

S06(T)-OP-4

Applications of weekly milk recording

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Monthly testing intervals are the historical model for milk recording activities. Cow lactation records derived from a monthly collection of a single milk sample by an independent DHIA supervisor were the initial foundation of genetic evaluations and cow recognition programs. The aggregation of these lactation records with corresponding breeding, health, and culling data provide a historical snapshot of the dairy farm enterprise, and thus the opportunity for farms to assess effectiveness of management decisions, generating additional return on the farm investment in milk recording services.

With the development of computerized farm records and milking systems in the 1980s and 1990s, dairy farms began to compare the value of monthly DHI information with daily data generated and stored on the farm computers. Many herds subsequently discontinued DHI testing or implemented longer test day intervals to still qualify for A.I. progeny test programs. To bring added value to the farm's investment in monthly milk testing, AgSource developed, often in partnership with universities and veterinarians, a portfolio of farm management summary tools including Herd Report Card, Fresh Cow Summary with the Transition Cow Index®, KetoMonitor® and the Profit Opportunity Analyzer®. The value these tools add to milk recording services is evidenced by maintenance of a monthly test interval for more than 90% of the cows on AgSource member farms.

Today's utilization of activity monitoring systems, robotic milking and sensor technology introduces even greater opportunity for daily data assessment indicating changes in cow conditions. Citing improvements in data collection from on-farm sensors, manufacturers of such technologies frequently challenge the need for traditional milk recording services. The mass volume of data generated is a benefit, yet also challenging. The actual diagnosis and treatment decisions require correlation and interpretation of many data points.

To adapt to changing information needs, AgSource conducted field trials of weekly sampling intervals and developed partial herd testing protocols for groups of cows requiring greater attention, including transition cows, reproductive status groupings, at-risk mastitis cows. Implementation of weekly sampling in large herds requires consideration of pen grouping, labor required for sample collection, and logistics for sample transport to the lab. Furthermore, new data calculation practices are required for delivery of management tools for these innovative milk recording services. By coupling on-farm data with frequent laboratory analysis of milk samples, more effective decisions are achieved and enhances opportunities to identify subclinical diseases, improve reproductive protocols, quickly evaluate changes in cow rations, and manage antibiotic treatments for mastitis.

Keywords: milk sampling frequency, subclinical diseases, sensor technology, future milk recording services