

Kentucky Dairy Notes

July 2012



Milk Market Update

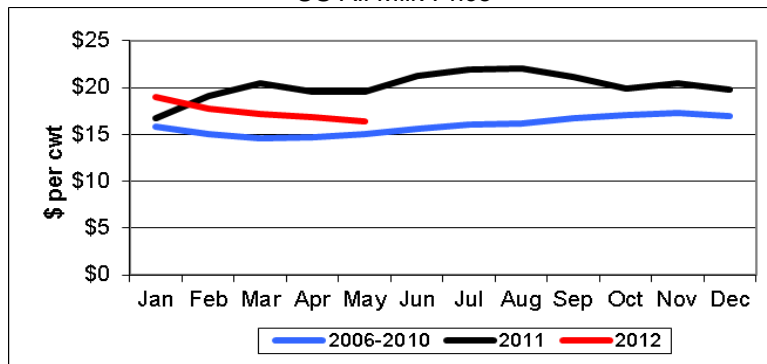
Kenny Burdine

Milk prices have continued to fall since the first of the year. At the time of this writing, the US All Milk Price was in the \$16-\$17 range, down from the \$20's during 2011. Milk production continues to exceed that of last year, although the pace does appear to have slowed. According to USDA's Monthly Milk Production Report, first quarter milk production during 2012 exceeded that of 2011 by more than 5%. However, during April and May, milk production was up by 3.4% and 2% respectively. Still, larger production levels have continued to pressure milk prices, as can be seen in the chart below.

Increased production, coupled with generally rising stocks, have all component prices below year ago levels. Dry whey began the year well above 2011 levels, but has steadily fallen since January. Cheese, butter, and non-fat dry have been below last year's levels most all year. Weaker prices for milk and dairy products, increasing feed costs, and strong cull cow prices are likely to result in a reduction in dairy cow numbers by year's end, but this reduction may be smaller in magnitude that previously thought according to USDA. USDA's current forecast puts 2012 milk production estimates around 3% higher than 2011.

While production is expected to be up for this year, the largest year over year increases have likely been seen. Milk production increases through the rest of the year should be smaller, and driven primarily by increases in milk per cow. In truth, it will be margins (milk price relative to feed costs) that will determine the level of liquidation that occurs in the coming months. If export pace remains strong, some slight price improvement is certainly possible by the end of the year. USDA's current projections are for around a \$1 per cwt improvement in All Milk Price by the 4th quarter, which would also be consistent with recent seasonal trends. Milk prices have tended to seasonally increase from spring into the fall over the last several years as can be seen in the chart below.

US All Milk Price



Stall Comfort Matters in Tie-Stalls Too

Jeffrey Bewley

Everyone in the dairy industry is familiar with the term "cow comfort." In general, cow comfort refers to minimizing all causes of cow stress in an effort to maximize animal well-being and milk production. Cow comfort encompasses the cow's entire physical environment including the surface where the cow rests, the holding pen, the feedbunk, the milking parlor, alleyways, and the air in each of these environments. Because freestall barns are the predominant housing system in the US today, we spend a lot of time talking about cow comfort in freestall barns without addressing other housing systems.

However, cow comfort matters in all dairy housing systems. Cow comfort can range from poor to excellent in every type of dairy housing depending on management choices and practices.

The 2007 USDA NAHMS (National Animal Health Monitoring System) study provided an excellent summary of dairy housing systems and practices across the United States. In this study, 49.2% of farms indicated that a stanchion or tie-stall barn served as the primary housing for their lactating cows whereas 32.6% of farms used a freestall barn. Over 60% of the cows in the study were housed in freestall barns because the freestall herds tended to be larger than the tie-stall/stanchion herds. With such a large percentage of farms housing cows in tie-stalls, why don't we spend more time discussing cow comfort in tie-stall barns? Stall comfort matters in tie-stall barns too; particularly given the amount of time the cow spends in her stall.

One area that is often lacking in tie-stalls is stall comfort, more specifically lying surface comfort. Lying behavior plays a critical role in the production, profitability, and well-being of dairy cattle. The amount of time a cow spends lying is influenced by many factors including facilities, management, and the physiological status (i.e. days in milk, milk yield, pregnancy status) of the animal. Increasing lying time may increase rumination, improve immune status, increase blood flow to the mammary system, reduce stress on the hoof, and reduce the incidence of lameness in a herd. Research has demonstrated that depriving cows of adequate lying time may result in physiological and behavioral stress, increased lameness, altered feeding behavior, and reduced milk yield. Cows strive to attain a fixed amount of lying time even at the expense of feeding time. Lying time has higher priority than eating time and social contact in both early and late lactation cows. In managing dairy cows, we need to do everything we can to ensure that cows have the opportunity to fulfill their lying time requirements.

Providing a comfortable, soft surface cushion may be the most important factor affecting stall usage and lying time. When stall surfaces are uncomfortable, lying times are compromised. An ideal stall bed conforms to the cow's shape, provides cushion while the cow is getting up and lying down, maintains effective traction to minimize slipping, and remains dry to minimize bacterial growth and promote optimal udder health. Hock injuries are commonly observed in situations where cows are forced to lie on a hard surface or when insufficient bedding is provided (Figure 1). Bedding helps to minimize friction between the hock and the stall surface. When mattress or mats are used, inadequate bedding may also lead to hock injuries and poor stall use. This problem is worsened when the mattress cushions have lost their flexibility used past their useful life.

Many different combinations of stall bases and bedding types can be effective. Because manure removal in tie-stall barns often relies on a gravity or flush-based gutter behind the stalls, options for bedding are more limited than in tie-stalls. Although a sand-based tie-stall would provide excellent cow comfort, its manure management limitations eliminate this option for most producers. The most common resting surfaces in tie-stalls are rubber mats or rubber filled mattresses, which vary widely in quality and resiliency. Generally, rubber mats do not provide much "give" as the cows get up and down within the stall. In many cases, they are only slightly better than concrete. Rubber-filled mattresses provide more cushion for the cow although they often lose their cushion over time. Waterbeds and the new gel-based mattresses may provide more cushion for the cows over time. Although these options cost more than rubber mats, the additional investment may prove worthwhile through increased production and improved feet and leg health. In many tie-stall herds, lying times and stall comfort could be improved considerably by replacing hard or worn-out stall surfaces.

Although mats, mattresses, waterbeds, and mats may reduce the amount of bedding needed, bedding still must be used to minimize friction while the cow rises from the stall and to absorb moisture. Too often, the amount of bedding used on a tie-stall is insufficient (Figure 2). While producers may be hesitant to use more bedding because of costs and manure handling concerns, additional bedding is a clear opportunity to spend a dollar to make a few more dollars through improved productivity and health. In a Canadian study, lying times were increased by over an hour just by increasing the amount of shavings or straw used in tie-stalls (Figure 3). Thus, lying time can be improved considerably just by providing cows with more bedding (Figure 4). When mattresses or mats are used, at least 3" of bedding must be added to the top of the stall base. Tie-stalls should be groomed, removing manure and wet areas 2 to 3 times per day. Bedding should be added at least once per week and possibly once per day depending on the type of bedding used, environmental conditions, and observations of cow cleanliness.

Providing cows housed in a tie-stall barn with a comfortable stall base with plenty of cushion supplemented with plenty of bedding is the first step toward improving stall comfort and cow lying times.

Investing in these improvements can provide considerable payback through increased production, improved feet and leg health, and increased longevity.

Figure 1. Hock injuries are common in tie-stalls with hard resting surfaces or inadequate bedding.



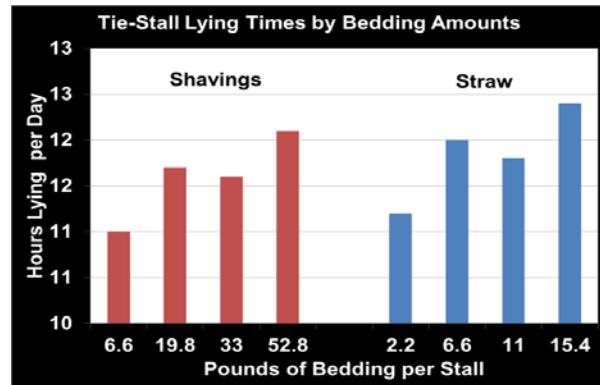
Figure 2. Insufficient bedding on top of tie-stalls is a common problem.



Figure 3. Simply adding more bedding to tie-stalls can have a dramatic impact on stall comfort and lying times.



Figure 4. Lying times increased considerably with increased bedding in a Canadian study (Tucker et al., 2009).



Dairy Feeding Tidbits – Chopping Corn Silage Early, Feed Options When Short Forage, and Using Your Feed Dollars Wisely

Donna Amaral-Phillips

Ways to cut feed costs with narrow profit margins

- **Use your feed dollars wisely:** Calculate your feed costs and income over feed cost – Realize that sometimes spending a little bit of money is necessary for more profit in the end. An example would be providing the proper amounts of mineral and vitamins to dairy heifers and dry cows. These nutrients are important for the health of these dairy animals especially after they calve. You may not see the financial reward for providing these nutrients now but if they calve with mastitis or other health issues, income will be reduced.
- **Re-evaluate rations being fed more often and be flexible for different approaches to feeding your dairy cows:** Feed a balanced ration that provides what your cows need. Cows need nutrients not ingredients in their diets. Other purchased feeds may be more economical and still provide the needed nutrients. With rapidly changing prices of ingredients, unless you have a set price for your grain mix, rebalancing rations more often may be necessary to best use your forages, labor, and feed purchasing

dollars. Group feeding may or may not save money and needs to be evaluated for an individual's operation. Feed additives also need to be evaluated to see if they are appropriate and produce a financial return for your herd.

- **Do you need to feed Western Alfalfa Hay?** Not only has this hay become hard to find but the cost has increased tremendously over the last few years. In dairy cow diets, western alfalfa hay, with a relative feed value of 180, provides effective fiber or chew factor for the cow to maintain rumen health and butterfat in a package that also provides high quality nutrients such as energy, protein, minerals and vitamins. Other forages can take its place as long as they provide effective fiber in a package that is of high quality which does not limit total feed intake and digestibility within the cow's rumen.
- **Forages are the most economical feed for the dairy herd.** Harvest and feed the highest quality forages mother nature will allow you to harvest. This year, many dairy farmers were able to harvest high quality wheat or rye silage or baleage. This will go a long way in designing economical feeding programs to keep feed costs down and to get dairy cows to milk. Take advantage of these forages by testing them and using these results to balance rations. These forages can replace some of the high priced Western Alfalfa Hay.

If the lack of rainfall has resulted in a forage shortfall or the need to chop corn for silage early, some points to consider:

Related to your corn crop:

- Monitor corn crop and chop for silage when it reaches the proper moisture level—Although corn silage may have small ears and/or lack of full kernel development, feeding programs can be built around this forage. This crop will be lower in energy and additional energy will need to be added to the diet in the form of corn grain, grain by-products and/or fat supplements.
- Test for nitrates after the crop has fermented for 3-4 weeks and before feeding. Ensiling silage (with proper fermentation) can reduce nitrate levels by approximately 50%.
- Do not feed corn silage as green chop if drought stressed. Crop may be high in nitrates and cause abortions and death in cattle.
- Test for nitrates before feeding corn as green chop or before harvesting crops that accumulate nitrates. Collect 5 to 10 random plants per field, chop the material, place a representative sample in a plastic bag, and immediately place on ice and hand-deliver to a testing laboratory. If the sample is shipped overnight to the testing lab, the sample should be frozen and shipped with an ice pack. Your local extension agent may have test strips or a meter to get a preliminary value of the nitrate content.

Nitrates can accumulate in other forages:

- Besides corn, nitrates can accumulate in johnsongrass, millet, sorghum, sudangrass, sorghum-sudangrass hybrids, and some weeds. These crops should be checked for nitrates before grazing, green chopping, or harvesting for stored feed.

Feeding Options:

- Start by taking an inventory of forages you have on hand and test each to determine its quality and develop a plan for its most economical use within your dairy operation.
- Allocate best quality forages to early lactation cows and highest producing cows through the next feeding year. Lower quality forages can be fed to dry cows, older heifers, and later lactation cows.
- Purchase standing corn from neighbors that raised corn for grain that lacks adequate kernel development and ear size.
- Forage extender products composed of grain by-products and cottonseed hulls can help extend forage resources. Additional grain by-products can be fed to stretch silage supplies.
- For heifers, corn silage can be limit fed or mixed with wheat straw to extend or replace hay supplies.

Reminders for corn silage chopping time

- **When to start harvesting** - Harvesting at the correct moisture (dry matter) promotes favorable fermentation in the silage crop and decreases storage losses. Thus, the moisture content of the chopped plant should be the determining factor for when to harvest. For bunkers, silage should contain between 30 to 35% dry matter (65 to 70% moisture). Upright silos and bags can be a little drier at 35 to 40% dry matter (60 to 65% moisture).
- **Length of chop:** Unprocessed corn silage should be chopped at 3/8 to 1/2 inch length and processed corn silage (with kernel processor) at 3/4 inch.

- **Adjusting silage choppers with on-line kernel processors:** To optimize starch digestion and provide adequate effective fiber, the recommendation is to cut to ¾ inch theoretical length with an initial roller clearance of 0.12 inches. If kernel breakage is not adequate, the roller clearance should be decreased. With this year's weather, kernel size may be smaller thus the need to decrease the roller clearance compared to previous years. To test whether adequate kernel damage is occurring, collect a silage sample from several loads in a 32 ounce cup. Pick out and count the number of whole and half kernels. If the number of whole or half kernels exceeds 2 or 3, improve kernel damage by adjusting the roller clearance. Essentially, the goal is to have between 55 to 64 percent of the kernels damaged.
- **Weight of tractor needed for packing bunkers and piles:** To achieve adequate silage density, the packing vehicle's weight and thickness of a layer of silage being packed must be taken into consideration. Thinner layers pack quicker. The packing vehicle weight determines filling rate (tons/hr) or to look at this differently, filling rate determines the weight needed for the packing vehicle. Filling rate or weight of tractors used to pack silage can be calculated using these equations.

Optimum filling rate (tons/hr) = Vehicle weight (lbs) / 800

Optimum packing vehicle weight (lbs) = filling rate (tons/hr) X 800

(Calculations to achieve minimum packing density of 14 lbs/ft³)

- **Remember:** Fill all silos quickly, cover piles, uprights and bunkers with plastic, and for bunkers make sure tires touch to weight down the plastic.
- **Nitrates in drought stressed corn:** In drought areas of KY, test for nitrates before feeding. Nitrate levels are generally reduced by 50% in silage which has been fermented properly. The highest level of nitrates is found in the bottom part of the stem, so raising the height of cut from the soil surface may reduce nitrate levels in the harvested crop.

Kentuckiana Dairy Exchange Trip

July 31-August 1, 2012

Registration Fee \$25 per person by July 15, 2012 (First come, first served basis)

Make Checks payable to: Kentucky PDCA

Please send: Name, Address, Cell Phone Number and Email Address to register

Return to: Larissa Tucker, 403 W. P. Garrigus Bldg., Lexington, KY 40546-0215

Phone: 859-257-5986 Email: larissa.tucker@uky.edu

Participants are responsible for making their own room reservations. A block of rooms are reserved at the Best Western Lodge in Shelbyville (502-633-4400) under "Kentuckiana Dairy Exchange" at a rate of \$62 per night.

Schedule Day 1

1:00-1:15 PM Welcome and Registration at Shelby County Extension Office
 1:30-5:45 John Kalmey Dairy, Harvest Home Dairy, Eddie Klingenfus Dairy Tours
 6:30-7:30 Dinner
 7:30-8:30 Presentations
 9:00 Reception

Schedule Day 2

6:45 AM Leave Hotel for Tours
 9:00 Longview Tour
 10:45 Davis Tour
 12:00 PM Return Home

For more information:

http://www2.ca.uky.edu/afsdairy-files/extension/events/Kentuckiana_Dairy_Exchange_Brochure_2012.pdf



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Kentuckiana Dairy Exchange Trip



July 10

Kentucky State Fair Dairy Entry Deadline

July 11

UK Dairy Field Day @ 10:30 AM ET
Goode Family Dairy-Liberty, KY

Contact Casey County Extension Office
To register and for more information

July 31-August 1

Kentuckiana Dairy Exchange Trip
Shelby County, Kentucky

August 16-19

Kentucky State Fair Dairy Shows