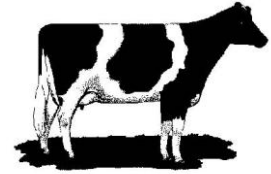


Kentucky Dairy Notes

October 2009



Why Measure? By: Jack McAllister

Management guru Peter Drucker, who helped launch the field of management in 1945 and who died at age 95 in 2005, is credited with coining the phrase “If you can’t measure it, you can’t manage it”. Managers make lots of decisions every day, maybe as many as a hundred or more. Some of these are very important, others may be less so. Robert Lewis, a business consultant who spoke of Drucker at the 17th American Dairy Science Association Discover Conference on Dairy Herd Analytics, made the case in his opening presentation to the group that you shouldn’t “trust trusting your gut” when making decisions. He argued instead for evidence-based decision making which is based on 8 “clear” components:

1. Clear goals
2. Clear definitions
3. Clear premises
4. Clear evidence
5. Clear assumptions
6. Clear logic
7. Clear decisions
8. Clear action.

“Measuring” comes in to evidence based decisions as a major part of “clear evidence”. Lewis claimed in another presentation that you get what you measure because measurements or metrics drive behavior and behavior follows decision making. He cited Three Fallacies of Measurement:

- Measuring the **right** things **wrongly** – which leads to wrong results
- Measuring the **wrong** things **rightly** or **wrongly** – which leads to wrong results
- Failing to measure **important** things – which leads to failure to get important results

Obviously, we want to avoid the measurement fallacies. We can do this by having clear goals, definitions, premises, assumptions and evidence and measuring the **right** things **correctly** and **accurately**.

For a dairy example, let’s use herd genetics. Why is herd genetics important? One could argue that the genetics of every cow in the herd controls her capability in every important aspect of

dairy cattle performance. How do we assure that we have dairy females with the highest genetic capability? We can do so by carefully choosing the sires and dams of our potential heifer replacements.

Clear goals What are our goals? We probably want cattle that have high milk production, get pregnant easily and calve with little/or difficulty, and stay in the herd for at least five lactations. How then do we select the bulls and cows?

Clear definitions Our measure of the genetic merit of the bulls and cows are their genetic evaluations available from the Animal Improvement Programs Laboratory of the United States Department of Agriculture (www.aipl.arsusda.gov). Every AI or registered dairy bull with progeny and every dairy cow enrolled in the Dairy Herd Improvement (DHI) program which is either registered or has an AI sire receives a genetic evaluation. Thus, genetic evaluations are available on the following traits and indexes: milk yield, fat yield, fat percentage, protein yield, protein percentage, productive life, somatic cell score, daughter pregnancy rate, Net Merit \$ Index, Fluid Merit \$ Index and Cheese Merit \$ Index. Each of these traits and indexes are clearly defined.

Clear premises Our premise is that each sperm and each egg contain a random sample of the genes possessed by each animal that produces them.

Clear evidence Our evidence is the published genetic evaluations of the bulls and cows.

Clear assumptions Our assumption is that calves receive a random sample half of the genes each from the sire and dam which were transmitted in the sperm and egg which united to form them.

Clear logic Our logic is that the genetic merit of a calf is the average of the genetic merit of their sire and their dam.

Clear decision Our decision then is to decide which AI bull to mate to which cow to produce an offspring.

Clear action Our action is to detect the chosen cow when she is in heat and inseminate her with semen from the chosen bull.

If we followed the process outlined above I would argue that we have used measurements to guide our decisions and taken action to help us effectively manage the genetics of our dairy herd.

Building Resilient Dairy Farms

By: Jeffrey Bewley

Recently, I had the chance to attend the 2009 European Association of Animal Production meeting. It's always interesting to learn about agriculture in other places. For me, the most insightful presentation was by Dr. Ika Darnhofer from the University of Natural Resources and Applied Life Sciences in Vienna, Austria. Surprisingly, her presentation did not include anything about our traditional animal production topics, like nutrition, reproduction, and genetics. But, what she presented was probably the most timely information for the current situation in the dairy industry. Dr. Darnhofer described the concept of **farm resilience**. What is farm resilience? Webster's dictionary defines resilience as "an ability to recover from or adjust easily to misfortune or change."

It's easy to see how this concept can apply to a dairy farm, given that dairy farms are constantly changing, complex businesses. Farm resilience is characterized by the ability (1) to constantly evolve while protecting against shocks to the system, (2) to readjust to adapt to stresses, (3) to implement strategies to take advantage of strengths, and (4) to continually adapt to the current situation. Darnhofer proposed that, in farming systems, surprises are unavoidable and the timing and length of crises cannot be predicted. Thus, farms that intend to stay around

need to be able to cope with surprises and adapt to stresses. She suggested four strategies to build farm resilience.

1. Learn to live with change and uncertainty. First, discard the idea that the situation will remain stable and learn to expect the unexpected. As crises occur, learn from each of them. Maintain a flexible farming system and be ready to change business strategies when necessary. Limit debt levels and maintain caution with large, long-term investments or contracts. If possible, spread risk by cooperating with other farmers or making purchases that are easy to sell or convert to uses in other enterprises. Finally, do what farmers do best, by using existing buildings and equipment in creative ways or doing things yourself rather than hiring them to be done by someone else.

2. Nurture diversity. The ability to cope with changes increases with diversification—of crops, animals, breeds, products, and enterprises. On-farm independence may be increased by looking for ways to rely less on others for labor, nutrient management, energy use, or even money. Similarly, maintain diversity in where you obtain information. For example, some information may come from conversations with friends and neighbors. On the other hand, information may also be obtained through workshops, seminars, and classes. Both on-farm experiments and new knowledge created from controlled research experiments are critical to exploring new dairy business opportunities.

3. Combine different types of knowledge and learning. The uncertainty that is characteristic of farming means that traditional thought processes, like stability, income maximization, technical fine-tuning, and biological optimization, must be balanced with adaptability, resilience, and flexibility. Traditional, practical knowledge gained through daily management of the dairy farm should be combined with the knowledge and information created through science. Farm study groups may also provide an excellent opportunity to get new ideas and learn new things. In addition to listening to industry professionals and other farmers, it is important to listen to what society and urban consumers has to say about the type of farming operations where they would like to see their food produced. Lastly, don't overlook the value of listening to business partners and family members.

4. Create opportunities for organizing yourself and links with others. Establishing a strong network of friends, family, and contacts can help with farm resilience. Being involved in dairy producer and political organizations can help you be prepared to deal with change through collective action. Perhaps more importantly, being involved with organized community groups, such as church, local sports, civic organizations, may prove beneficial in dealing with the impact of outside influences on your dairy business.

Dr. Darnhofer's insight into farm resilience certainly applies to the current situation in the dairy industry. Today's economic conditions have created a complex set of problems and changes for dairy producers to deal with. How could you have prepared to manage against the shock of decreased milk prices accompanied by increased input prices? Dairy operations who are most likely to maintain their position in the dairy industry are those that are the most resilient by being the most prepared to deal with change, uncertainty, and the pressure of internal and external forces. A resilient dairy farm develops creative solutions to dealing with change as the "rules of the game" change. The dairy farm you manage will only become increasingly more complex with increased consumer concerns for food safety, animal well-being, and the environmental impact of dairy operations. Those dairy farms that adapt through continual

evolution will successfully make it through the difficult times. Resilient dairy farms take advantage of existing strengths, absorb system shocks, and adapt to changes by taking advantage of the new opportunities they create. Striving for dairy farm resilience may help you avoid the traps that occur when the dairy farm is viewed as a constant, consistent, unchanging system.

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**Risk Management Tool for Dairy-
USDA Livestock Gross Margin (LGM) for Dairy
By: Jack McAllister**

In April 2009, Kentucky dairy farmers became eligible to participate in a program offered by the Risk Management Agency of USDA. The Livestock Gross Margin (LGM) program for Dairy is an insurance program reinsured by the Federal Crop Insurance program. This tool helps manage risk through the purchase of insurance based on the expected monthly difference between the value of milk produced and the cost of purchased feed (corn and soybean meal equivalents). This difference is referred to as the gross margin (Gross Margin = Expected Value of Milk Produced – Expected Cost of Purchased Feed). This expected gross margin is calculated on the date of the insurance purchase and is called the Gross Margin Guarantee. The estimated value of milk produced is based on monthly estimated milk marketings and the Class III milk futures price for each month. Purchased feed is estimated from the sum of tons of corn equivalents and the tons of soybean meal equivalents fed to produce the milk and the price used is futures prices for corn and soybean meal. The insurance is a protection against a loss in the Gross Margin Guarantee when compared to the Actual Gross Margin for each month of the insurance period. The Actual Gross Margin is calculated from Class III milk, corn and soybean meal prices on the closing date each month.

Insurance can be purchased for a coverage period of a maximum of 11 months in the future. Insurance can only be purchased on the last Friday of a month (which is business day) and ends at 8:00 PM Central Time on the following day. The premiums are based on 5000 simulations using futures prices for Class III milk, corn, and soybean meal in each of the months covered by the insurance period and applied to the expected milk marketings (cwt) and the use of corn and soybean meal equivalents (tons). The futures prices used are those for the three previous trading days of the futures prior to the date of sale of the insurance. The same set of simulation results are used for each policy holder for that month. Like other insurance, there can be a deductible ranging from \$0.00 to \$1.50/cwt. based on the amount of the expected gross margin that the producers decides not to insure.

Example Premium Calculation

The premium for a Livestock Gross Margin was calculated using a calculator on the University of Wisconsin website (http://future.aae.wisc.edu/lgm_dairy.html) for an example herd of 80 cows producing 18,000 pounds of milk per cow. The insurance period covered 10 months for each month from December 2009 through September 2010. To estimate monthly milk marketings, monthly milk production per cow for 2008 for Kentucky was used and extrapolated to an 18,000 pound level. Feed amounts for corn and soybean meal were determined using default values of 0.014 tons of corn equivalent/cwt of milk and 0.002 tons of soybean meal equivalent/cwt of milk. The estimated milk marketings, feed amounts and their respective feed prices were used to calculate the Gross Margin Guarantee (GMG). The deductible level was \$0.00/cwt. During months in which the Actual Gross Margin was less than the Gross Margin Guarantee for that month, there would be an indemnity or loss. The total premium under the scenario above was \$9,034 for estimated milk marketings of 1,208,300 pounds or 12,083 hundredweights. To recover the Livestock Gross Margin premium, there would have to be an indemnity or loss over the total insurance period of at least \$9,034 or \$0.75/cwt. This would

amount to a minimum of a \$1/cwt loss in 8 of the 10 months of the insurance period. If a \$1.50 deductible had been chosen, the premium would have been \$2,354 and to recover the premium, there would have had to have been a loss of at least \$1.00/cwt in at least 2 months of the 10 months of insurance coverage or an average of \$0.19/cwt loss over the whole 10 months. If margins of at least \$0.75/cwt less than the Gross Margin Guarantee are expected then the insurance deserves consideration.

Table 1 lists the insured months for this example and the milk and feed amounts estimated and the futures prices for milk, corn and soybean meal determined from the average futures prices of September 25, 28 and 29, 2009. The total Gross Margin Guarantee is \$147,554 or \$12.21/cwt.

Table 1. Calculations of Gross Margin Guarantee with a \$0.00 deductible level using default feed values and estimated milk production from a herd of 80 cows producing 18,000 pounds of milk per year.

Insured Months	Covered Production (cwt)	Covered Corn Equiv (Tons)	Covered Soybean Equiv (Tons)	Avg. Milk Futures (\$/cwt)	Avg. Corn Futures (\$/bu)	Avg. Soybean Meal Futures (\$/ton)	Gross Margin Guarantee @ Base Deductible	
							Total (\$)	Per cwt (\$)
Dec-09	1,255	17.60	2.50	14.08	3.38	284.40	14,835	11.82
Jan-10	1,255	17.60	2.50	14.11	3.42	281.77	14,852	11.83
Feb-10	1,181	16.50	2.40	14.30	3.47	280.17	14,173	12.00
Mar-10	1,340	18.80	2.70	14.33	3.51	278.57	16,093	12.01
Apr-10	1,308	18.30	2.60	14.24	3.56	277.09	15,582	11.91
May-10	1,287	18.00	2.60	14.43	3.60	275.60	15,541	12.08
Jun-10	1,181	16.50	2.40	14.70	3.64	275.74	14,554	12.32
Jul-10	1,127	15.80	2.30	14.93	3.68	275.87	14,115	12.52
Aug-10	1,064	14.90	2.10	15.24	3.72	275.90	13,656	12.83
Sep-10	1,085	15.20	2.20	15.48	3.76	273.70	14,153	13.04
Total	12,083	169.00	24.00				147,454	12.21

More detailed information on the LGM for Dairy program may be obtained from the USDA Risk Management website <http://www.rma.usda.gov/livestock>. The University of Wisconsin also has an extensive website on Understanding Dairy Markets which contains software, background papers and links to other sites under the LGM-Dairy tab (http://future.aae.wisc.edu/lgm_dairy.html).

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**New PDCA Dairy Cow Unified Scorecard
By: Larissa Tucker**

The Purebred Dairy Cattle Association has recently revised the dairy cow unified scorecard. The latest revisions were revealed in an article in the August 10, 2009, Hoard's Dairyman. The score card had not been revised since 1994. The new scorecard contains fewer categories. There are now only 4 categories on the new score card. Dairy character and body capacity have been combined to form a category called dairy strength. More emphasis is also being placed on rear feet and legs. Below is the breakdown of the new categories. For more information you may visit www.hoards.com.

- Frame 15%
- Dairy Strength 25%
- Rear Feet and Legs 20%
- Udder 40%

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**Kentucky Dairy Partners Meeting
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