Troubleshooting Uncertain Times in the Beef Industry

Brought to you by:

K-State Beef Extension Team

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Troubleshooting Uncertain Times in the Beef Industry

- Market Outlook
  - Dr. Glynn Tonsor, Department of Agricultural Economics
- "No Distillers, Now What?"--Alternative Protein Options for Beef Producers
  - Dr. Jaymelynn Farney, Department of Animal Sciences & Industry, Southeast Research & Extension Center, Parsons, KS
  - Dr. Justin Waggoner, Department of Animal Sciences & Industry, Southwest Research & Extension Center, Garden City, KS
- Feeding Options for Growing Diets
  - Dr. Dale Blasi, Professor, Department of Animal Sciences and Industry

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TROUBLESHOOTING
UNCERTAIN TIMES IN THE
Beef Industry

K-STATE Research and Extension

MAY 14 | NOON CST

Market outlook

"No distillers? Now what?"

Feeding options for growing diets

REGISTER AT KSUBEEF.ORG

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DR. GLYNN T. TONSOR

EMAIL: GTONSOR@KSU.EDU

TWITTER: @TONSORGLYNN

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We live in interesting & complex times…

- Society is asking: *How can we have this?*

❑less meat for consumers at grocery stores &
❑restaurants with limited meat for menus

❑animals with no where to go &
❑calls for gov't to make euthanasia payments and set-aside programs,

❑increasing meat prices,
❑decreasing livestock prices, &
❑lower stock prices of processors

❑Reflects COVID19 impact on supply chain
❑Bottleneck in harvesting & processing +
❑perishability +
❑markets having time dimensionality = our current, dynamic situation

https://www.purdue.edu/newsroom/releases/2020/Q2/questions-and-answers-about-the-road-from-farm-to-table.html

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Example Resources List, Since March 17th

- Management and Nutritional Considerations for Growing Cattle Under COVID-19 Conditions https://www.agmanager.info/livestock-meat/production-economics/management-and-nutritional-considerations-growing-cattle-under
- K-State Feeder Cattle Risk Management Tool https://www.agmanager.info/k-state-feeder-cattle-risk-management-tool
- Meat Availability and Shortages Overview https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/trade-and-demand/meat-availability-and-shortages
- Fed Cattle Flows - Demonstrative Scenario Examples https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/marketing-strategies-and-livestock-pricing/fed-cattle
- Meat Demand Monitor - April 2020 https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-april-2020
- Recent Domestic Demand Indices https://www.agmanager.info/livestock-meat/meat-demand/monthly-domestic-meat-demand-indices-usdabls-data/recent-domestic-demand
- Recent Export Demand Indices https://www.agmanager.info/livestock-meat/meat-demand/monthly-export-beef-demand-indices-usdabls-data/recent-export-demand
- Cattle Feeding Returns-April 2020 https://www.agmanager.info/livestock-meat/cattle-finishing-historical-and-projected-returns/cattle-feeding-returns-april-2020
- Assessing Impact of Packing Plant Utilization on Livestock Prices https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/price-risk/assessing-impact-packing-plant-utilization
- Meat Demand Monitor - COVID19 Impact Special Report https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-covid19
- Cattle Industry's COVID19 Economic Damage Assessment https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/price-risk/cattle-industry%E2%80%99s-covid19-economic-damage

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Example Resources List, Since March 17th

- Economic Damages to the U.S. Beef Cattle Industry Due to COVID-19

https://extension.okstate.edu/fact-sheets/economic-damages-to-the-u-s-beef-cattle-industry-due-to-covid-19.html

- Webinars/Long Interviews:
  - 98.1 KMBZ – May 5th https://kmbz.radio.com/media/audio-channel/will-there-be-a-meat-shortage-and-what-does-that-mean-for-us
  - Brownfield: COVID-19 THE IMPACT ON AGRICULTURE https://brownfieldagnews.com/covid19/
  - Loos Tales – April 21st https://anchor.fm/trent-loos/episodes/Loos-Tales-for-April-21--2020-Dr-Glynn-Tonsor-on-whether-grocery-store-shelves-will-be-void-of-meat-soon--but-you-must-have-gas-to-get-there-ed22v1
  - Beef-Cattle Sector Thoughts - April 16th https://www.agmanager.info/news/recent-videos/beef-cattle-sector-thoughts-april-16-2020
  - US Farm Report – April 11th: https://www.agweb.com/usfr
  - Ongoing Effects on Livestock Markets from COVID-19 Pandemic https://www.agmanager.info/news/recent-videos/ongoing-effects-livestock-markets-covid-19-pandemic
  - Big Picture Look: Coronavirus Impact on Pork-Swine Industry https://www.agmanager.info/news/recent-videos/big-picture-look-coronavirus-impact-pork-swine-industry
  - Big Picture Look: Coronavirus Impact on Beef-Cattle Industry https://www.agmanager.info/news/recent-videos/big-picture-look-coronavirus-impact-beef-cattle-industry

- Other interviews, general media engagement, etc. cross-linked on AgM (https://www.agmanager.info/contributors/tonsor) and Twitter (@TonsorGlynn)

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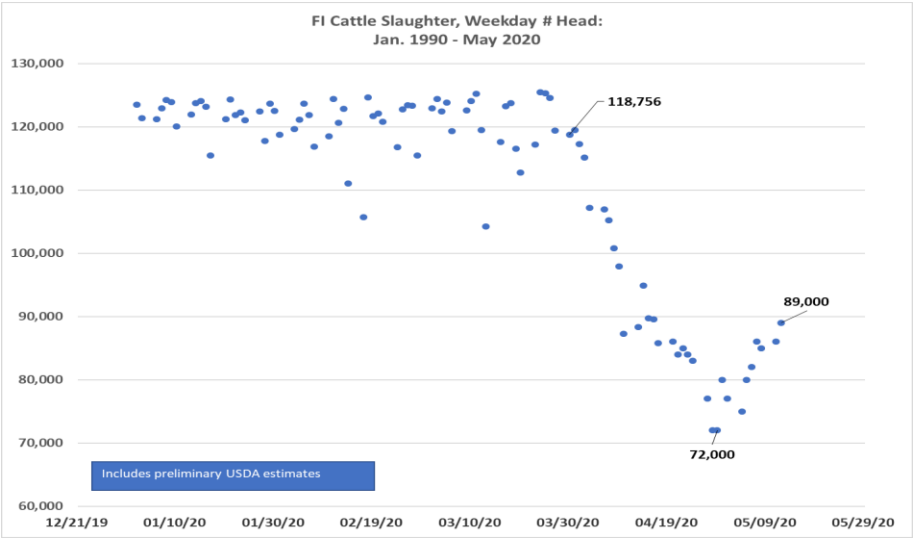
FI Cattle: Progress Being Made…



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Fed Cattle Flows: "Carryovers" Continue

Week ending May 2 = 425k FI

May 1st: 510k that "should" have been marketed in April?

Kansas State University Department Of Agricultural Economics Extension Publication **04/28/2020**

Fed Cattle Flows: Demonstrative Scenario Examples

Glynn Tonsor (gtonsor@ksu.edu) Kansas State University Department of Agricultural Economics
Lee Schulz (lschulz@iastate.edu) Iowa State University Department of Economics

May 22nd – USDA Cattle on Feed report

Demonstrative Possible June 1st, Fed Cattle Overflow Situations (1,000 hd)

	Scenario Description	*Overflow*
Scenario 1	450k constant week-ending 5/2 to 5/30	1,219
Scenario 2	425k constant week-ending 5/2 to 5/30	1,344
Scenario 3	450k constant week-ending 5/2 to week-ending 5/9 and then 500k to 5/30	1,069
Scenario 4	425k constant week-ending 5/2 to 5/9 and then 450k to 5/30	1,269

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https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/marketing-strategies-and-livestock-pricing/fed-cattle

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Quarterly Forecasts (LMIC: 5/8/20)

Year Quarter	Comm'l Slaughter	% Chg. from Year Ago	Average Dressed Weight	% Chg. from Year Ago	Comm'l Beef Production	% Chg. from Year Ago
2019						
I	7,934	0.7	808.4	-1.5	6,414	-0.8
II	8,573	1.7	794.8	-0.4	6,814	1.3
III	8,541	2.2	810.5	-0.6	6,923	1.5
IV	8,502	1.9	823.0	0.1	7,000	2.0
Year	33,550	1.7	809.0	-0.6	27,151	1.0
2020						
I	8,399	5.9	825.0	2.1	6,929	8.0
II	7,296	-14.9	810.0	1.9	5,910	-13.3
III	8,796	3.0	830.0	2.4	7,300	5.4
IV	8,460	-0.5	831.0	0.9	7,031	0.4
Year	32,952	-1.8	825.0	1.9	27,170	0.1
2021						
I	8,029	-4.4	818.0	-0.8	6,569	-5.2
II	8,130	11.4	809.0	-0.1	6,579	11.3
III	8,581	-2.4	825.0	-0.6	7,076	-3.1
IV	8,096	-4.3	827.0	-0.5	6,698	-4.8
Year	32,836	-0.4	820.0	-0.6	26,918	-0.9

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Quarterly Forecasts: Cattle (LMIC: 5/8/20)

Year Quarter	Live Sltr. Steer Price 5-Mkt Avg	% Chg. from Year Ago	Feeder Steer Price Southern Plains 7-800#	5-600#
2019				
I	125.27	-0.3	142.87	171.41
II	118.79	1.8	143.23	167.22
III	108	-2.4	144	157
IV	115	-0.4	148	158
Year	117	-0.3	145	163
2020				
I	118.27	-6.6	138.90	166.38
II	99-102	-15.4	120-123	150-153
III	103-108	-2.5	126-130	155-159
IV	117-122	4.0	135-140	160-165
Year	109-111	-5.8	131-134	157-161
2021				
I	120-125	3.6	142-148	168-174
II	121-127	23.4	145-152	170-177
III	114-121	11.4	151-160	167-175
IV	117-125	1.3	153-163	167-176
Year	119-122	9.5	150-154	169-173

USDA Reported, Week-ending May 10

KS Fed (Live Steers): $108
- {low of $99.04 last week of April)
- Low volumes reflecting FI #s

KS Feeders: "Uneven; up to $14 higher"
- 740 lbs @ $126
- 920 lbs @ $111

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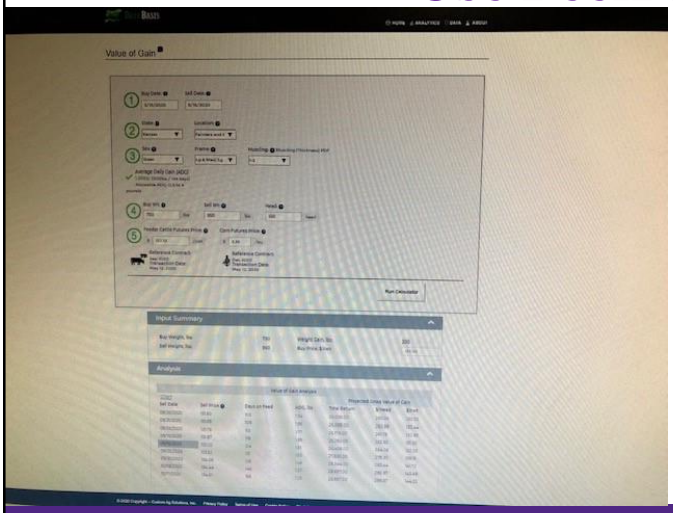
Feeder Cattle Price, Basis, & VOG
Use BeefBasis.com



Salina Market, as of May 13th

5/15 "Buy" 750 lbs Steer
9/16 Sell @ 950 lbs
=1.6 lbs ADG

- ***Buy Price: $132/cwt***
- ***Sell Price: $132/cwt***
- ***"Flat" price slide = Projected VOG of $132/cwt ($264/head)***

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https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/marketing-strategies-and-livestock-pricing/fed-cattle

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Additional questions:
Should I hold on to my feeder cattle or sell now?

Response

1. *Do you think the COVID impacts are "nearly complete?"*
2. *Are you comfortable with extended price risk exposure?*
3. *Use BeefBasis.com to project VOG & compare to your COG*
4. *Compare price risk management alternatives:*

https://www.agmanager.info/k-state-feeder-cattle-risk-management-tool

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Final Remarks

Meat Flow Altered – Actually Likely Up in 2020 (Use "shortage" carefully)

LMIC As of 3/31	2020	Commercial Beef Prod (mil lbs)	Per Capita Beef Cons. (lbs)	Carcass Wt (lbs)		Commercial Pork Prod (mil lbs)	Per Capita Pork Cons. (lbs)	Carcass Wt (lbs)
	Q1	6,842	14.5	822		7,386	13.4	215
	Q2	6,969	14.7	811		6,891	12.5	215
	Q3	6,937	14.3	824		6,939	12.7	210
	Q4	6,918	14.3	827		7,698	13.8	214
	Year	27,666	57.8	821		28,914	52.4	214
LMIC As of 4/28	2020	Commercial Beef Prod (mil lbs)	Per Capita Beef Cons. (lbs)	Carcass Wt (lbs)		Commercial Pork Prod (mil lbs)	Per Capita Pork Cons. (lbs)	Carcass Wt (lbs)
	Q1	6,929	14.7	825		7,426	13.3	215
	Q2	6,447	13.7	815		6,910	12.7	216
	Q3	7,319	14.6	832		6,981	12.8	211
	Q4	7,186	14.9	833		7,665	13.7	215
	Year	27,881	57.9	827		28,982	52.5	214
% Change vs Last Year:		0.78%	0.17%	0.73%		0.24%	0.19%	0.00%

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Final Remarks

- *Main economic impact to-date is on production sector*
- *Efforts to "solve the problem" must be approached with caution!*
  - *Delicate balance: peace-time system efficiency with crisis-time resiliency/survival*
  - *Keep comparative advantages in mind!*
    - *Global competitiveness at stake = long-term econ consequences*

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Alternative Protein Options for Beef Producers

Jaymelynn Farney and Justin Waggoner
Beef Systems Specialists
Kansas State University

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"No Distillers? Now What?"

- Distillers commodities are reduced due to COVID-19 and crude oil prices
  - Distillers plants can't compete
  - Some planning to shut down, most have slowed production
- If have access to distillers, prices have increased
- **Purpose of today: talk about some alternatives to distillers in feed rations**

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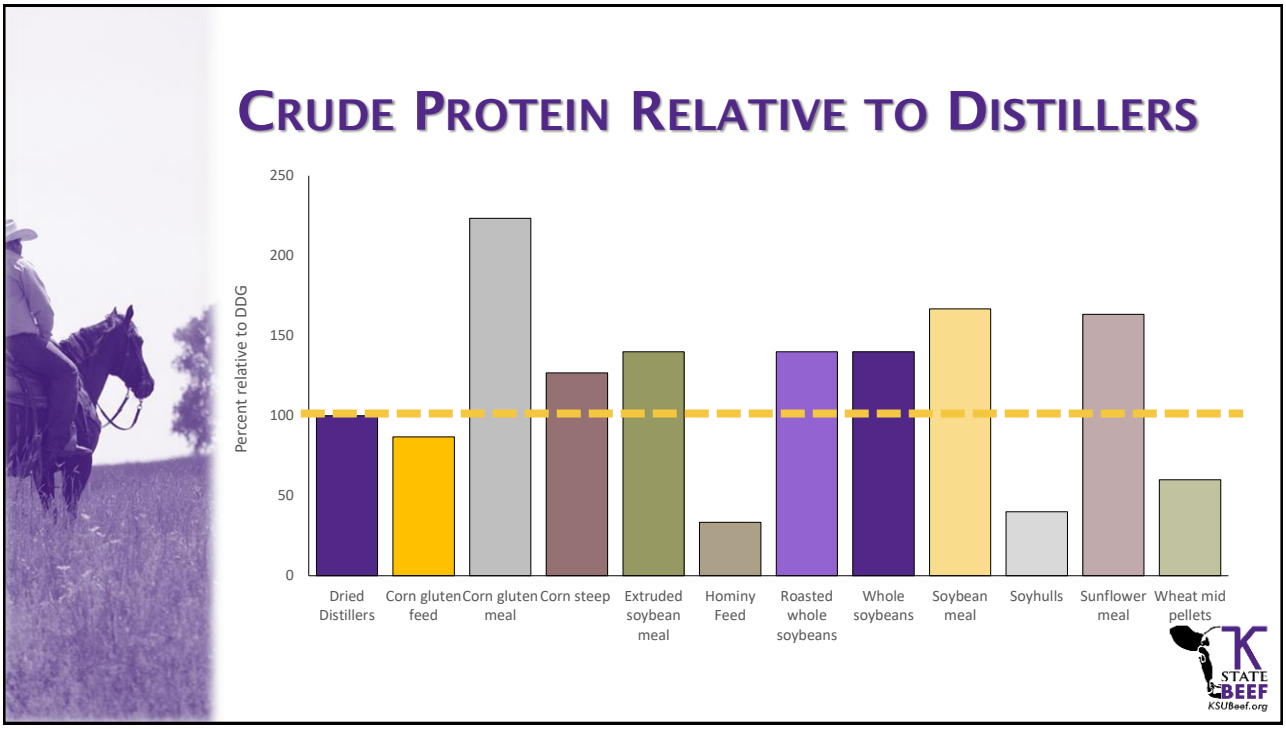
Crude Protein Relative to Distillers
Percent relative to DDG
250
200
150
100
50
0
Dried Distillers
Corn gluten feed
Corn gluten meal
Corn steep
Extruded soybean meal
Hominy Feed
Roasted whole soybeans
Whole soybeans
Soybean meal
Soyhulls
Sunflower meal
Wheat mid pellets
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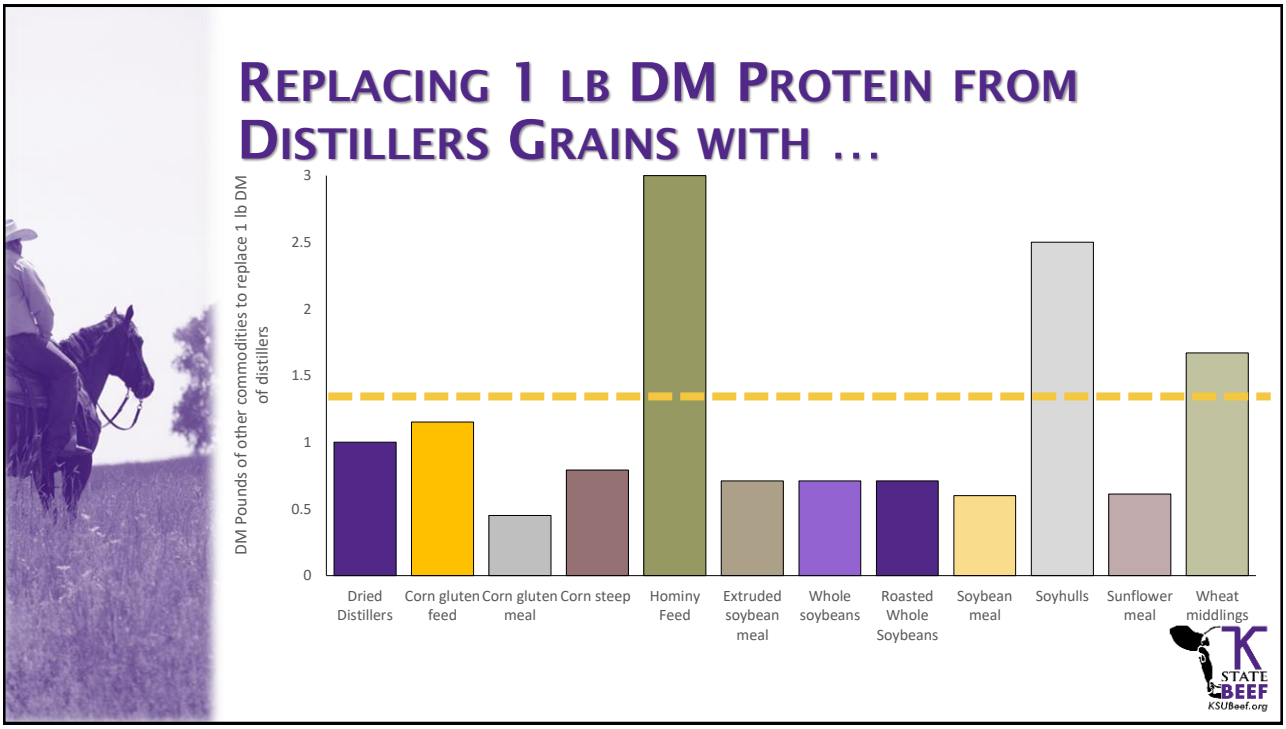
Replacing 1 lb DM Protein from Distillers Grains with …
DM Pounds of other commodities to replace 1 lb DM of distillers
3
2.5
2
1.5
1
0.5
0
Dried Distillers
Corn gluten feed
Corn gluten meal
Corn steep
Hominy Feed
Extruded soybean meal
Whole soybeans
Roasted Whole Soybeans
Soybean meal
Soyhulls
Sunflower meal
Wheat middlings
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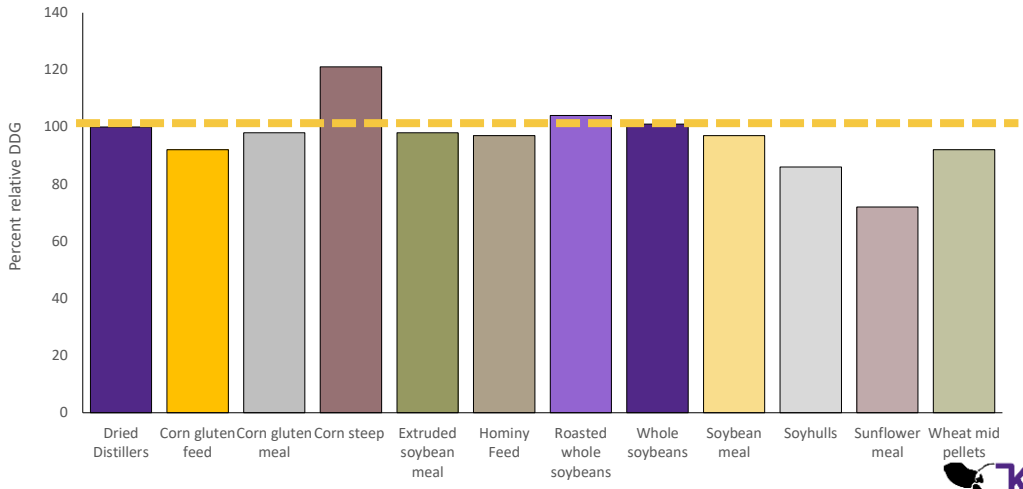
Energy Relative to Distillers



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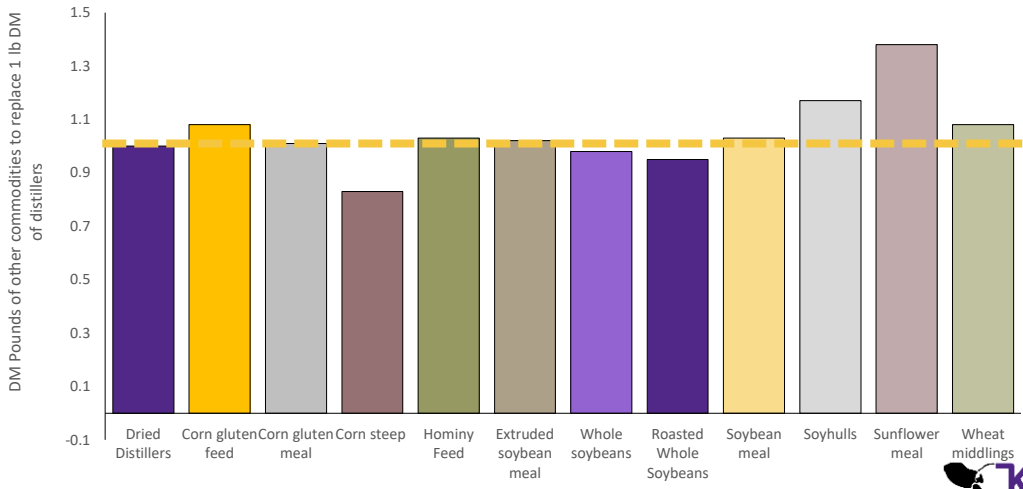
Replacing 1 lb DM Energy from Distillers Grains with …



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Evaluate based on cost/xx DM

- Use distillers as protein or as an energy in ration

	A	B	C	D	E	F	G	H
1	**Feed**	**Cost/ton**	**Cost/lb**	**DM%**	**CP%**	**TDN%**	**Cost/ lb CP DM**	**Cost/lb TDN DM**
2	Corn gluten feed	$ 225.00	$ 0.11	90%	26%	83%	$ 0.49	$ 0.15
3	Corn gluten meal	$ 620.00	$ 0.31	90%	67%	89%	$ 0.51	$ 0.39
4	Corn steep	$ 200.00	$ 0.10	57%	38%	109%	$ 0.46	$ 0.16
5	Hominy Feed	$ 108.00	$ 0.05	90%	10%	87%	$ 0.60	$ 0.07
6	Extruded soybean meal		$ -	90%	42%	88%	$ -	$ -
7	Whole soybeans	$ 350.00	$ 0.18	88%	42%	91%	$ 0.47	$ 0.22
8	Roasted whole soybeans	$ 740.00	$ 0.37	91%	42%	94%	$ 0.97	$ 0.43
9	Soybean meal	$ 392.00	$ 0.20	88%	50%	87%	$ 0.45	$ 0.26
10	Soyhulls	$ 188.00	$ 0.09	91%	12%	77%	$ 0.85	$ 0.13
11	Sunflower meal	$ 177.50	$ 0.09	92%	49%	65%	$ 0.20	$ 0.15
12	Wheat middlings	$ 175.00	$ 0.09	91%	18%	83%	$ 0.52	$ 0.12
13	Wheat mid pellets	$ 185.00	$ 0.09	91%	18%	83%	$ 0.56	$ 0.12
14	Dried Distillers	$ 250.00	$ 0.13	90%	30%	90%	$ 0.46	$ 0.15

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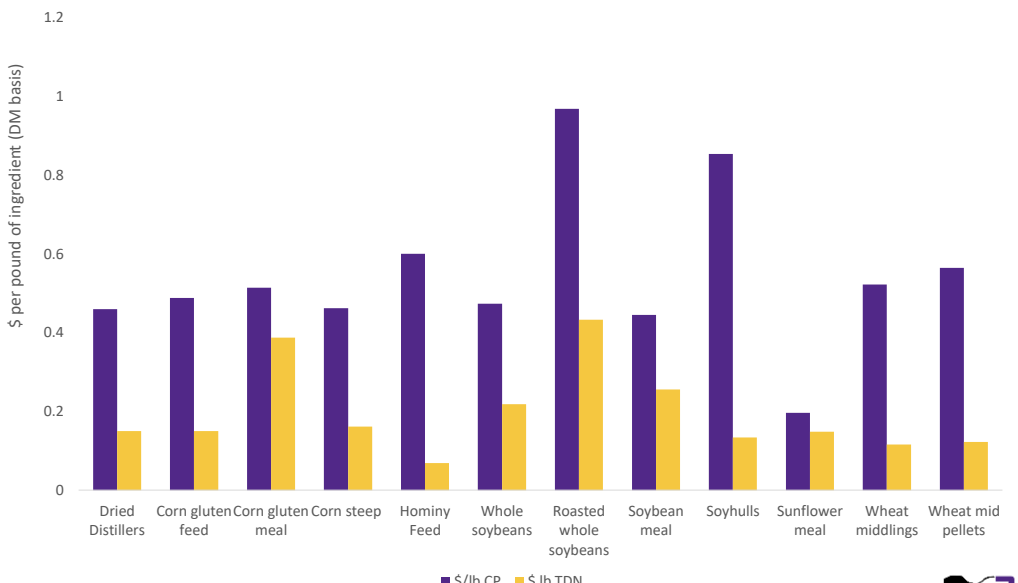

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Other Thoughts

- Make sure inclusion levels are appropriate
  - Watch fat levels in diet
- Cattle preference for some of these might be less than what was previously observed with distillers feeds
- Balancing on MP system may help with reducing costs

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Alternative protein Options

Justin Waggoner
Department of Animal Sciences & Industry
Southwest Research & Extension Center, Garden City KS
Kansas State University

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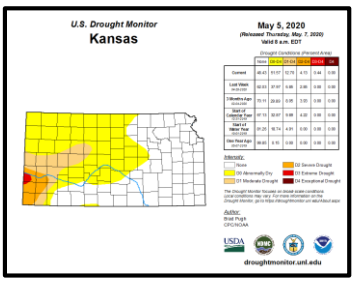
Alfalfa

- Traditional protein source, readily accessible in the current situation (old crop $180-$230/ton-W. KS)



- Nutrient quality and protein content vary
  - CP content 14-25% DM basis
- Challenges
  - Difficult to meet 100% of protein need without energy dilution
  - Dry rations may impact palatability/intake

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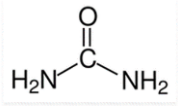
Urea (non Protein Nitrogen)



- Urea most common source of NPN, contains 42-45% Nitrogen, 262-281% crude protein ($0.30-0.40/lb urea)
- Rapidly converted to ammonia in the rumen, urea toxicity
- Well utilized by cattle consuming grain-based diets as rumen microbes require energy to incorporate and produce microbial protein

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Urea (non Protein Nitrogen)

- Supplemental source of nitrogen, not protein
- Urea inclusion 0.5-1.0% of diet dry matter common in growing rations
  - Lower inclusion on lightweight, newly received cattle
- Precautions
  - Urea should always be included via a premix or liquid supplement to facilitate mixing
  - Many issues regarding urea result from inclusion and mixing errors

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Soybeans

- Raw soybeans contain approximately 40% crude protein and 20% fat
- Diet inclusion is limited by fat content, which reduces diet digestibility (Loesch et al., 1989)
  - maximum inclusion 10-15% diet DM
  - Growing rations target 4% fat, not exceed 5%
- Raw soybeans have urease activity (*urea* → *ammonia*)
  - Recommended that raw soybeans not be used in combination with urea
  - Many commercial supplements contain urea
    - Few studies have evaluated combination of soybeans and urea

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MARSTON ET AL.,

Cattlemen's Day 1999

FEEDING RAW SOYBEANS TO FINISHING CATTLE

T. T. Marston, K. K. Kreikemeier[1], J. F. Gleghorn, G. L. Huck, and T. J. Wistuba

- Evaluated inclusion of dry-rolled raw soybeans in finishing diets that contained 1.0 and 0.7% urea

Table 1. Final Diets for Trial 1, Steers, and Trial 2, Heifers[a]

Ingredient	Treatments NEG	SBM	DRB
Trial 1, Steers	% of DM		
Steamed-flaked corn	86	81	81
Alfalfa hay	5	5	5
Soybean meal	0	6	0
Dry-rolled soybeans	0	0	7.5
Urea	2	1	1
Beef tallow	4	4	2.5
Supplement	3	3	3
Trial 2, Heifers			
High-moisture corn	41.65	40	10
Steamed-flaked milo	41.65	40	40
Corn silage	10	10	40
Soybean meal	0	4	0
Dry-rolled soybeans	0	0	5
Urea	1.7	0.7	0.7
Beef tallow	3	3	2
Supplement	2	2.3	2.3

[a]Balanced to contain 14% CP, .7% K, .6% Ca, .4% P, and .2% Mg. Vitamins A, D, and E were included at 2,000, 200, and 20 IU/lb of diet DM. Monensin and tylosin were fed at 30 and 10 g/ton of diet DM. Supplements provided 1% urea to all diets.

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MARSTON ET AL.,

Cattlemen's Day 1999

FEEDING RAW SOYBEANS TO FINISHING CATTLE

T. T. Marston, K. K. Kreikemeier[1], J. F. Gleghorn, G. L. Huck, and T. J. Wistuba

Table 2. Treatment Effects of Finishing Trial 1, Steers

Item	Treatments NEG	SBM	DRB	P value
Feeding traits				
Average daily gain, lb	3.10	3.23	3.13	.23
Daily dry matter intake, lb	23.2	24.1	23.6	.10
Feed:gain	7.48	7.45	7.56	.84

Table 3. Treatment Effects of Finishing Trial 2, Heifers

Item	Treatments NEG	SBM	DRB	P value
Feeding traits				
Average daily gain, lb	2.84	3.07	3.01	.11
Daily dry matter intake, lb	17.0	17.7	17.8	.06
Feed:gain	6.00	5.78	5.94	.46

Raw soybeans were fed at 7.5% diet with 1.0% urea without negatively impacting finishing performance, but **caution should be used if urea is included in supplements**!

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Conclusion(s)

- Alternative sources of protein
  - Availability varies by region
  - Evaluate on a cost/unit protein basis
  - Consider management factors
- Commodity situation changes daily

"Price is important by supply is everything"

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Feeding Options for Growing Diets

Dale A. Blasi
Department of Animal Sciences & Industry
Kansas State University

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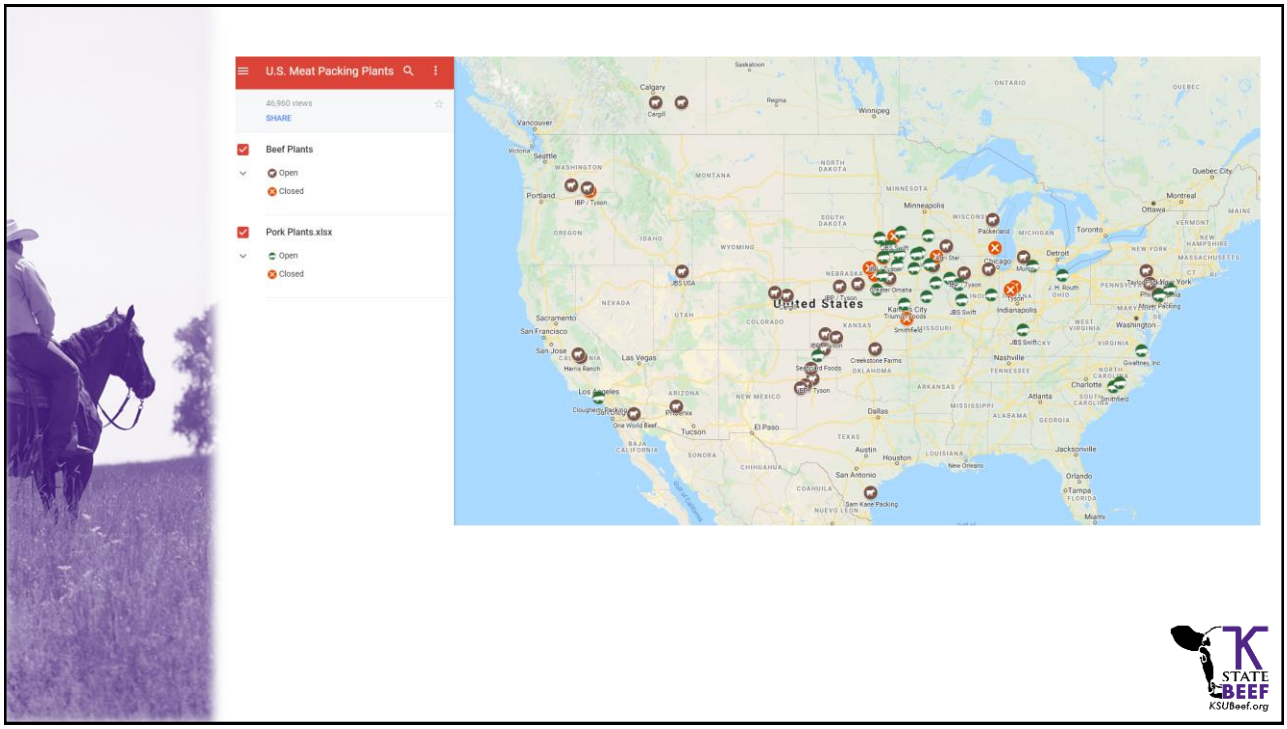
U.S. Meat Packing Plants
46,960 views
SHARE
Beef Plants
Open
Closed
Pork Plants.xlsx
Open
Closed
United States
K STATE BEEF
KSUBeef.org

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CARPOOLS ONLY
2 OR MORE PERSONS PER VEHICLE
Slauson Ave
Sepulveda Blv
1 MILE

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Beef Supply Chain Congestion - Cascading Impacts

- Meat processing plant harvest disruptions
- Extended feedlot delivery dates
- Subsequent shortage of "planned" pen space
- Backlog of feeder cattle

What to do with them?

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Some questions that bear asking?

- Do you know the present day, average weight of your calves?
  - Knowing this is critical to assess your marketing strategy
  - Examine how management and rations can be formulated with available feed ingredients at the least possible cost.
- Department of Agricultural Economics
  - Feeder cattle risk management tool (updated April 28, 2020)
    - Compare net sell prices under futures market hedging, buying puts and USDA LRP coverage
    - https://www.agmanager.info/k-state-feeder-cattle-risk-management-tool

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Today's Scenario

Present Day weights

700 to 850 lbs

Pasture (if available)
@ $90/head – 90 days

Drylot

Future Weights

Unknown - pasture growing conditions
Unknown – out weights (performance),
Unknown – price
Heifers – future cows ?

850 to 950 lbs

Availability of home raised hay/silage
Availability of "economic" feedstuffs
Yardage costs
Known – cattle growth rate

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Growing Cattle Management & Nutrition

- Home raised forages – Do you have a good estimate of existing inventory for an extended feeding period of 1 to even 4 months?
  - Do you have a recent nutrient analysis that represents what you have to feed?
- Anticipate higher new crop forage prices – This will have a large impact on COG with diets formulated with higher % of roughages included in the diet.

K STATE BEEF KSUBeef.org

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University of Missouri Extension

By-Product Feed Price Listing

April 30, 2020

Company Name & Address	Feed	Price/Ton	Price Quote Notes
5 ADM 540 South Street Lincoln, NE 68501 Tom KC/Ark City/Minneapolis-Lloyd Lincoln Tom/Lexi 866-268-6196	Wheat midds Wheat midds Wheat midds Wheat midds, pelleted	$140.00 $170.00 $145.00 $155.00	4/30/2020 FOB Arkansas City KS FOB Lincoln FOB Minneapolis MN All quotes bulk $140-150 FOB Arkansas City KS (limited supply)
10 CyberAg Feed Co., Inc. Box 12707 N. Kansas City, MO 64116 Ann Shippee 1-800-892-5859 ann.cyberag@gmail.com	Cottonseed hulls, sacked Cottonseed Pellets	$245.00 $150.00	4/2/2020 FOB Jonestown MS (45s) ($220 Apr-Sep)
11 Diversified Ingredients 143 W. Clinton Place St. Louis, MO 63122 Greg McArthur 636-200-9024/Cell 314-650-9772 636-200-9099 gmcarthur@diversifiedingredients.com	Alfalfa pellets Cereal Tailings Rice Bran Rice Hulls	$225.00 call call $65.00	1/16/2020 FOB St Louis MO FOB Perryville MO FOB St Louis MO (BAGGED Call) FOB St Louis MO
15 Livestock Nutrition Center - LNC	DDG Pellets	$258.00	4/30/2020 FOB KC MO, only spot available

http://agebb.missouri.edu/dairy/byprod/bplist.asp

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iGrow
A Service of SDSU Extension

Livestock Decision Aid

- Feed Cost
- Natural Feeding
- Share Lease
- Creep Feed

FEED COST COMPARISON

This tool helps producers evaluate the relative costs of two different feedstuffs. Additional information is available on iGrow.

Feedstuff #1		Feedstuff #2	
Preset	Distillers Grain, Corn, Wet	Preset	Wheat Middlings
Cost of Feed	80 $ / Unit	Cost of Feed	160 $ / Unit
Size of Unit	2000 lbs	Size of Unit	2000 lbs
Trucking Cost per Mile	4 $	Trucking cost per mile	4 $
Number of Miles	300 miles	Number of Miles	170 miles
Tons per Load	25 tons	Tons per Load	25 tons
Dry Matter	36 %	Dry Matter	89 %

https://www.igrowlivestocktools.org/#!/calculators/feed-cost

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Feed Cost Results

	Distillers Grain, Corn, Wet	Wheat Middlings	Max Price for Wheat Middlings
Feed Cost per Ton (As Fed)	$80.00	$160.00	
Shipping Cost per Load	$1,200.00	$680.00	
Shipping Cost per Ton	$48.00	$27.20	
Total Cost per Ton As Fed Delivered	$128.00	$187.20	
Delivered Cost per Ton DM	$355.56	$210.34	
Delivered Cost of Crude Protein ($/ton)	$1,226.05	$1,168.54	$169.21
Delivered Cost of TDN ($/ton)	$352.04	$262.92	$223.45
Delivered Cost of NE m ($/Mcal/ton)	$309.18	$244.58	$209.45
Delivered Cost of NE g ($/Mcal/ton)	$461.76	$375.60	$202.94
Delivered Cost of NE l ($/Mcal/ton)	$329.22	$253.42	$215.99

The highlighted cell is the better buy for that ingredient.

OK

https://www.igrowlivestocktools.org/#!/calculators/feed-cost

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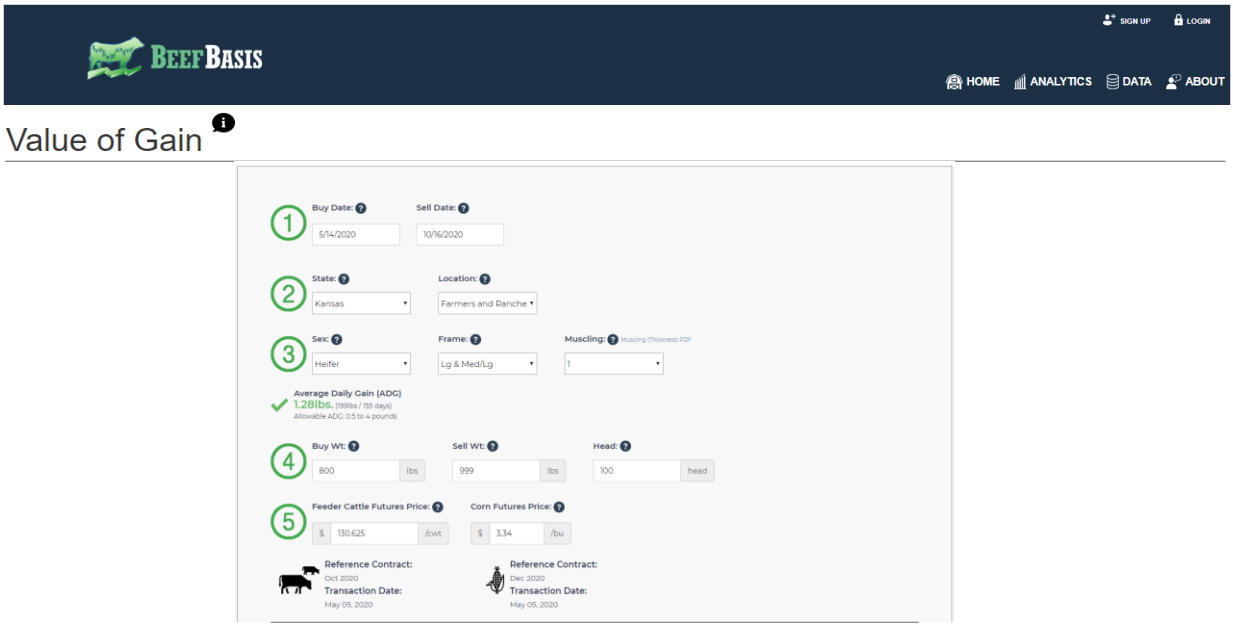
You must know the Value of Gain



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Value of gain - analysis

Value of Gain

Analysis

Value of Gain Analysis

Chart

				Projected Gross Value of Gain		
Sell Date	Sell Price	Days on Feed	ADG, lbs	Total Return	$/Head	$/cwt
09/20/2020	123.32	129	1.54	31,076.00	310.76	156.16
09/26/2020	123.62	135	1.47	31,377.00	313.77	157.67
10/02/2020	123.65	141	1.41	31,411.00	314.11	157.85
10/09/2020	123.48	148	1.34	31,241.00	312.41	156.99
10/16/2020	123.23	155	1.28	30,990.00	309.90	155.73
10/24/2020	123.49	163	1.22	31,247.00	312.47	157.02
11/02/2020	124.70	172	1.16	32,455.00	324.55	163.09
11/12/2020	125.01	182	1.09	32,766.00	327.66	164.65
11/24/2020	124.66	194	1.03	32,414.00	324.14	162.88

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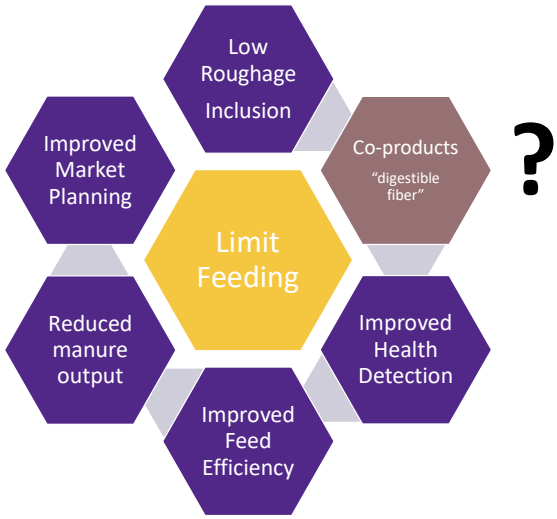

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Advantages of Limit Fed Programs Previous University research results

- Reduced cost of gain
- Flexibility in commodity trading
- Less roughage and, consequently, less manure handling
- Decreased feed wastage
- Less labor, equipment and feeding expense
- Marketing

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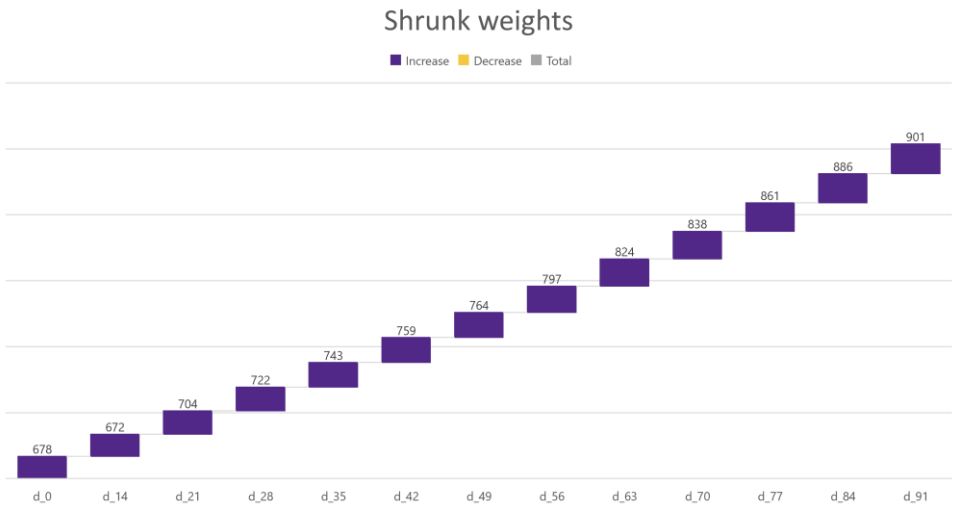
Limit feeding can control intended growth



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RATION MANAGEMENT CONSIDERATIONS

- Adaptation to limit feeding – One to two weeks.
- With mostly corn as energy source, will require twice day feeding with @ 2 hour interval between feedings.
- Bunk space is essential.
- Dry ingredients – blending
  - Liquid supplement or water addition
- Increased mixing time
- Be wary of potential mixer overload with added roughages.

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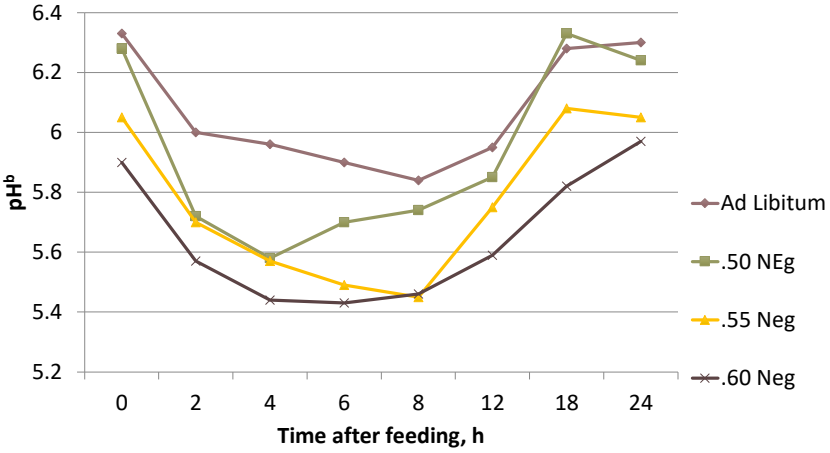
Effects of diet and time on ruminal pH over 24 h [A]



[a]Diet effect $P < 0.01$, Hour effect $P < 0.0001$, interaction $P < 0.93$
[b]Measurements recorded continuously using indwelling pH monitoring bolus (smaXtec; Graz, Austria)

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High roughage -based

Prepared by: Dale A. Blasi
229 Weber Hall

Feedyard Summary Sheet 785-532-5427

Covid 19 Examples		Ration:	800 lb steers limit feeding high roughage	dblasi@ksu.edu
Feeding Period	5/15/20	7/15/20	Wind Exposure	some protection
Average Weight	800 lbs	range: 100	Hair Condition	clean/dry
Wt. @ 50% Choice	1078		Hair Coat	summer coat
Breed Type	Beef		Avg. Air Temp. -F	64.8
Current Condition Score	5		Hide Thickness	thick
Gender	steer		Maintenance Adj.	0%

Modifiers: no implant; no MGA; no Beta agonist

Ration Formulation			1 head	
Feed	% of DMI	% AsFed	Pounds	%waste
prairiehaylateb	33.44%	27.5%	7.0	
mod_ distillers				
soybean meal 44				
corn rolled	36.5%	31.4%	8.0	
feedlot mineral	1.0%	0.8%	0.2	
alfalfa- mid bl	28.3%	23.6%	6.0	
urea	0.5%	0.4%	0.1	
water	0.2%	16.4%	4.2	
Storage Shrink	0.8%	Delivered	25.5	lbs
Bunk Loss		Consumed	25.5	lbs

Ration Summary		61 days	
	750 lb	800 lb	850 lb
DMI lbs	17.8	18.6	19.5
Est. DMI	19.4	20.3	21.3
lbs NE -Gain	1.5	1.5	1.5
lbs MP -Gain	1.8	1.9	2.1
peNDF%	RDP Ratio	Rumen pH	Ration DM
29.9%	121.8%	6.11	73.1%
DMI Ratio	91.6%	91.6%	91.6%
DMI: BWt	2.37%	2.33%	2.29%
MP Reqmt	118%	123%	129%
Mcal NE/MP adj	0.20	0.20	0.19
Feed:Gain	12.21	12.77	13.32
lbs Daily Gain	1.45	1.46	1.46
lbs Final Wt.	839	889	939
$/Hd/Day	$1.74	$1.40	$1.47
$/lb Gain	$0.92	$0.96	$1.00
	$/ton DM	$/ton AF	
	$150.72	$149.23	$110.24	$109.15

High grain -based

Prepared by: Dale A. Blasi
229 Weber Hall

Feedyard Summary Sheet 785-532-5427

Covid 19 Examples		Ration:	800 lb steers limit feeding	dblasi@ksu.edu
Feeding Period	5/15/20	7/15/20	Wind Exposure	some protection
Average Weight	800 lbs	range: 100	Hair Condition	clean/dry
Wt. @ 50% Choice	1078		Hair Coat	summer coat
Breed Type	Beef		Avg. Air Temp. -F	64.8
Current Condition Score	5		Hide Thickness	thick
Gender	steer		Maintenance Adj.	0%

Modifiers: no implant; no MGA; no Beta agonist

Ration Formulation			1 head	
Feed	% of DMI	% AsFed	Pounds	%waste
prairiehaylateb	15.89%	12.7%	3.0	
mod_ distillers				
soybean meal 44				
corn rolled	60.7%	50.9%	12.0	
feedlot mineral	1.4%	1.1%	0.3	
alfalfa- mid bl	20.9%	17.0%	4.0	
urea	0.8%	0.6%	0.2	
water	0.2%	17.7%	4.2	
Storage Shrink	0.8%	Delivered	23.6	lbs
Bunk Loss		Consumed	23.6	lbs

Ration Summary		61 days	
	750 lb	800 lb	850 lb
DMI lbs	16.0	16.8	17.6
Est. DMI	18.6	19.6	20.5
lbs NE -Gain	1.9	1.9	1.9
lbs MP -Gain	1.7	1.8	2.0
peNDF%	RDP Ratio	Rumen pH	Ration DM
19.1%	139.2%	5.92	71.3%
DMI Ratio	85.9%	85.9%	85.9%
DMI: BWt	2.13%	2.10%	2.07%
MP Reqmt	93%	97%	103%
Mcal NE/MP adj	0.30	0.30	0.30
Feed:Gain	9.21	9.09	9.21
lbs Daily Gain	1.74	1.85	1.91
lbs Final Wt.	856	913	967
$/Hd/Day	$1.78	$1.34	$1.41
$/lb Gain	$0.74	$0.73	$0.74
	$/ton DM	$/ton AF	
	$160.06	$158.48	$114.12	$112.99

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How many days are necessary on full feed to achieve acceptable carcass merit with heavy stocker cattle?

- Stickel et al., (2011)
- 955 lb. crossbred steers that were fed 75, 100 or 125 days

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Table 1. Feedlot performance of heavy stocker cattle fed for 75, 100, or 125 days

	Days on feed			
Trait	75	100	125	SEM
Average daily gain, lb	3.42	3.52	3.37	0.110
Average daily dry matter intake, lb	27.67	27.30	27.82	0.471
Gain:feed ratio	0.125	0.128	0.120	0.005
Total gain, lb	257.7[a]	354.4[b]	419.1[c]	11.23

[abc] Means within a row with different superscripts differ (P<0.05).

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Table 2. Carcass characteristics and composition of heavy stocker cattle fed for 75, 100, or 125 days

	Days on feed			
Trait	75	100	125	SEM
Hot carcass weight, lb	704.7[a]	758.6[b]	820.9[c]	8.85
Dressing percentage	60.5	61.7	62.0	0.004
Yield grade	2.1	2.1	2.4	0.100
Fat thickness, in.	0.27[a]	0.27[a]	0.35[b]	0.022
Ribeye area, in.[2]	13.05[a]	13.71[ab]	14.13[b]	0.217
Marbling score[1]	363.6[a]	407.1[b]	409.5[b]	11.12
Kidney, pelvic, and heart fat, %	2.08	2.07	2.36	0.100
Carcass composition				
Protein, %	17.0[b]	16.5[ab]	16.0[a]	0.261
Fat, %	24.2[a]	25.0[a]	28.9[b]	0.554
Moisture, %	57.8[b]	56.9[b]	54.0[a]	0.393

[1] Marbling score: small = 400 to 499; slight = 300 to 399.
[abc] Means within a row with different superscripts differ (P<0.05).

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Conclusion(s)

- Take stock of your existing situation
  - Available feedstuffs
  - Available equipment
  - Available labor
  - Stringently sort by size and if possible, check weights frequently
  - Evaluate marketing options
  - Get the pen space reserved

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Thank you!

Questions?

Please use the Question and Answer window in Zoom to post questions to our panelists.

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