Harvesting Forage: Don't "just do it"-Do it RIGHT!

by Robert Davis, Agri-Basics, Inc., Nutritionist

tremendous effects on silage quality. High forage quality drives intake in feedlot cattle and in turn, drives production. There are many factors in implementing a successful forage management system. In this article we will focus on two that have the biggest impact on an ideal fermentation.

Harvesting forages at optimum maturity and moisture is crucial in obtaining the best silage possible. Corn silage should be harvested when the whole plant is 65%-68% moisture and the kernels are at $\frac{1}{2}$ milk line. However, milk line and whole plant moisture do not always match up. In all cases, whole plant moisture should always be the overriding factor for corn silage harvest. Depending on conditions, corn silage will dry down at a rate of about 0.5% per day.

How do we determine whole plant moisture? The most accurate way to determine whole plant moisture is to chop a sample and dry it down in a Koster tester or a microwave. Be sure your sample size is large enough to produce sufficiently small particle size when you run it through the chopper.

Why is moisture level so critical? Harvesting corn silage that is too wet (typically >70% moisture) results in excessive fermentations that produce high concentrations of acids and result in nutrient run off. Specifically, these wet corn silages are often characterized by high concentrations of acetic acid produced from "wild type" fermentations. These wet silages also typically have a high total acid content, which can lead to a reduction in dry matter intake. In contrast, extremely dry corn silage (<60% moisture) should be avoided because

Harvest and storage management have | low moisture restricts fermentation and is more difficult to pack, which often leads to poor aerobic stability.

> Moisture levels in alfalfa silage are even more critical. Wet alfalfa silage is highly prone to clostridial fermentation resulting in butyric acid production. NEVER harvest alfalfa haylage at moistures >70%.

> Particle size is the second factor for discussion. From a fermentation standpoint, silage can't be too fine. From an effective fiber to the cow standpoint, it can definitely be too fine. So what is ideal particle size? This answer may be different for every farm and every harvest season. The important thing is knowing when and how to adjust it while harvesting. Particle size adjustment is directly related to plant moisture content. As moisture content decreases, particle size should decrease as well. This will help increase density and displace oxygen. ultimately leading to a better environment for fermentation. There is no excuse for not adjusting particle size while harvesting if necessary. All modern forage harvesters make it very easy to change the length of cut. Harvesters should also be maintained to provide a consistent length of cut. Yes, knives do get dull and shear bars do wear out. Don't try to stretch either. Keep your knives sharp and your shearbar tight. Recommendations for theoretical chop length at ideal moisture usually run between $\frac{1}{2}$ and $\frac{3}{4}$ inch for corn silage and up to 1 inch for alfalfa haylage.

The keys to making high quality silage include: 1) rapidly excluding air from the forage mass, which will result in 2) a rapid production of lactic acid and reduction in silage pH, and 3) to prevent the penetration

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of oxygen into the silage mass during storage. Excessive oxygen due to overly dry forage or forage chopped too coarsely allows the plant to respire for extended periods of time. This results in utilization of sugars and excessive degradation of plant protein. Oxygen also encourages the growth of undesirable microbes such as yeasts and molds.

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Fall Marketing: What the Future May Hold

by Curtis McFadden, Northeast Feed, Sales Representative

market: What should I do? Producers looking at the past and what it may look like in the future to make the best decisions for their farms and operations is never an easy task. With the roller coaster ride of the cattle markets, cash and futures it leaves everyone a little gun shy at times. But, fear not because there are still ways to make your operations function-able and profitable. There are many tools and reports to watch and track to help you make the best marketing decisions for vour operation. The main ones I like to watch are:

-Cattle Future Boards (CME)

These give you an idea of where the market may be heading in the long term and gives you risk management options for locking cattle in on forward contracts with local packers. Contracting allows you to know your selling price and you can then try and feed for premiums on the contract to raise that price.

-Five Area Market Reports

The five area is the western United States split into five regions and shows the average price of cattle sold live and carcasses basis. This tool really helps give you an According to analysis and market watchers,

What Do I Pay For Feeder Cattle? by Curt Umble, Agri-Basics, Inc., Nutritionist

It's that time of the year to look at placing cattle for another feeder season. We always ask ourselves, "how high do I need to bid to purchase my cattle?"

There are some factors that we should consider before giving that final nod or an affirmative yes on the phone. First we should evaluate our cost over the next few months before we load the cattle on the truck and send them to market. We should know exactly what our feed costs will be. We have the feed in the field but what is the value of that commodity? We need to figure what the crop would be worth if we sell it, rather than, feed it through the cattle. Place a "\$\$" value on your silage and corn and what your added

protein and mineral costs will be. Then, purchase feeders and then lock their selling figure the estimated days on feed from your price that same day or soon after the cattle arrive. This is risk management and you can starting date until the time they are finished be assured of a profit, or you may want to at the preferred weight that you want to sell "ride it out" and get whatever the market is them. You also need to assign a value for paying when they are finished cattle. We do processing, implants, and de-wormer. You have more extensive information today on need to assign a yardage fee to cover feeding the feeder cattle we purchase compared to equipment, electricity, and bedding. When past years. We know the history on the cattle you have completed these costs, you can look and it is easier to start cattle with less death at a marketing strategy so you have an idea as loss. Remember, we are feeding cattle in to what your selling price will be. We have our area to market our crops. It is important several opportunities with different vendors to know the value of your feeds and try to that we can forward price these cattle; a protect your investment with a secured price that we are comfortable with. Some strategy. producers who know what their input costs are will know how much they can pay to

The Agri-Vator - Beet Edition - Summer 2016



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BEEF EDITION

Vol. 17, No. 1

doing as a whole on a weekly basis. The report tallies daily and the best time to watch it is the end of every week, as that's when cattle trade happens the most. For producers selling always on the cash market, this is the best tool for you to watch to know where to price your cattle when talking to a packer or going to the sale barn.

-Local Market Reports

This is the most common tool for this area and can give you a good indication how the local sale barns are doing. How is the market? Is it above or below the national average? Is there a better place to be marketing my cattle? These are all things to watch for when looking at local market reports. I always suggest using the average section in order to get the total average of choice cattle for that week. Then, gauge your cattle from there for different marketing values.

Looking at the local Lancaster county market as of 8/19/16, weekly average for high choice and prime cattle was holding at about the \$118-\$120 cwt on average. Now, that is still a big difference from board pricing at \$113.57 cwt for the same day.

The age old question in the cattle feeding | understanding of what the cash market is | the claim of seeing mid 120's cwt will be coming back for this coming fall and early winter, but we'll have to wait and see if that actually happens.

Using these tools to watch the markets can lead you in the right direction for marketing your cattle in the most profitable way. From what I've been seeing in the market place, coming into this fall and winter, I believe producers need to be careful and make smart decisions. Know your costs to get that steer from starting weight to finish weight. Know your break even costs and use risk management tools for the next coming year. Other opportunities that really benefit your bottom line, like feed efficiency, are a good area to focus on in order to see if your cattle are gaining and using the resources you're providing to the best of their ability. Feeders need to be bought at a level that you can make a profit on the top. Knowing those cost on what it's going to take to get it to the end is key. With a market like we are seeing now making sure your system is a well-oiled machine and protected with risk management options is what I feel is the best route for the next coming year.

Custom Feeding 101 by Jim Hoque, Agri-Basics, Inc., Nutritionist

Custom cattle feeding is a viable | barn. Knowing this information can help | of finish. Keeping cattle for an extra 50 option to consider as a cattle feeder. There are several ways to go about it and good reasons to consider doing it. We'll attempt to address the pros and cons in this space. Current feeder prices make locking in a profit difficult. So, custom feeding may be an alternative to full ownership. As we head into fall it looks like the corn market will continue to be under downward pressure, which will not be favorable to lowering feeder cattle prices. For the feeder, custom feeding frees up capital and reduces or eliminates risk while still keeping the barn full. Home-grown feeds can still be marketed on the farm and a positive cash flow exists depending on terms of the agreement. As for the owner, he can get performance data on his cattle as well as carcass data if sold on the rail. This information may not be available if his

him improve the genetics of his herd.

There are three ways to charge an owner for feeding his cattle: charging a fee per pound of gain, billing for feed plus vardage and charging a fixed amount per head per day (this is rarely seen in feedlot situation-more prevalent in pasture cattle). We'll look at the two more common scenarios.

Charging per pound of gain or an amount per head per day exposes the feeder to the most risk. This is because the feed prices can't be changed during the feeding period. The risk factors are: 1) absorbing shrink (both in and out) because most owners want the terms to be from pay weight to pay weight 2) being at risk for price increases in purchased feeds that can't be locked in 3) exposure to higher than expected gain costs due to cattle not being marketed feeders are sold through a broker or sale when fed to a desirable weight or degree and home-grown.

or 100 pounds significantly increases cost of gain 4) the feeder has no input or control over quality, origin, or health of the cattle coming in. If price per pound of gain is based on a certain incoming weight and the cattle come in weigh more than expected, it may be difficult to re-negotiate a higher cost of gain price. Death losses usually count against total pounds of gain unless it's understood that losses in the first few weeks are the responsibility of the owner.

In contrast, charging for feed cost plus yardage shifts some of the risk factors listed above to the owner of the cattle. Incoming shrink is the responsibility of the owner, but outgoing shrink is best managed by the feeder and it's expected that it be kept as low as possible. It's important for both parties to understand how feeds will be priced, both purchased cont. bottom of page 3

Feeding Conventional or Natural Cattle by Homer Eberly, Agri-Basics, Inc., Nutritionist

The debate around farm and feedlot has been, should I feed Conventional or Natural Cattle? Which is more profitable? So let's look at some of the positives and negatives.

First, we as beef producers need all the different markets we can get to sell our beef. So any way we can sell more beef is a good thing, whether it is grass fed, natural. hormone free or conventional. The broader the market base the better.

One negative of having a variety of markets would be, when the consumer goes to the meat counter and sees all the different labels of beef. This may be confusing. Does the consumer even understand the difference between natural and conventional? If some is labeled natural and some is not, will the consumer think that the conventional is

Cost of St

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3.25 x 200

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Profit?

less desirable or less healthy? Will they wonder if the cheaper priced conventional beef is less tender or less healthy? To me. I think Conventional beef is healthier than Natural because it has less fat, but that may not be the case for the average consumer.

Feeding Natural cattle takes more days on feed, so it takes more feed and water to produce the same amount Total Wt. of beef. Since it takes less feed and water to produce conventional beef I would say it's more sustainable and environmentally friendly.

Implanted cattle produce more muscle and less fat. Conventional cattle have less yield grade 4's.

Our local conventional cattle easily grade 80% choice or better with up to 50% CAB. Natural cattle often grade 100% choice and prime but will get more yield grade 4's.

How much more can I pay for Natural cattle? I will do the math later. On a 750 lb. steer it is about \$10.00 a hundred weight. Natural feeder cattle are harder to find and there are less to choose from. In Natural cattle the question is, how soon do I use antibiotics? The tendency is to wait longer to treat because if I treat I lose \$75.00 on first cost. Now the steer is no longer natural and it has to be marketed separate. Feeding Naturals also invites more paperwork and regulations on the farm.

Let's do the math for a 750 Lb. feeder steer on feed for 200 days.

Conventio	nal	Natural		
eer 750 x 150=\$1125		Cost of Steer 75	0 x 160=\$1200	
\$1.80 x 200 days=\$360		Feed Cost (the same)	\$360	
	\$8	Implants	\$0	
%	\$25	Interest 4%	\$27	
t	\$1518	Total Cost	\$1587	
Market Steer		Market Steer		
verage Daily Gain		Average Daily Gain		
0 days =	650 lbs	2.75 x 200 days =	550 lbs	
t. +	750 lbs	Feeder Wt. +	750 lbs	
	1400 lbs	Total Wt.	1300 lbs	
%	62.5	Dressing %	61.5	
√t.	875 lbs	Carcass Wt.	800 lbs	
rice x	\$2.00	Dressed Price x	\$2.26	
e	\$1750	Total Price	\$1808	
t	\$1518	Total Cost	\$1587	
	\$232	Profit?	\$221	



As you can see I did not include all costs such as freight, vardage, discounts and bonuses at harvest. There is no way to come up with an exact number because of all the variables in buying and marketing cattle. Conventional cattle usually dress at 62.5% and Natural at 61.5%. I feel that implanted cattle yield about 1% more than non-implanted.

61.5

There is very little difference in the bottom line of Natural versus Conventional. I do know if you feed Conventional cattle and do not implant you are giving up at least 100 lbs. and some feed efficiency which is \$100 to \$150 per head. As you can see it is important to implant conventional cattle. If you feed Natural be careful how much more you pay for feeders. The benefits of good genetics are more important in Natural cattle and maybe not as much in Conventional cattle. So which ever program fits your farm and as long as it is done correctly, there can be profit in either program.

Customer Spotlight: The Nissley Brothers by Angela Breneman, Calf Specialist

Darwin and Bernard Nissley started their cattle feeding adventure in 1983 and have been innovating their feeding and management program ever since. As the brothers took over the partnership from their father, this family affair has made it a priority to not only improve their overall operation, but to improve the efficiency of

their business. The 800 head feedlot operation has used different management tools throughout the years to help them narrow in their costs which landed them a spot in this month's customer spotlight. Darwin and Bernie

sheets onto a spreadsheet. While this had | Darwin and Bernie also stated it helps them worked well for them, it was time consuming and labor intensive. "Records are very important," Darwin states. "Keeping track of costs is very important to us and should be for all business owners." The two decided they needed to find a tool that could help them accomplish their record keeping task. They determined they



started their days shoveling feed into bushel baskets and carrying them over to the feed troughs in order to feed the cattle. Boy, have they come a long way since then! Today. instead of bushel baskets, the Nissley's are using a private feedlot software by High Plains to manage their feeding. They put the software to work about two years ago. They toyed with the idea of making the investment for a few years, but determined that this software would take their feeding management and record keeping up a notch. Previously, the brothers had to hand enter all of their costs, feed inventories and feeding

CUSTOM FEEDING 101 cont. from top of page 2

Death losses (unless due to fault of the feeder) are the responsibility of the owner. Incoming and outgoing weights are irrelevant to the feeder. It's incumbent on the owner to market the cattle when ready to keep cost of gain lower. One opportunity that exists in this type of arrangement is for the feeder and owner to partner on the cattle.

In both of these custom feeding scenarios veterinarian costs, animal health products used, and implants are charged to the owner and not included in the cost of gain or feed costs. There is typically a chute charge as well. It is best to have an informal contract drawn up outlining the terms of the feeding program. This explains who is responsible for what (especially insurance on the cattle), and when payments will take place.

If considering custom feeding, consult your Agri-Basics, Inc. nutritionist to assist in making performance projections that estimate performance and cost of gain.

The brothers say, with proper record keeping, they can set goals and the High Plains software helps them do that. The software helps them to track pricing of commodities, dry matters on feeds, net energy gain, feed inventories and even compare costs from different months or years. This allows the brothers to benchmark their operation from year to year in order to see how efficient they are as producers. Why is that important? Well, Darwin stated, "the more you know about your operation, the better vour business will run. Knowing costs, shrink in your bunker and how effective your ration is all helps determine your profit." adventure and it's still an adventure today."

Adding Profits with Optaflexx

muscle production in the final 28-42 days the finishing process of market cattle. After the steer or heifer fully develops its muscle capacity, the animal will start producing fat. This normal growth cycle results in poor efficiency and lower weight gain. When Optaflexx is added to the ration, it repartitions the nutrients for fat deposition into protein synthesis. The added extension of the growth cycle increases live weight, carcass weight, ribeye area, and maintains quality grade.

The main challenge of using Optaflexx in feedlots in Pennsylvania is the need to sort the cattle prior to marketing. The ability to have an open pen for the final stage is the most common problem I encounter and is the most crucial. Optaflexx is labeled for use in the final 28-42 days of finishing and the maximum return of investment is 28-35 days prior to finishing. If there is inability to separate the cattle, I have found feeding



needed something that could track feed, cost of gain, average daily gain, feed conversion and close-outs in order to be successful; which they found in the High Plains software.

know what cattle to buy on the next round. Record keeping through the software keeps track of all their cattle data by buyer. This lets them evaluate how efficient the cattle were and how they gained previously to help make the decision whether to buy from that producer again or not.

So, the big question on everyone's mind: was the software worth the investment? Darwin says, "It depends how much improvement is worth to you and your operation." The brothers have both seen a definite return on their investment because it allowed them to really dive deep and pin point the little aspects that improved efficiency and took their business up one step higher. They do caution that you must evaluate your business before investing. Is this tool right for you and will you be using it to its full potential?

Overall, the brothers agree mostly on one thing, record keeping and knowing your cost of production is the key to running your business. Whatever tools that can help you do that effectively will greatly benefit vour business. The High Plains software could be a valuable asset to your business. but you need to evaluate your situation and determine if it is the right choice to make you more successful. As the Nissley brothers say, "1983 was the start of their cattle feeding

by Adam Zurin, Agri-Basics, Inc., Nutritionist

Optaflexx is a beta-agonist that alters | the Optaflexx to the last group of cattle to be marketed having positive benefits in growth and appearance of the steers. After implanting and Rumensin, Optaflexx is the next most proven product to increase ROI for cattle feeders.



