

# Using Manure Evaluation To Enhance Dairy Cattle Nutrition

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There are many tools that a nutritionist may use to evaluate and monitor the nutritional status of high producing dairy cows. Evaluating the feces or manure can provide information about general health, rumen fermentation, and digestive function of cows. Mature cattle provide ample opportunities for manure observation, as they pass feces approximately once every 1.5 to 2 hours and excrete a total of 100 or more pounds every day. The amount of manure produced may vary due to feed and water intake, and may be greatly reduced by an unusual disruption in passage of matter through the digestive tract.

Manure evaluation may provide valuable information regarding the site and extent of both digestion and fermentation of consumed feeds. Normally a majority of the feed consumed by the dairy cow is digested in the rumen, and a majority of the nutrient absorption occurs in the rumen or small intestine. When feed is not properly fermented in the rumen, some undigested nutrients may reach the small intestine. Normally, these nutrients may be

digested and absorbed, but if the amount is too excessive or the rate of passage is too fast, nutrients may escape both digestion and absorption in the small intestine. The last opportunity for nutrient digestion and absorption occurs in the large intestine. Hindgut or large intestinal fermentation is part of the normal digestive process in the rabbit and horse; however, this process usually plays a small role in the dairy cow. When cows consume rations

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## Accomplishments

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different dairies operate; and the concerns about how some dairy producers are moving away from conventional herd testing.

Muller believes in closer collaboration between university and industry.

Muller noted that finding and recruiting current faculty, some of the best at any university, was a matter of timing and "dumb luck."

But a student of his, Elliot Block, Church and Dwight Company, provided this famous quote: "You might be in the right place at the right time, but you also have to know what to do."

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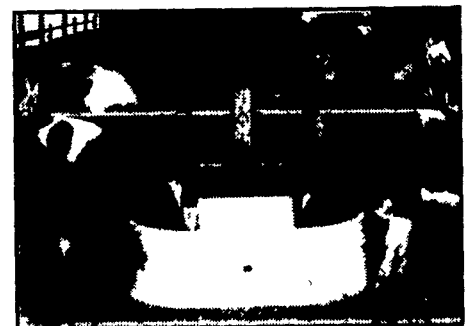
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