

Corn Prices are High. . . Now What Do I Do?



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Corn prices have nearly doubled in the last year along with major increases in the prices of other commodities commonly fed to dairy cows. Couple these increases in prices with a shortage of quality alfalfa hay and you can quickly understand why the cost to feed the dairy herd has increased tremendously within the last year. These higher corn prices are expected to continue and are reflected in corn futures. Then the question becomes: What can I do to decrease the cost of feeding my herd while not compromising milk production and growth of my dairy heifers?

Forages- Foundation for Building Rations:

Feeding programs that contain higher amounts of forages are generally more profitable for dairy farm businesses. But, in order to use higher amounts of forages, quality forages must be available. Most dairy farmers understand the importance and try to achieve harvesting forages at the proper stage of maturity. Unfortunately, weather patterns often disrupt harvest schedules.

Opportunities for improvement exist related to the storage and feeding of stored forages, as silage, baleage or hay. These include:

1. **Moisture content of corn silage at harvest:** Corn being harvested for silage needs to be harvested between 62 to 68% moisture (32 to 38% dry matter). Piles and bunkers can be harvested on the wetter ends of these ranges compared to uprights and bags. When dry conditions prevail, corn plants can dry down quickly and result in corn silage being harvested too dry. Corn silage harvested too dry does not pack as well in the silo, does not ferment correctly, and results in lower quality feed available for feeding the dairy herd.
2. **Properly covered silage decreases losses:** Improperly or uncovered silage structures result in excessive losses of dry matter or potential feed. A study with uncovered bunker silos showed a 75% loss of dry matter of corn silage and higher pH within the top 10 inches and 25% losses within the next 10 inches of surface area on top of the bunker compared to bunkers properly covered with plastic and tires. These losses are substantial and are not seen unless the difference between the amount of silage entering and fed out of a structure is measured. Bunkers and

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piles need to be packed well especially the top 6 inches of silage and then covered with plastic. Tires are placed on top of the plastic to not only hold the plastic in place but also exclude oxygen. Tires should touch one another to achieve these goals and minimize spoilage and dry matter losses in the top layers of silage. Uprights should be leveled off and also covered with plastic. With bags of silage, it is important to prevent birds and rodents from damaging the bags. Corn silage is valued at 7 to 8 times the price of corn grain plus an additional \$10 for harvest and storage. Thus, at \$7 corn, each ton of corn silage is worth \$59 to \$66 per ton. Corn silage is a very valuable crop this year—taking time to properly cover it will save feed dollars.

3. Proper management of the silo face improves quality of feed consumed in the feedbunk: Silage needs to be removed from the face of the silo such that all of the feed is fed during that feeding period. Extra silage removed from the face and not fed is exposed to oxygen, starts through an unfavorable fermentation and the feed starts to heat. This feed is less palatable to dairy cows. This same unfavorable fermentation occurs when silage is removed from a silo and piled on the ground to be fed over the next day or two.
4. Silage needs 3 to 4 weeks to ferment before feeding (if possible): Unfermented feed can be fed but realize that this pre-fermented feed is higher in fermentable sugars and can cause cows to go off-feed. Gradually transitioning cows over 7 to 10 days to newly-fermented silage is recommended, if possible, or use dry hay to buffer cows through the transition. If green corn is high in nitrates, it should not be fed until it ferments and has been tested. Fermentation reduces nitrates by approximately 50%.
5. Silage does continue to ferment for 6 months after harvest: Research shows that fermentation and maximum percentage of available starch may not be achieved until 6 months or more after ensiling. Does this mean we do not feed newly harvested corn silage in the fall? No, but these data may explain why your cows milk better on silage around the first of the year.

Key Concepts for Cost Effective Milking Dairy Cow Diets

With the current feed prices, energy, not protein, is the most costly nutrient to provide to the lactating dairy herd. Today, energy costs over 2.5 times as much as protein in dairy rations. Thus, working closely with your nutritionist is critical to use your feed dollars wisely. Forage testing and then using those results to balance diets for not only the dairy milking herd but also the dry cows and heifers is critical. A few key points to remember when working with your nutritionist are as follows:

1. Dairy cows and heifers need nutrients not ingredients. Dairy cows need a certain amount of a nutrient, such as protein or energy, to support milk production, growth, and the cow herself. These nutrients can come from a variety of feed ingredients. Thus, nutritionists can use ingredients other than corn grain and/or soybean meal to

provide some or most of the starch or protein fractions in a dairy cows' diet. This approach allows one to balance rations for least cost, but at the same time, provide the rumen bacteria or bugs and the cow herself with what she needs.

2. Rations are balanced to contain certain amounts of dry matter provided by various ingredients. The amounts of dry matter then are converted to an amount to be fed on an as fed basis. This conversion is done by assuming a percent dry matter for each ingredient. As the dry matter or moisture content of wet feeds change, the amount fed or added to the mixer needs to change accordingly. These values can be adjusted by using a Koster tester or household microwave and scale to determine the current dry matter content of feeds. Spreadsheets are available to help adjust the amount of each feed that should be added to a TMR mixer or fed to cows with changing dry matter content of feeds.
3. Dairy cows need a consistent ration as it relates to its nutrient composition and ingredient composition and this ration needs to be provided on a consistent basis. Rumen bacteria take at least 2 weeks to adjust to changes and the less change the better.
4. Inventory forages and other feeds available. Current feed inventories showing availability of forages and grains should be shared with your nutritionist. Each forage type should show the amount of each available by its quality. For example, inventories should reflect the number of bales (and tonnage) available by cutting etc. By providing your nutritionist with this information, both you and your nutritionist can plan for any possible forage shortages and develop a plan that allocates forages when your cows and heifers can best utilize the qualities and quantity available.

We can economically feed the dairy herd even with high corn prices. We just have to pay attention to some of the finer points in our feeding and management programs.