

Is Monitoring for Subclinical Ketosis in Dairy Herds Cost Effective?

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Abstract

The objective of this study was to estimate the profitability of a monitoring program for subclinical ketosis in dairy herds. Ketosis causes economic losses due to decreased milk production, impaired fertility and increased risk of displaced abomasum. On a herd basis, subclinical ketosis is substantially more costly than clinical ketosis: the estimated average subclinical ketosis risk accounts for \$ 31 per cow, per lactation (lactational incidence risk of 40% x \$ 78 per case), whereas the clinical ketosis risk accounts for approximately \$ 7 (lactational incidence risk of 5% x \$ 145 per case). Therefore, more can be gained by monitoring cows for subclinical ketosis in addition to clinical ketosis.

More than 90% of subclinical ketosis cases occur in the first and second month after calving. During this period, an average 40% of all cows are affected by subclinical ketosis one or more times, with highest prevalence in the first and second week after calving. A monitoring program that tested each cow for subclinical ketosis in the first and second week post-calving would identify nearly 90% of cases.

A low-cost, cow-side milk ketone test that is highly sensitive and specific has recently become available. A program that tested each cow for subclinical ketosis in the first and second week post-calving, and treated positive cows to prevent losses, could have a cost: benefit ratio of 1 to 3. Under these conditions, a monitoring program for ketosis would be profitable.

Corticosteroid Treatment of Healthy Early-lactation Dairy Cows

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Abstract

Effects of isoflupredone acetate and dexamethasone were studied in 68 healthy Holstein dairy cows. Cows in a single herd were screened for health status on day 4 or 5 after calving, then randomly assigned to receive 1) 20 mg isoflupredone acetate on day 0; 2) 20 mg isoflupredone acetate on day 0 and day 1; 3) 20 mg dexamethasone on day 0; or 4) 10 cc normal saline on day 0.

Blood and urine samples were collected twice daily from each cow for 5 days. Urine pH was determined and the remainder of the sample frozen for later analyses. Serum was separated from clots by centrifugation and frozen for later analyses. All chemical analyses were conducted by PalmLab of Madison, WI. Serum and urine concentrations of Na, K, Cl, Mg, PO₄, Ca, and creatinine, plus serum glucose, were measured.

Two-way ANOVA (treatment, time) with repeated measures on one factor (time) and an autoregressive co-

variance structure were used for comparing dependent variables between treatment groups. All 3 steroid treatment groups had increased serum glucose that returned to baseline by the end of the observation period. The group receiving 2 doses of isoflupredone acetate had a significant decrease in serum K concentration. A first-

lactation cow from group 2 was recumbent with severe hypokalemia, on day 9 after enrollment. Fractional clearance rates for K did not differ among treatments. No other treatment effects on serum electrolytes were observed in this trial.

Effect of Forage and TMR Particle Size on Cow Health and Milk Components

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Introduction

Particle size of forages and total mixed rations plays an important role in the health and performance of dairy cattle. Objective of this study was to determine the effect of forage and total mixed ration (TMR) particle size on various health and production parameters in Ontario dairy herds.

Materials and Methods

A total 202 Ontario dairy herds in 21 counties were selected. During spring 1999, 31 local veterinarians were asked to collect forage and TMR samples from their clients' dairy farms, and administer a questionnaire to collect information on dry-cow and milking-cow nutrition and feeding management. Using Ontario Dairy Herd Improvement services, production and

health information was retrieved for these herds. All feed samples were sent to the University of Guelph, where particle size was measured using a Penn State Particle Size Separator. Subsequently, forage samples were classified as having low or adequate levels of particles on each screen, according to Penn State Particle Size Separator recommendations.

A total 91 herds returned forage samples with completed questionnaires. Of these, 79 fed haylage, 79 fed corn silage, and 57 fed a TMR. Table 1 illustrates the number of herds that had low particle size levels for each screen of the separator.

Results and Discussion

Table 1 illustrates that low particle size is more common in TMR diets and may be a consequence of diet preparation. No effect of particle size was found

Table 1. Low particle size based on Penn State Particle Size Separator recommendations

Screen	Top		Middle		Both Top and Middle	
	N	%	N	%	N	%
Haylage	9	11.3	12	15.2	2	2.5
Corn Silage	10	12.7	5	6.3	2	2.5
TMR						
All Forages	22	38.6	20	35.1	16	28.0
Normal Forages ¹	12	38.7	8	25.8	5	16.0

¹Herds with normal particle size in their forages, but low particle size in their TMR (31 herds with normal forages going into the TMR)