

Improving Dairy Cow Health through Optimizing Starch Nutrition: A Postmodern Perspective

Perspective Article

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Abstract

This perspective article delineates how optimizing starch nutrition in high-producing dairy ruminants can improve health and economics. The current reckless use of starch in commercial dairy diets must cease. Dairy ruminants do not need that much starch to be adequately profitable. Starch nutrition must be based on ruminant evolution and not exceeding their assimilative capacities.

Keywords: Starch; Ruminant; Health; Economics.

The modernization trend over the last few decades has caused dramatic shifts in nutritional management of high-merit dairy and beef cattle. Increasing reliance on non-forage feeds of mainly grain starch has increased incidence of metabolic disorders. Rumen acidosis and liver malfunction alongside immune deficiencies are among the major problems. The more unfortunate trend is feeding wrong amount of starch and then trying to solve the problems that could be well prevented. When a problem may be prevented, creating it is by all means unwise and harmful [1-10].

A shortcut to improving modern ruminant health and sustainability is optimizing starch nutrition especially in early lactation and periparturient dairy cows. When diets with more than 20-22% starch are fed, dairy ruminant health may progressively diminish. Feeding diets with about $\geq 40\%$ starchy grains is not what today's dairy industry requires most to stay profitable. When solely barley grain is fed, its dietary inclusion rate must preferably be kept under 32-35%. When corn and barley are available, their combination can help control rumen fermentation of starch, but again they collectively should not be fed at $\geq 32-35\%$ of dietary DM [10-15].

In a nutshell, overfeeding of starch is a shortcut to jeopardizing ruminant health and profitability. Starch must not be fed to maximize milk production. Starch feeding is to optimize rumen synchrony and stabilize microbial fermentation. Any overuse

of starch in high-merit dairy ruminants will have devastating consequences on veterinary health and sustainability. The postmodern dairy production must be inspired by ruminant evolution and be kept adequately close to their natural rhythms of physiology and metabolism.

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