categories:
  - Maternal & Terminal

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Selection Indexes Generally Fall Into Two Categories

- **Terminal Indexes**
  - Predict profit when all progeny are fed and sold
- **Maternal Indexes**
  - Predict profit when replacement females are retained, and steers and cull heifers are sold

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New Maternal Weaned Calf Value ($M)

- Weaned Calf Value ($W)
  - BW, WW, Milk, Cow Size
  - Highly favored growth traits and milk
  - No pressure on new maternal EPD's
    - Fertility
    - Docility
    - Calving Ease Maternal

- Maternal Calf Value ($M)
  - Preweaning profitability
  - Conception to weaning
- Includes:
  - CED, WW, CEM, MILK, MW, DOC, HP, Foot Score

CED and MILK are non-linear in the model.
Less influence on growth.
Downward pressure on mature weight & frame.

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Updates to Beef Value ($Beef)

- Terminal index for identifying value differences from weaning to harvest
- Profit differences due to:
  - Postweaning Performance
  - Feed Efficiency
  - Carcass Value
- Updates due to changes in carcass values and end-point marketing of finished cattle today
  - *Reward more carcass weight at a given live weight*
  - *Increased Qlty and YG premiums in grid pricing*

$Beef Traits
YW
DMI
CWT
REA
MARB
BF

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New Combined Value Index ($C)

- Combination of New $Maternal and New $Beef
  - Assumes 20% replacement rate and remaining progeny being fed out and marketed on a gird

CED	WW	CEM	MILK	MW	DOC	HP	Foot Score

YW	DMI	CWT	REA	MARB	FAT

- Favors $Beef as more resulting progeny enter into feeding segment than remain on the ranch

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New Combined Value Index ($C)

- Combination of New $Maternal and New $Beef
  - Assumes 20% replacement rate and remaining progeny being fed out and marketed on a gird

CED	WW	CEM	MILK	MW	DOC	HP	Foot Score

YW	DMI	CWT	REA	MARB	FAT

- Favors $Beef as more resulting progeny enter into feeding segment than remain on the ranch
- Angus will release $C in June 2020. Not currently on Angus website
- Formula for $C = ($B x 1.297) + $M

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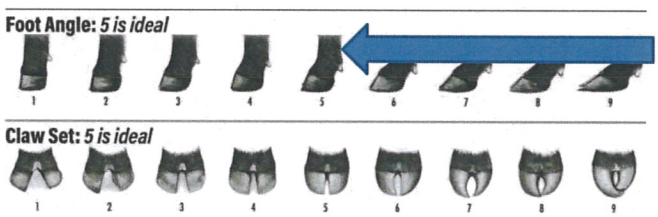
New Foot EPD's – Claw and Angle

- **Angle EPD – expressed in units of foot-angle score, *lower* EPD being more favorable.**
- **Claw EPD – expressed in units of claw-set score, *lower* EPD being more favorable.**
- **Use EPD's 0.50 and lower to make improvement in foot quality**
- **Foot EPD's are included in $Maternal Index**



Lower EPD's move the trait closer to the ideal score.

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New Foot EPD's – Claw and Angle

- Based off of foot scores collected for claw set and foot angle
  - Scale of 1 to 9 with 5 being the ideal score, lowest scoring foot is recorded
- Lower EPD is better for both characteristics
- Heritability estimate is 0.25 (similar to weaning)
  - Will respond to selection pressure!
- Approximately 20,000 scores currently at AAA
  - Spread and accuracy in EPD will go up as more phenotypes are added
  - Many sires have low amounts of data reported

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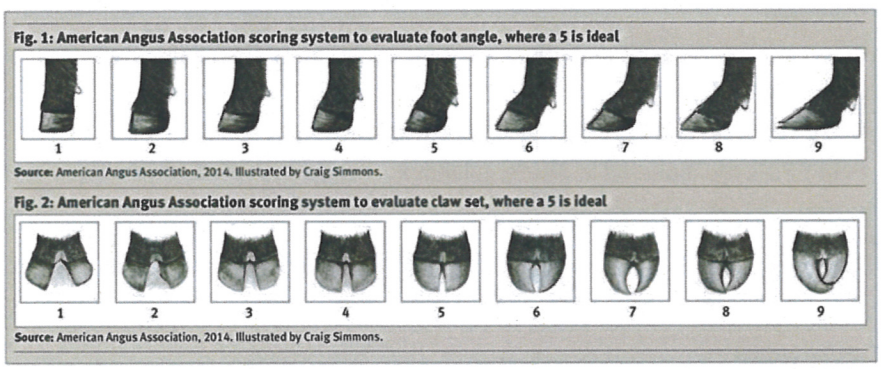
Foot Structure Diagram



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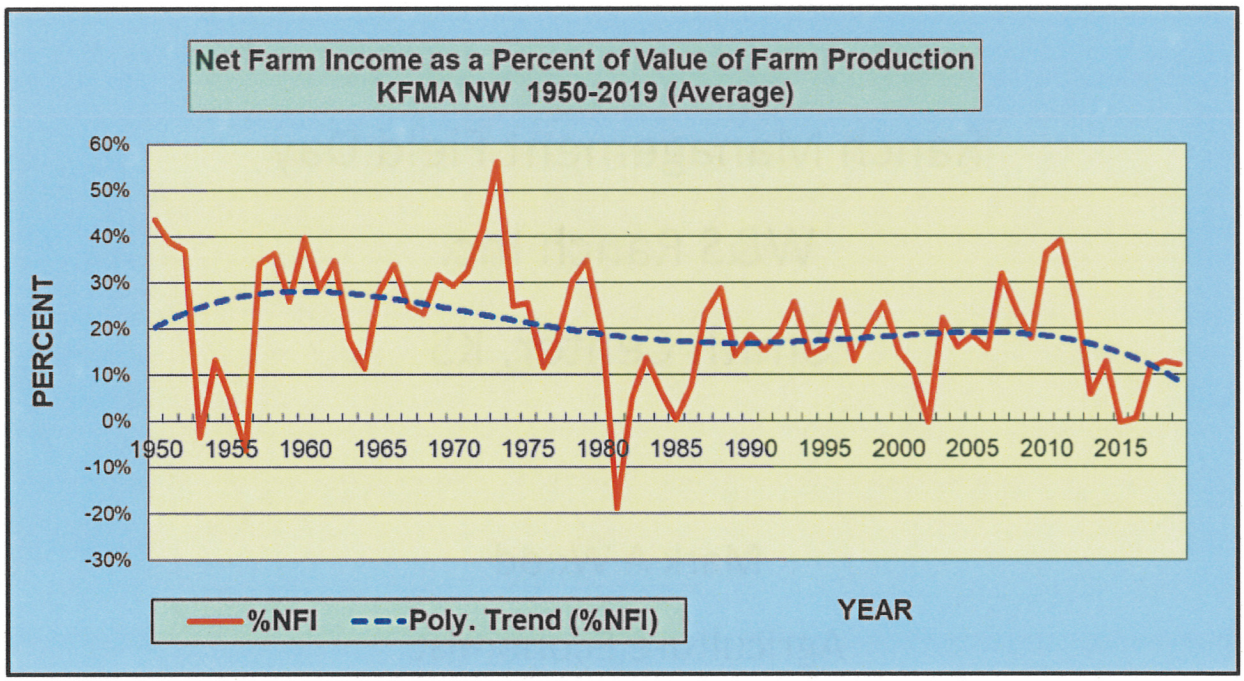
American Ag Finance History

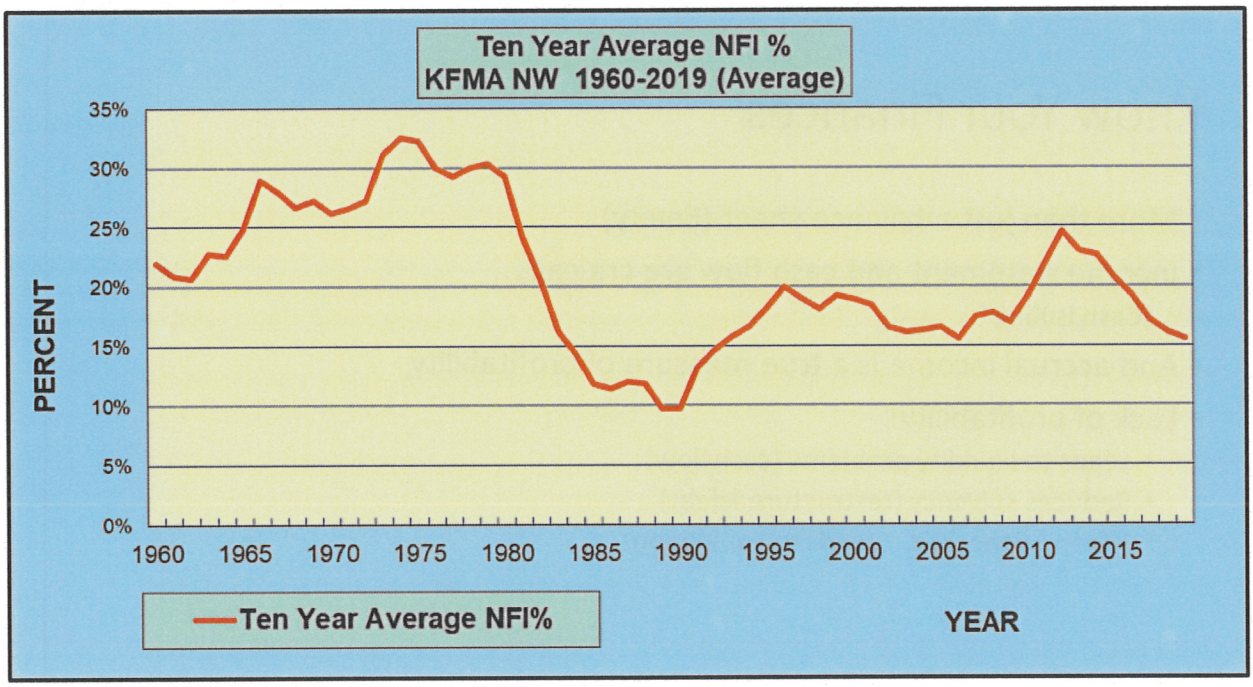
Time Frame

- 1914-1918
- 1945-1948
- 1973-1976
- 2007-2012

Reasons?

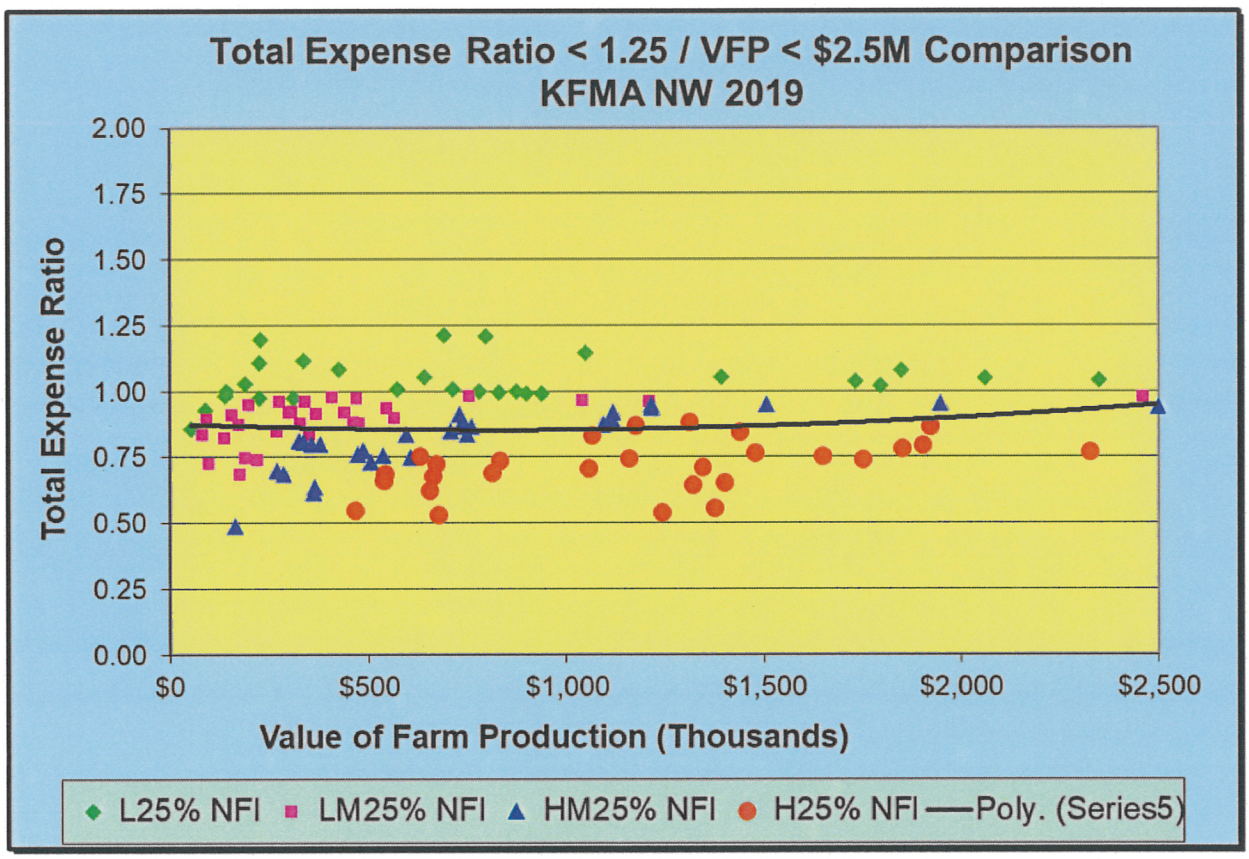
- World War I (France)
- World War II
- Exchange Rates (Russian Wheat "deal"), 1st Oil Crisis
- Booming world economy, commodity demand (Oil, Natural Resources, grain) exchange rates, + Ethanol, US drought 2012




Ten Year Average NFI %
KFMA NW 1960-2019 (Average)
35%
30%
25%
20%
15%
10%
5%
0%
PERCENT
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Ten Year Average NFI%
YEAR

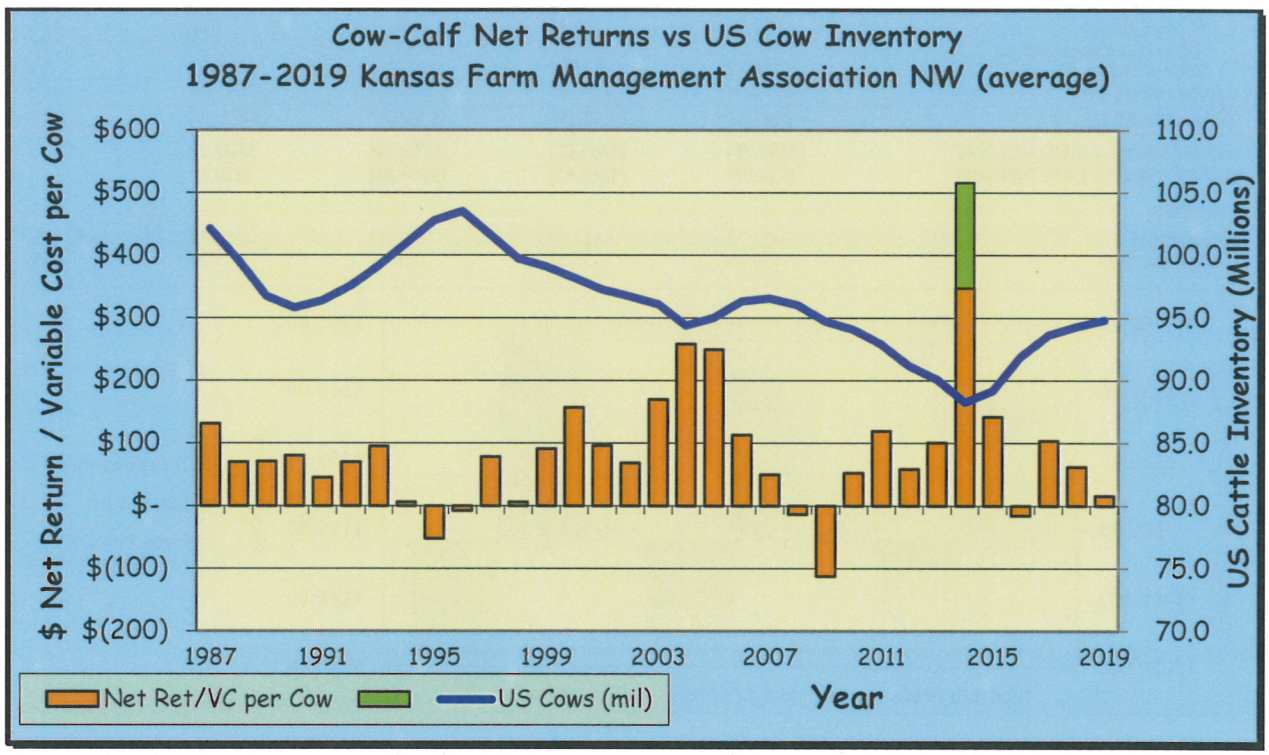
Know Your Finances

- More than just a balance sheet (Equity)
- Income statement and cash flow are critical.....
  "Cash is King"
- And accrual income is a true measure of profitability
- Lack of profitability:
  - Leads to liquidity problems (cash flow)
  - Reduces solvency (restructured debt)
  - When unchecked.....leads to liquidation



Profitability AND Cash Flow

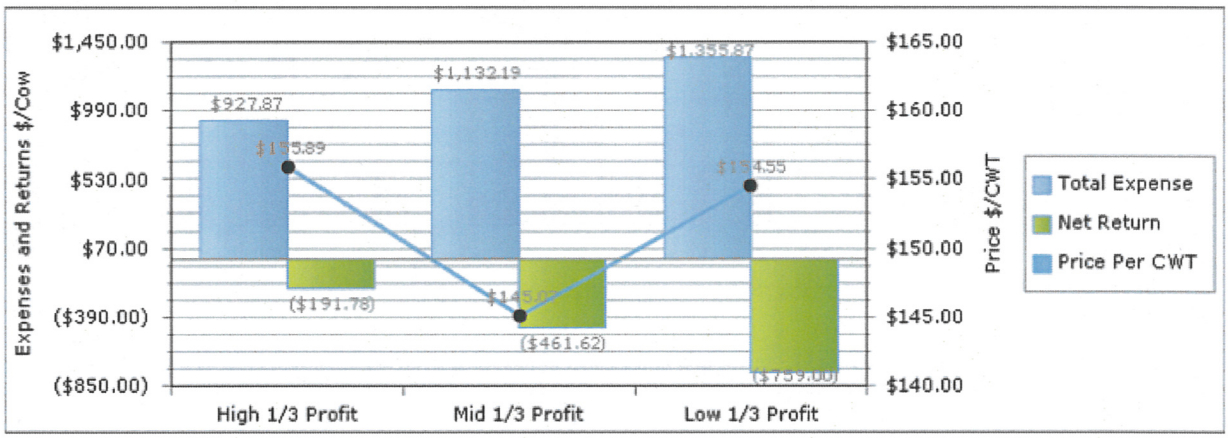
- Know your costs by unit of production: acre/head
- Determine if you need extraordinary yields or extremely high prices to make it work?
- Are crop & livestock enterprises covering variable cost?
- Then move to overheads, loan payments, family living.....How much do you think this really is?
- Paying Income taxes can be a love-hate relationship
- You will make a decision:
  - to change your operation while you still have time....Or.....
  - No decision is still a decision



2019 Data - Kansas
Enterprise Summary

Kansas Farm Management Association
Annual ProfitLink Summary
BEEF COWS - CALVES

	PROFIT CATEGORY (per Cow)			Difference between High and Low	
	High 1/3	Mid 1/3	Low 1/3	$	%
Number of Farms	25	25	26		
Number of Cows in Herd	187	103	92	95	104%
Number of Calves Sold	135	92	70	65	94%
Avg Weight of Calves Sold	572	593	567	6	1%
Calves Sales Price / CWT	155.89	145.07	154.55	1.34	1%
GROSS INCOME	**$736.10**	**$670.56**	**$596.87**	**$139.23**	**23%**
EXPENSE					
Labor Hired	37.60	27.49	30.04	7.56	25%
General Machinery Repairs	40.86	67.91	74.46	-33.60	-45%
Interest Paid	20.20	18.83	46.73	-26.53	-57%
Gas, Fuel, Oil	19.66	27.27	30.02	-10.36	-35%
Auto Expense	0.93	1.64	0.72	0.21	29%
Fees, Publications, Travel	4.54	6.60	7.47	-2.93	-39%
Personal Property Tax	3.67	3.05	3.85	-0.18	-5%
General Farm Insurance	9.12	14.60	20.94	-11.82	-56%
Utilities	10.27	18.82	17.94	-7.67	-43%
Indirect Expenses	*$146.85*	*$186.21*	*$232.17*	*($85.32)*	*-37%*
Feed	245.17	330.17	489.31	-244.14	-50%
Pasture	176.05	164.70	188.62	-12.57	-7%
Machine Hire - Lease	4.89	1.85	1.65	3.24	196%
Vet Medicine/Drugs	37.61	36.16	47.35	-9.74	-21%
Misc Livestock Expense	17.96	26.06	26.88	-8.92	-33%
Cash Building Rent	0.00	0.00	0.06	-0.06	-100%
Direct Expenses	*$481.68*	*$558.94*	*$753.87*	*($272.19)*	*-36%*
Total Variable Costs	***$628.53***	***$745.16***	***$986.04***	***($357.50)***	***-36%***
Return Above Variable Costs	*$107.56*	*($74.59)*	*($389.17)*	*$496.73*	*-128%*
Depreciation	33.73	50.95	61.59	-27.86	-45%
Real Estate Tax	12.74	16.46	11.35	1.39	12%
Unpaid Operator Labor	118.64	174.50	164.52	-45.87	-28%
Interest Charge	134.22	145.12	132.38	1.85	1%
Total Fixed Costs	***$299.34***	***$387.03***	***$369.83***	***($70.49)***	***-19%***
TOTAL EXPENSE	**$927.87**	**$1,132.19**	**$1,355.87**	**($428.00)**	**-32%**
NET RETURN TO MANAGEMENT	**($191.78)**	**($461.62)**	**($759.00)**	**$567.22**	
NET RETURN TO LABOR-MGMT	**($35.53)**	**($259.63)**	**($564.44)**	**$528.91**	
FACTORS					
Feed Cost	421.22	494.87	677.93	-256.71	-38%
Non-Feed Cost	506.65	637.32	677.94	-171.29	-25%



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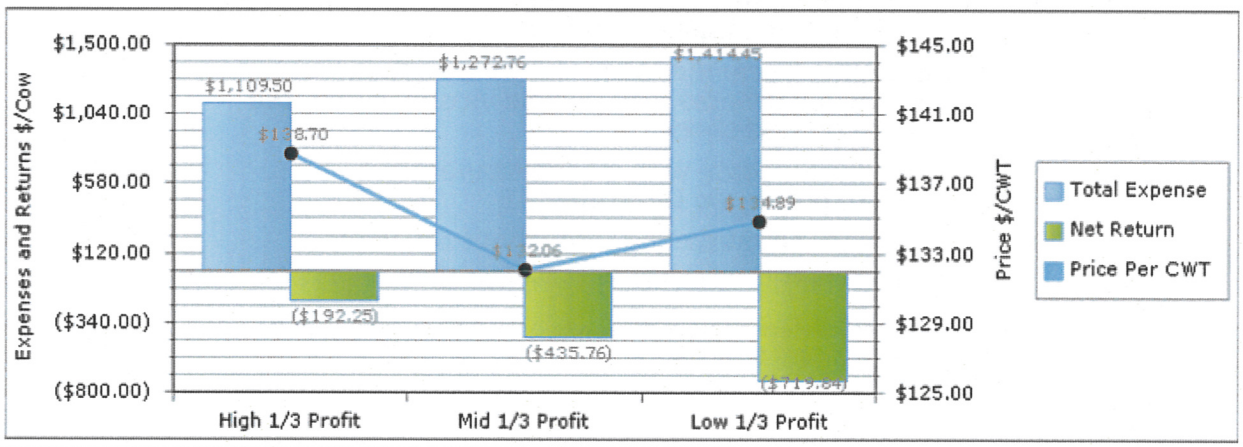
Number of Cows in Herd	169	166	102	66	65%
Number of Calves Sold	134	117	83	51	61%
Avg Weight of Calves Sold	760	774	767	-7	-1%
Calves Sales Price / CWT	138.70	132.06	134.89	3.81	3%
GROSS INCOME	**$917.25**	**$837.01**	**$694.61**	**$222.64**	**32%**
EXPENSE					
Labor Hired	22.45	25.87	19.79	2.66	13%
General Machinery Repairs	61.41	69.40	68.75	-7.34	-11%
Interest Paid	49.51	32.49	43.46	6.06	14%
Gas, Fuel, Oil	25.79	29.20	28.98	-3.19	-11%
Auto Expense	0.78	0.41	2.58	-1.80	-70%
Fees, Publications, Travel	6.07	6.13	7.49	-1.42	-19%
Personal Property Tax	2.70	2.70	3.40	-0.70	-21%
General Farm Insurance	9.86	14.10	15.96	-6.10	-38%
Utilities	9.90	12.92	20.57	-10.66	-52%
Indirect Expenses	*$188.49*	*$193.23*	*$210.98*	*($22.49)*	*-11%*
Feed	361.34	468.49	501.33	-139.98	-28%
Pasture	168.92	191.79	183.35	-14.42	-8%
Machine Hire - Lease	0.12	0.38	8.66	-8.53	-99%
Vet Medicine/Drugs	45.91	38.60	60.20	-14.29	-24%
Misc Livestock Expense	22.07	25.96	34.52	-12.45	-36%
Cash Building Rent	0.00	0.27	1.88	-1.88	-100%
Direct Expenses	*$598.37*	*$725.49*	*$789.93*	*($191.56)*	*-24%*
Total Variable Costs	***$786.86***	***$918.72***	***$1,000.91***	***($214.05)***	***-21%***
Return Above Variable Costs	*$130.40*	*($81.71)*	*($306.30)*	*$436.70*	*-143%*
Depreciation	46.45	52.45	68.99	-22.53	-33%
Real Estate Tax	5.02	11.12	9.89	-4.87	-49%
Unpaid Operator Labor	138.82	136.00	159.24	-20.43	-13%
Interest Charge	132.36	154.47	175.42	-43.06	-25%
Total Fixed Costs	***$322.64***	***$354.04***	***$413.54***	***($90.89)***	***-22%***
TOTAL EXPENSE	**$1,109.50**	**$1,272.76**	**$1,414.45**	**($304.95)**	**-22%**
NET RETURN TO MANAGEMENT	**($192.25)**	**($435.76)**	**($719.84)**	**$527.59**	
NET RETURN TO LABOR-MGMT	**($30.98)**	**($273.89)**	**($540.80)**	**$509.82**	
FACTORS					
Feed Cost	530.27	660.27	684.67	-154.41	-23%
Non-Feed Cost	579.23	612.49	729.77	-150.54	-21%



Tell-tale signs of Financial Stress

- If crops and cattle are covering operating expenses but LOC is increasing: why?
  - Term payments stacking up on LOC?
  - Family Living expenses adding to LOC?
- Did you actually make the payment or rob Peter to pay Paul?
  - Refinance loans how many times?
- Don't forget how many lenders do you have? Bank, JDF, CFA, credit cards…hidden LOC, does you primary banker know?
  - Who has security on what?
- "I don't understand, my banker won't renew for 2020, I made all my payments!"

Cash Flow Income Timing Issues:

- Too much reliance on LOC
  - Causes lazy marketing habits…perpetual holding for higher prices…..home run marketing
- Machinery payments after harvest or one year from purchase (which is usually before harvest…)
- Land payments December 31 for interest deduction, bookkeeping nightmares, and taxable income generated to cover the floated check
- Easier to adjust income with income rather than borrowing to prepay on December 31
- Pull the trigger on marketing throughout the year:
  - Defer grain sales (market and defer, different than refusing to sell)
  - We can pull deferred grain contracts back into current year if necessary for tax planning

Manage (not minimize) Taxes

- Wanting higher price and tax avoidance
  - Wheat, corn, and calves can all be marketed the year after expenses are paid
- Agriculture is set up for deferred tax nightmares
  - Know your deferred tax liability
  - Compare to debt and if you want it paid off when you retire
- Fill up the 12% bracket and pay along the way
- Successful operations will have tax liabilities…
- Successful managers will pay them accordingly

Conclusion

- Know your finances, (and be HONEST) verify prior cash flow and projections
- Project the future by knowing the past
- There is money to be made
- You will get what you look for, positive attitudes and preparation create opportunity
- Questions/Comments/Contact:
  - Kansas Farm Management Association NW
  - 1975 W 4th St. Colby, KS 67701
  - 785-462-6664

Weaning, Preparing for Success

Justin W. Waggoner, K-State Beef Systems Specialist, Garden City KS

As summer begins to fade, the grass begins to cure, and the grazing season draws to a close, our thoughts begin to shift towards the fall. Weaning spring-born calves is likely one of the most significant events on the Fall calendar of most cattle operations. Weaning, without doubt, is one of the most stressful events in the life of a calf. It's generally accepted that we can't completely remove the stress associated with event, so it is often approached with a "let's get it over with" attitude and weaning typically goes well (or at least we hope it does).

However, we often overlook that weaning is also our opportunity as cattle producers to prepare calves for the next phase of the beef production cycle. Weaning represents a transition and how well we prepare calves for the transition is essential to the outcome. The goal of weaning is to produce a healthy calf that is comfortable without its dam, readily consumes feed and has successfully acclimated to new environment. The primary barriers to this goal are the stressors experienced by calves during weaning which are: 1) maternal separation 2) moving to a new environment 3) becoming accustomed to unfamiliar feedstuffs and 4) reduced immune function resulting from the aforementioned stressors. There are a number of different management practices that may be implemented on an operation, depending on the resources available to more effectively prepare calves for weaning. A few of these practices are listed below.

Establish a herd health program. Producers should consult their veterinarian and develop a herd health program that includes a vaccination program and a treatment plan for calves that become sick. A sound vaccination program prepares calves for disease exposure. While a treatment plan allows producers to have the supplies and pharmaceuticals on hand to treat illness in newly-weaned calves immediately.

Don't add additional stressors. It is well established that stress significantly impacts cattle health and well-being, reduces animal performance and increases disease susceptibility.
Castration, dehorning, and branding are all stressors that can add to the stress of weaning. These tasks should be completed well in advanced of weaning (a minimum of 3 weeks is typically recommended).

Clean the pen. If calves are going to be weaned in a drylot, remove the previous year's manure and start with a clean pen. Simply put; dust equals increased respiratory pulls. Cleaning the pen prior to weaning minimizes dust and allows pens to drain better should conditions become wet.

Place feed bunks and water tanks along and perpendicular to fences. One of the typical behaviors associated with newly weaned calves is fence walking. Fence-walking can be made more productive by placing feed bunks or water tanks along the perimeter of the weaning area, allowing calves to come in contact with feedstuffs and water sources.

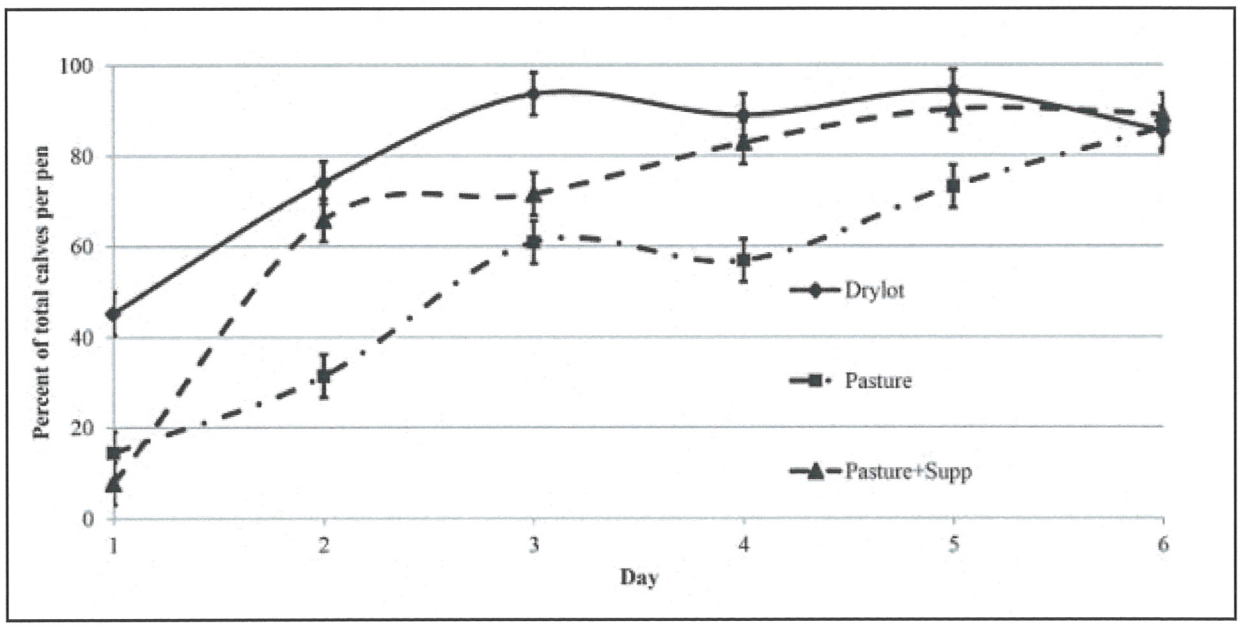
Provide access to the weaning pen or pasture. When possible, providing cows and calves access to the weaning area for a few days/weeks prior to weaning allows calves to become accustomed to the weaning area with the dam. This reduces the additional stress of an environment change on calves following weaning.

If possible, move the cows not the calves. Once both cows and calves have become accustomed to the weaning pen or pasture, remove the cows from the area, leaving the calves in an area they are familiar with.

Provide fenceline contact if practical. Research indicates that allowing fenceline contact between cows and calves for 7 days after separation reduces behavioral stress and minimizes post-weaning weight loss (Price et al., 2003; http://jas.fass.org/cgi/content/full/81/1/116). Fences should be sturdy and tight enough that calves cannot nurse. If fenceline contact is not practical, then cows should be moved to a location where they cannot hear calves.

Don't become a source of stress. Sorting cows and calves on weaning day can be difficult especially when facilities are limited or poorly designed. However, sorting cows and calves doesn't have to be difficult. Dr. Joe Stookey, University of Saskatchewan, has an excellent video that demonstrates how easy this process can be. The video may be viewed online at https://www.youtube.com/watch?v=P4FUE-OrXRw

Help calves adjust to new feedstuffs. One of the essential transitions a calf has to make during weaning is the transition from mother's milk and grazed forage to grazed forage and supplement, hay and supplement, or a ration containing novel feeds delivered in a bunk. The first step in managing feed intake of calves is simply getting them to the bunk. Feeding both cows and calves a small amount of the supplement or weaning ration prior to weaning, in the weaning pen or pasture can be used help acclimate calves to both the feeds and the environment. A recent K-State study (Bailey et al., 2016) evaluated the proportion of calves observed at feed bunks immediately after feed delivery for 6 days after arrival at the K-State Agriculture Research Center, feed lot in Hays, KS (illustrated below). The calves in this study had been: 1) weaned and preconditioned in a drylot for 28 d (**Drylot**), 2). Weaned and preconditioned on pasture for 28 d (**Pasture**) or 3). Weaned and precondition on pasture for 28 d with a supplement fed 3 times per week at a rate of 1% of calf bodyweight in portable bunks (**Pasture + Supp**).



The results of this study indicate that previous exposure to a feed bunk matters. The greatest number of calves reported at the bunk for the first 5 days following feedlot arrival was observed in calves that had been weaned and preconditioned in a drylot, followed by calves that were fed

supplement on pasture in portable feed bunks and was lowest among calves that had essentially no exposure to feed bunks. In addition, average daily gain for the first 30 days followed a similar pattern which indicates that previous exposure to a feed bunk may also impact calf performance during feedlot receiving.

The second step in managing feed intake of newly weaned calves is transitioning the calf from a diet of mother's milk and grazed forage to grazed forage and supplement, hay and supplement, or a ration containing novel feeds. Feed intake of weaned calves is often low (1.0 to 1.5 % of bodyweight, dry basis) immediately following weaning. Calves also have relatively high nutrient requirements. Thus, the weaning diet must be nutrient dense to meet the nutrient requirements of the calves at the expected intakes previously mentioned. Unfortunately, the dry feeds calves are often most familiar with (typically grass hays) are not necessarily nutrient dense. At the K-State Agriculture Research Center, Hays, KS a feeding management protocol for weaning calves has been developed that works well for transitioning weaned calves to a total mixed ration that targets at 2.2 lb/day gain at a dry matter intake of 2.0% of bodyweight, dry basis. The protocol is summarized in the table below. Essentially, high-quality grass hay and the weaning ration are offered each at 0.5% of the calves' current bodyweight, dry basis, on the day of weaning. The weaning ration is placed in the bottom of the bunk and the hay is placed on top. The amount the weaning ration is steadily increased, while the amount of hay offered remains constant. In addition, on day 4 the hay is placed on the bottom of the bunk. Over a period of 7-10 days the dry intake of the calves is steadily increased and should reach approximately 2.2-2.5% of the calves' bodyweight by 10-14 days following weaning.

Table 1. K-State ARC-Hays Weaning Feed Management Protocol*

Day	Weaning Diet	Hay	Feedstuff Order
1	**0.5% Bodyweight**	**0.5% Bodyweight**	**Diet bottom/hay on top**
2	**0.7% Bodyweight**	**0.5% Bodyweight**	**Diet bottom/hay on top**
3	**0.9% Bodyweight**	**0.5% Bodyweight**	**Diet bottom/hay on top**
4	**1.1% Bodyweight**	**0.5% Bodyweight**	**Hay bottom/diet on top**
5	**1.3% Bodyweight**	**0.5% Bodyweight**	**Hay bottom/diet on top**
6	**1.5%Bodyweight**	**0.5% Bodyweight**	**Hay bottom/diet on top**
7	**1.8% Bodyweight**		
8	**---Increase diet by 0.25 to 0.50 lb per calf/day---**		

Weaning calves is a necessary component of the beef production cycle and although it has its challenges, it is our opportunity as cattle producers to prepare calves for the next phase of the beef production cycle. Effectively preparing calves to consume novel feedstuffs from a bunk is an essential part of the process and research indicates that a little preparation and planning can go a long way.

References

Price, E. O., J. E. Harris, R. E. Borgwardt, M. L. Sween, J. M. Connor. 2003. Fenceline contact of beef calves with their dams at weaning reduces the negative effects of separation on behavior and growth rate. J. Anim. Sci. 81:116-121.

Bailey, E. A., J. R. Jaeger, J. W. Waggoner, G. W. Preedy, L. A. Pacheco, and KC Olson. 2016. Effect of fence-line or drylot weaning on the health and performance of beef calves during weaning, receiving and finishing . Prof. Anim. Sci. 32:220-228.

Foot Structure - Front

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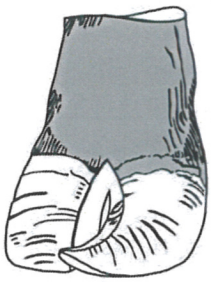
Foot Structure – Problems



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Foot Structure – Problems Rear

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The importance of Phenotypes will *NEVER* diminish

- **Weights, ultrasound scans, calving ease scores, scrotal measurements, etc. are more important than ever.**

Genomic technologies are only as strong as our database. It is important to feed this database in order to continue critiquing and improving these technologies.

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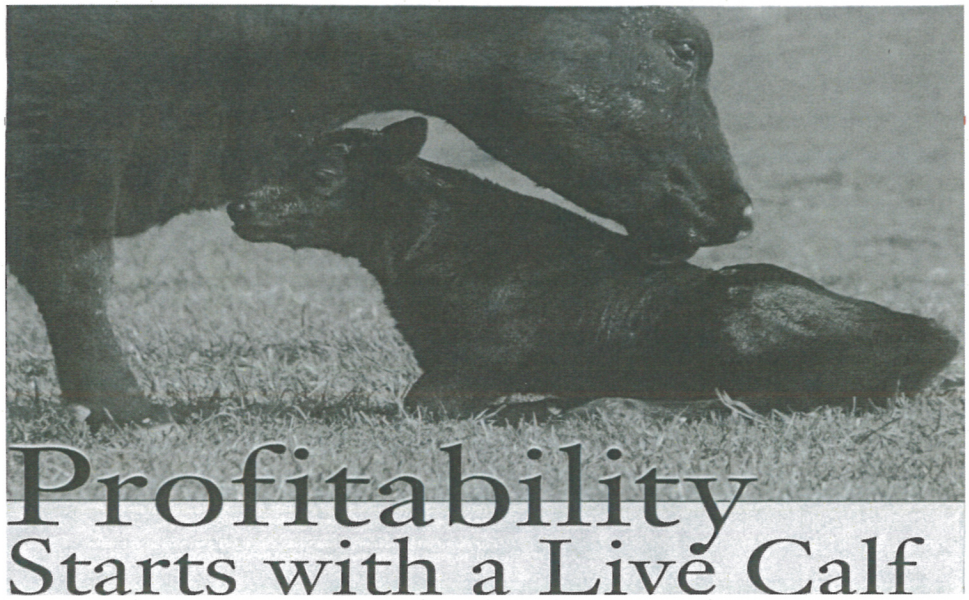

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Progeny Evaluation-Young Sires Program

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Carcass Traits

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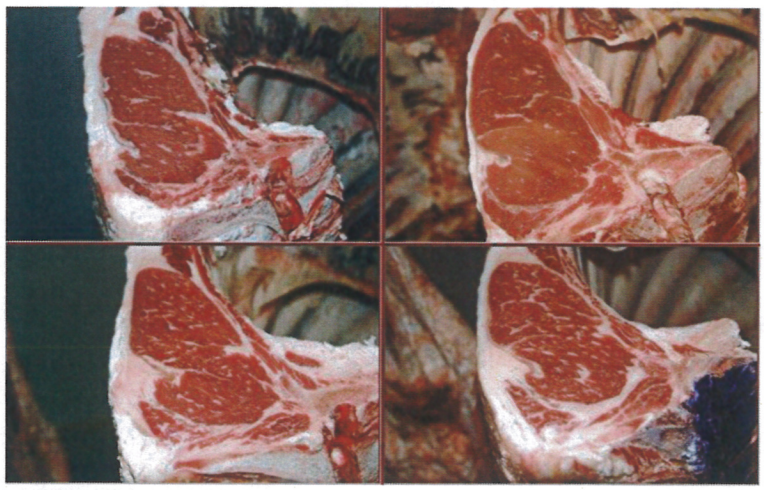
Marbling Score Differences



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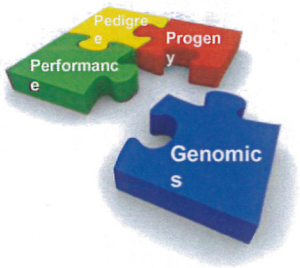
Make selection decision based on the most accurate information: GE-EPDs

- Just like traditional EPDs, but with more accuracy, less risk for young animals
- Focus on the GE-EPD, not the genomic information alone



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SELECTION FOCUS

- ***Balanced Performance with functional, problem-free cattle***
- ***Calving Ease (more heifers bred than cows)***
- ***Good Cows***
- ***Value of End-Product***
- ***Carcass Traits***
- ***Efficiency and Growth***

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Thank You Very Much
Go Cats

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