



# Quality Certification Services Inc.

## Milk samples: They're not just for component testing anymore

**Just a few ounces of milk** holds a wealth of information. Sure, there's fat and protein percent, and SCC, but many dairy producers are getting even more information from milk samples – helping them detect diseases, evaluate rations and assess breeding programs.

"Milk samples taken from cows by milk recording organizations on test dates are an underutilized resource for dairy producers and recording organizations," stated Todd Byrem of Antel BioSystems, Lansing, Mich.

Just as exciting as the available information is the ease of sample collection. Compared to traditional blood testing programs for diseases such as Johne's disease, bovine viral diarrhea (BVD) and bovine leukemia virus (BLV), taking milk samples is far less costly, dangerous and time consuming. Milk testing to find diseases eliminates animal sorting and restraining, eliminates ear notching/blood draws, and eliminates shipping and transportation costs.

Also, allowing Johne's, BLV and/or BVD to attack a cow's immune system not only suppresses immune response to these and other diseases but also interferes with vaccination programs. To increase vaccination programs' success, immunized cattle must be healthy.

### **Johne's disease**

Johne's disease antibodies can be detected in milk via ELISA (enzyme-linked immunosorbent assay) testing. The convenience of DHI milk sample collection and quickness of test results of the ELISA assay offer an attractive mechanism to evaluate dairy herds for the presence of Johne's. At the whole-herd level, individual milk ELISAs allow consultants and producers to evaluate trends and patterns that can determine transmission pathways and economic effects of Johne's disease.

Milk ELISA test's specificity is 99%, meaning it correctly classifies non-diseased animals as a negative test – resulting in very few false positive test results. The performance of milk ELISA is equivalent to blood ELISA for Johne's.

### **Bovine leukemia virus**

Milk samples obtained through milk recording provide an excellent platform for regular detec-

tion and management of BLV (leukosis). "The sensitivity and specificity of commercially available assays are generally greater than 95%, and their utility in control and surveillance programs is unquestionable," Byrem commented.

Leukosis tests are extremely accurate. The antibody response to leukosis infection is rapid, substantial, persistent and easily detectable by ELISA in milk or blood samples. Consequently, dairy producers and veterinarians can be very confident in the results. Screening for leukosis is as simple as handing your DHI technician the list of animals you choose to test.

### **Bovine viral diarrhea**

BVD infection poses a significant economic impact on dairy operations. If BVD has been recently diagnosed or is strongly suspected in your herd, work with your veterinarian to develop a screening program. Since cows shed BVD virus in milk, you can use milk recording samples to screen for BVD. (Calves are typically screened with blood samples or ear notches.)

Pooled milk samples – from bulk tanks or DHI samples, for example – can be used to screen for BVD virus to reduce overall testing requirements and cost to find persistently infected (PI) cows. The DNA test for BVD detection is sensitive enough to find one PI cow in a group of 200-300. On individual samples within positive groups, research has shown 100% agreement between BVD milk ELISA and traditional analysis by ear notch, indicating that viral shedding in milk is consistent and indicative of persistent BVD infection.

By using the convenience of DHI milk sampling and analysis, veterinarians and producers have been able to implement successful testing strategies with absolutely no interference to their cows or daily farm operations. Don't waste resources restraining and sampling cows for disease testing when answers can be found in DHI milk samples.

Quality Certification Services (QCS) offers certification programs for labs conducting ELISA testing and milk urea nitrogen analysis. These programs are independent of routine QCS audits and certification is voluntary for labs conducting these DHI milk sample tests.

For more information about the QC Program and QCS, contact Steven Sievert, manager, QC Program, at 608-848-6455, ext. 113, e-mail: [sjsievert@dhia.org](mailto:sjsievert@dhia.org), or Jay Mattison, administrator of QCS, ext. 111, e-mail: [jmattison@dhia.org](mailto:jmattison@dhia.org). Or, log on to [www.quality-certification.com](http://www.quality-certification.com).