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Boost milk quality, repro efficiency with DHI tools

Dairy Herd Information (DHI) testing and the management and genetics information it offers is accurate, reliable and innovative in aiding dairy producers in making objective, business-minded decisions. Taking a closer look at a couple key areas – milk quality/udder health and reproduction – dairy producers may be able to identify some income-enhancement opportunities.

'Hot Sheet' provides quality snapshot

Udder health data provide valuable information vital to a dairy herd's overall performance, productivity and reproduction efficiency. For short-term decisions regarding individual cows, review the "Hot Sheet," which lists each cow's milk weight, butterfat and protein percentages, linear somatic cell score (SCS), actual somatic cell count (SCC), days in milk and lactation number. Additionally, this report lists the top 20 cows (based on a cow's daily milk production and her SCC) impacting the bulk tank SCC.

The cows with Highest Linear SCC This Month DHI-340 report (*see Figure 1*) captures several factors to consider when making management decisions. (Only part of this report is shown.) Note that "Butter" contributes 14.7% of the SCC to the bulk tank, is 227 days in milk and only has a 305-day mature equivalent of 10,906

pounds of milk. Plus, she has experienced severe mastitis seven times. "Barge," a much higher milk producer, contributes 20.5% of the SCC to the bulk tank. Since her last test, she produced 160 pounds less milk due to high SCC.

The Hot Sheet provides two particularly interesting columns for dairy producers to review. One column shows what the average SCC would be minus an individual cow's milk from the herd. The other key column gives the percentage of SCS she contributes to the herd's total SCC.

Milk quality monitoring tools

Using SCC testing is an easy way to find problem cows. To track historical trends and consider long-term changes, look at the DHI SCC report to find percent of cows by linear score.

- Are there a lot of cows in the high SCC range?
- Or, is the SCC for a group elevated due to just a few very high SCC cows?
- Is SCC improving in the herd?
- Are there chronic mastitis cows plaguing the herd's milk quality record?
- Is progress being made toward overcoming certain types of mastitis pathogens?
- Do certain pathogens only appear during a particular season?

Figure 1. Cows with highest Linear SCC this month DHI-340

Barn Name	Index / ID	Linear Score		Production		Days In Milk	Milk Loss	% Bulk Tank	Times Severe	Date 1st Infected
		Testday	Mean	Testday	305ME					
BUTTER	179	7.5	6.7	21	10,906	227	107	14.7	7	11/30/07
BARGE	699	6.1	1.2	78	28,197	214	160	20.5	1	6/16/08*
207	207	5.7	5.7	34		6	17	6.7	1	6/16/08*
237	237	5.1	5.1	40		13	30	5.2	1	6/16/08*
216	216	4.8	3.5	54	17,468	102	55			6/16/08*
ANN	231	4.7	3.7	39	14,335	159	53		1	1/29/08
ALLIE	120	4.3	3.1	31	21,935	565	90		1	9/16/07
BROOKE	697	4.3	2.2	60	27,185	344	90			6/16/08*
194	194	4.1	3.2	40	16,921	268	41			10/27/07
201	201	3.9	3.4	70	22,473	239	37		1	10/27/07

Courtesy of Dairy Records Management Systems

Several dairy producers use the report that identifies cows and their lactation number, along with stage of lactation and average SCC – giving them a quick view of the herd’s udder health status. This information aids in making treatment decisions based on milk culture results. Custom reports are also available to fit any dairy’s needs. A dairy manager’s imagination is the most limiting factor.

Additionally, dairy producers may find the report listing newly infected cows by lactation number since the last test very helpful in managing udder health. Along with this report, review the list of chronically infected cows to improve milk quality.

Quality premiums earned from reduced SCC levels or deductions avoided for high SCC levels more than pay for DHI milk testing. According to various resources posted on the NMC web site (www.nmconline.org), mastitis costs about \$200 per cow per year. Reduced milk production accounts for about 70% of the total loss associated with mastitis. In addition, improved milk quality helps increase milk production and helps reduce treatment costs, discarded milk, death and premature culling.

Benchmarking repro

Reproductive performance greatly impacts a dairy’s bottom line. Find hidden profit opportunities by monitoring, evaluating, benchmarking and optimizing heifer and cow reproduction. Compare the dairy’s reproductive performance by looking at regional and national benchmarks – or any other established parameters, such as herd size and/or lactation average (*see Figure 2*).

Pregnancy rate can be found on the Consultant side of the DHI Herd Summary, under the Pregnant Animals column of the Reproduction Summary. DHI records also help dairy producers monitor average days to first service, average services per pregnancy, calving interval, average days open, average conception rate and average age at first calving, which are summarized by lactation and for all cows in the herd. Furthermore, the report lists each cow’s sire and dam, most recent service sire and current reproductive status. The Reproduction Report also includes last year’s calving pattern, reproductive cycles and cows with the most days open. Use DHI records to optimize a dairy’s reproductive performance and monitor progress. As

with milk quality/udder health, custom reports are available to fit any dairy manager’s needs.

According to John Ellsworth of Success Strategies, Modesto, Calif., the equity produced by maximizing pregnancies within a herd from genetic improvement, increased milk revenue and/or reduced expense for herd replacements can dwarf pregnancy cost by nine to ten times. Improving reproductive performance yields a higher proportion of cows in early lactation – putting more milk in the bulk tank. Making positive reproduction progress can help boost revenue through increased milk production, voluntary culling and available replacements.

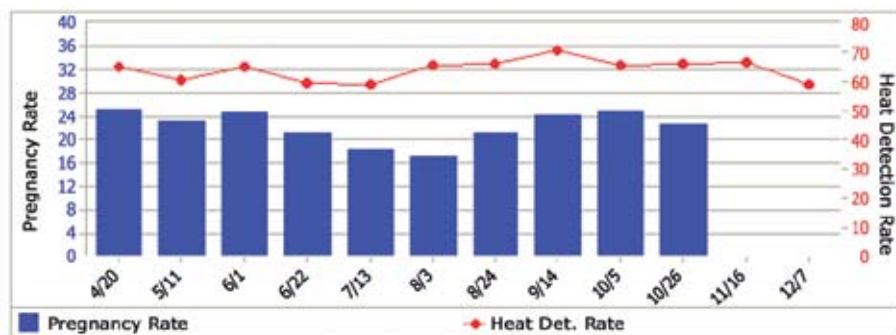
Flexible programs, reliable data

While DHI offers a variety of milk testing options and reports, it’s not a one-size-fits-all system. Today’s National DHIA affiliate members offer flexible testing programs that are accurate, reliable and innovative. DHI reports provide dairy producers and their advisers with vital data that are calculated consistently. Plus, DHI reports give benchmarks – based on data from thousands of cows – that are calculated the same way.

Finding income-enhancement opportunities by overcoming milk quality, reproduction and milk production obstacles increases income. These three areas, monitored by DHI records, hold valuable information for making management and culling decisions that impact a dairy’s bottom line. Without DHI data, informed decisions cannot be made. Optimize milk quality, reproduction and milk production to maximize the dairy’s revenue.

Making solid dairy management decisions based on solid DHI records enhances the opportunity of a dairy’s success. DHI testing involves a small investment that provides a huge return.

Figure 2. Pregnancy Rate and Heat Detection Rate for a herd over time



Courtesy of DHI-Provo

This chart shows the Pregnancy Rate and Heat Detection Rate for a herd over time. This is an excellent tool to monitor reproduction performance. It enables you to see when performance is improving or when there are challenges.