

The Latest Across the Plains

Unused Feed

“When you talk, you are only repeating what you already know. But if you listen, you may learn something new.” – Dalai Lama

What's New in the Industry

A Missouri bill, passed earlier this summer, has defined “meat” and “meat products” as foodstuffs that are derived from livestock. A group of organizations are currently arguing that this bill prevents fair competition of plant and lab created meat substitutes.

Save Money \$\$\$ Test Your Feeds

Tests are relatively inexpensive, usually costing less than \$18, for the information derived. Contact our office to set up an appointment to have us pull feed samples if we have not done so yet.

We want to hear from you...

Do you have a question you would like one of the nutritionists to address in depth in our newsletter? Just submit your question through our website www.GPLC-inc.com and we will get to work on it.

Timely Reminders

- ◆ Inoculate and cover silage/earlage piles
- ◆ Consider planting cover crop for spring grazing and manure application
- ◆ Scrape pens and pile manure
- ◆ Clean water sources on a weekly basis
- ◆ Keep an eye on commodity contract prices the next two months
- ◆ Have us sample hay and silage (silage greater than 3 weeks after harvest)
- ◆ Start thinking about pre-weaning calf diets
- ◆ Consider the use of energy supplements and diets on cool season pasture grazing this fall to help boost gains since the value of gain is very high
- ◆ Contact your nutritionist about running projections on growing or finishing cattle, beef or Holstein, to help

Calendar of Events

- **Sept 11 - 13** Big Iron Farm Show, West Fargo, ND
- **Sept 13 - 23** Oklahoma State Fair, Oklahoma City, OK
- **Sept 19 - 20** Minnesota Nutrition Conference, Mankato, MN
- **Sept 21 - 22** Stockmanship and Stewardship Event, Fort Montrose, CO
- **Sept 28 - Oct 21** Texas State Fair, Dallas, TX
- **Oct 5 - 7** Ozark Fall FarmFest, Springfield, MO
- **Oct 5 - 6** Stockmanship and Stewardship Event, Stephenville, TX
- **Oct 11 - 21** Arkansas State Fair, Little Rock, AR
- **Oct 13 - 20** Northern International Livestock Exposition, Billings, MT
- **Oct 18 - 19** Animal Care and Handling Conference, Kansas City, MO
- **Oct 24 - 25** South Texas Farm & Ranch Show, Victoria, TX
- **Nov. 9 -10** Annual Kansas Cattle-men's Association Convention and Tradeshow, Newton, KS
- **Nov 11 - 13** Texas Cattle Feeders Association Annual Convention, San Antonio, TX



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The Value of Corn Silage

By Jana Gramkow, Ph.D. with Ki Fanning, Ph.D., Nutritionist

Feeding corn silage to cattle is not a novel concept. Its relatively high energy and low protein content has made it a staple in growing and finishing rations. With areas in the Midwest and High Plains experiencing extreme drought coupled with relatively low corn prices, it might be a good time to consider harvesting your corn for silage instead of grain. In order to determine if cutting silage is the right choice, you need to have an idea of its value.

There has been a discussion on how to accurately price corn silage. Since corn is a commodity and openly traded, it is logical to use its price to estimate silage value. Researchers at the University of Nebraska have found that multiplying the value of corn by 7.65 will accurately price your corn silage standing in the field. For example, if corn is priced at \$3.50 per bushel, the silage price would be $\$3.50 \times 7.65 = \26.77 per ton in the field. This price does not account for the costs associated with chopping, hauling and packing or shrink in the bunker, so those need to be added. Assuming chopping, hauling, and packing cost \$12 per ton and a 15% shrink in the bunker, the total corn silage price will be \$45.61 per ton. These numbers can be adjusted to more closely match the costs associated with each operation.

One way to compare the price per ton of different feeds is by looking at them on a per pound of nutrient basis (ex. TDN). For an example:

- Corn Silage: \$45.61 per ton, 35% DM and 68% TDN would be \$0.095 per pound of TDN.
- Corn: \$3.50 per bushel, 89% DM and 88% TDN would be \$0.079 per pound of TDN.
- Grass Hay: \$140 per ton, 91% DM and 56% TDN would be \$0.14 per pound of TDN.

When harvesting silage to salvage drought damaged corn, the TDN value will be less than typical silage due to less grain yield. Assume drought silage will have approximately 85-90% the value of typical silage.

- Drought Corn Silage: \$45.61 per ton, 35% DM and 61% TDN would be \$0.106 per pound of TDN.

When looking at the above feeds on a per pound of TDN basis, silage has a lower price compared to grass hays. This holds true when feeding drought silage as well. These estimates make feeding more silage quite appealing. So how much silage can you feed without impacting performance?

Table 1 Summary of 5 studies evaluating 15 or 45% corn silage in diets containing 20 or 40% distillers grains.		
	15% Corn Silage	45% Corn Silage
DMI, lb/day	24.5	24.9
ADG, lb	3.86	3.66
Feed: Gain	6.29	6.71
2018 UNL Silage for Beef Cattle Conference Proceedings		

Researchers at the University of Nebraska have evaluated finishing cattle performance when fed elevated levels of corn silage in rations containing 20 or 40% distillers grains. The data consistently show increasing the amount of corn silage in the rations reduces ADG and increases the amount of feed needed per pound of gain (Table 1).

modified distillers produced the lowest cost of gain when corn was \$3.50 per bushel compared to rations containing 15, 30 and 55% corn silage (Table 2). The greatest economic incentive to feed elevated levels of corn silage was observed when corn price was \$6.50 per bushel.

Even with this reduction in performance, researchers noted that feeding 45% corn silage in a ration containing 40%

In the previously discussed studies, corn silage was the only roughage source included in the finishing ration. Researchers at the University of Nebraska found no difference in feed to gain when cattle were fed different roughage sources (alfalfa, corn stalks or corn silage), on an equal NDF basis, in finishing rations containing 30% distillers grains.

The overall result is that corn silage is not only economical to add into the ration but is also a great way to secure some forage for this fall. So how much should you plan on cutting? A rule of thumb is that 6 pounds of corn silage will replace 1 pound of hay, 1 pound of corn, and 4 pounds of water in a ration. The bulk density of corn silage can range from 12.3 to 19.25 pounds per cubic foot, dry; but would average around 15.75 pounds per cubic foot, dry (assuming a 35% dry matter).

To convert bulk density to a wet basis, take the dry bulk density divided by the dry matter (ex. $12.3 \text{ lb per cubic foot} / 0.35 = 35 \text{ lb per cubic foot, wet}$). If you are sizing a bunker, a minimum of 6 inches of silage should be removed per day for minimal shrink and maximum quality. A typical feedlot steer will need 6 to 8 pounds to meet roughage needs but as we have seen corn silage could be 2 to 3 times that level without significantly impacting performance. Growing calves can use 15 to 30 pounds in their ration and cows can utilize 10 to 30 pounds. Consult a nutritionist at Great Plains Livestock Consulting, Inc. for a customized feed budget and recommendations.

Table 2. Effects of feeding increasing levels of corn silage in diets containing 40% MDGS.				
	15% CS	30% CS	45% CS	55% CS
Final BW, lb.	1426	1403	1375	1335
DMI, lb/day	23.2	22.8	22.7	21.9
ADG, lb.	4.04	3.92	3.76	3.53
Feed: Gain	5.73	5.81	6.03	6.21
Dress %	63.3	62.6	61.2	61.1
Marbling	556	557	543	532
Fat Thickness, in.	0.55	0.53	0.52	0.43
F:G Difference		-1.4%	-5.2%	-7.7%
Burken et, al. 2013.				



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2 Implant vs. 1 Implant Protocol

By Jana Gramkow, Ph.D.

Implants have been approved for use in the beef cattle industry for over 60 years, with the first implant being permitted in 1956. According to R. Preston (1999) implants can improve growth rate by 30% and feed efficiency by 15%. Due to their effectiveness, implants have one of the highest rates of return of any product in the beef industry. According to the USDA's National Animal Health Monitoring System's 2013 Feedlot survey, 90% or more of steers entering the feedlot receive at least one implant. Sixty-seven percent of steers weighing less than 700 pounds received 2 or more implants, and 77% of steers weighing 700 lbs. or more received one. Implant strategies range from 1 to 3 implants depending on cattle weight, genetic potential, age, sex, and feeding program.

There are a multitude of implants on the market today. The length of time the implants will remain effective (i.e. release hormone) ranges from 60 days to 350 days, with a majority of implants lasting from 60 to 120 days. Longer acting implants, such as Revalor-XS, contain coated pellets that control the release rate of hormones over time. The development of this slow-release technology eliminates the labor and stress associated with re-implanting cattle.

Two studies conducted by the University of Nebraska compared a 2-implant strategy using Component TE-IS on day 1 followed by Component TE-S on day 85 with a single implant of Revalor-XS. One study found that re-implanted cattle had greater feed efficiency and ribeye area compared to cattle that received a single implant of Revalor-XS (Table 1). The second study found that cattle performance was similar between the single implant and two implant program (Table 2).

Table 1. Study comparing a 2-implant program with Component to a single implant program with Revalor-XS.

	Component TE-IS/S	Revalor XS
Final Body Weight, lb.	1410	1388
ADG, lb./day	4.18	4.05
F:G	5.78	6.02
Ribeye Area, in ²	13.3	12.7
2010 Nebraska Beef Cattle Report		

A third study conducted by UNL researchers compared the use of a single implant of Revalor-XS with a two-implant protocol of Revalor-IS and Revalor-S. Researchers observed no differences in cattle performance between the two different implant programs (Table 3).

Five commercial feedlot studies compared a 2-implant protocol using Synovex-Choice and Synovex Plus to a single implant of Revalor-XS (McLaughlin, 2013a). The average days on feed ranged from 138 to 200 across the five studies. Two studies observed a greater feed conversion and carcass weight in steers receiving two implants, while the remaining 3 studies observed no differences in cattle performance when either implant strategy was used.

Another controlled release implant currently on the market is Synovex ONE Feedlot. Similar to Revalor XS, Synovex ONE contains pellets that are coated to slow hormone release over a 200-day period. A 161-day and 200-day feedlot study compared cattle implanted with Revalor XS to cattle implanted with Synovex ONE Feedlot. Researchers found no differences in cattle performance between either long acting implant (McLaughlin, 2013b).

Table 2. Study comparing a 2-implant program with Component to a single implant program with Revalor-XS.

	Component TE-IS/S	Revalor XS
Final Body Weight, lb.	1418	1413
ADG, lb./day	4.11	4.08
F:G	5.50	5.50
2010 Nebraska Beef Cattle Report		

Table 3. Steer performance with a Revalor 2-implant strategy compared to 1-implant of Revalor XS.

	Revalor IS-S	Revalor XS	P-Value
Final Body Weight, lb.	1345	1347	0.90
ADG, lb./day	4.14	4.15	0.94
F:G	5.79	5.79	0.96
Ribeye Area, in ²	14.1	14.1	0.78

Overall, these data suggest that cattle given a single, controlled release implant have similar performance to cattle on a multi-implant program. It is important to remember that there are many different strategies that will work for specific situations. Understanding how long your cattle will be on feed will help you choose the implant program that is best suited for you.

Some common implant strategies are outlined in the table below. Contact a consultant at Great Plains Livestock Consulting, Inc. for a customized implant program that works for your operation.

Days Implanted Prior to Slaughter			
BW	360 - 240	240 - 140	140 - 60
	300 - 600 lbs	600 - 900 lbs	900 - 1200 lbs
Aggressive	← Rev XS or XH →		Rev 200
	Rev IS or IH	Rev S or H	Rev 200
	Comp TE-IS or TE-IH	Comp TE-S or TE-H	Comp TE-200
Moderate	← Syn ONE Feedlot →		Syn Plus
	Syn S or H	Syn Choice	Syn Plus
	Rev G	← Rev XS or XH →	
Moderate	Rev G	Rev IS or IH	Rev S or H
	Comp G	Comp TE-IS or TE-IH	Comp TE-S or TE-H
	Rev G	Syn S or H	Syn Choice
	Syn S or H	← Syn ONE Feedlot →	
	← Syn ONE Grass →		Syn Choice
Suckling 100 - 300 lbs - Ralgro, Syn C, Rev G, Comp G, or Comp C			



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