

Optimizing Starch Nutrition for Postmodern Ruminants: Science against Pseudoscience

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Abstract

This article calls for a global must on moderating starch nutrition to help optimize rumen fermentation, splanchnic metabolism, peripheral nutrient efficiency, animal health and economics, and environmental sustainability. The mistaken trend in increasing starch inclusion from cereals in modern ruminant diets must be ceased. The sustainability of the postmodern ruminant science and industry lies on moderated optimized starch utilization.

Keywords: Starch; Nutrition; Ruminant; Efficiency

Analysis and Discussion

The modern ruminant industry has played crucial roles in supplying safe and secure food for human [1,2]. However, the increasing demands for animal proteins have in many regions unwisely led policy-makers, managers and producers to increase milk and beef production mainly via blind increases in starch nutrition. Such an inane policy has kept the global ruminant industry from realizing its optimal health and economic perspectives. The rising losses due to reduced longevity, elevated costs of treatment and animal removal, and unstable feed, milk and meat markets have seriously challenged the world ruminant industry. Complex health issues including devastating metabolic diseases of especially subacute rumen acidosis and related immune deficiencies, as a result, frequently occur. Moreover, inter-diet and inter-phase adaptations have become more challenging in the face of such ill-advised feeding of starch to high-producing ruminants. A significant globally enforced action has recently been widely disseminated to seriously alter the situation via a variety of pragmatic starch feeding programs [3-10].

The critical per parturient period in dairy production and the challenging feedlot adaptations to heavy diets in beef production are among remarkable examples. Getting too far from natural ruminant grazing and feeding behaviours during over modernization has made managing such periods extremely difficult [5,10]. It is by no way wise to first overly modernize an inherently natural industry and then inanely search for strategies to manage the already distressed rumen and ruminant physiology. The trend is entirely nonsense. To be capable to effectively manage rumen and ruminant transition through such demanding phases of production, raising systems (e.g., housing, feeding, milking, treating) must be close enough to ruminants' natural behaviour and evolutionary metabolism. This is the key for successful production that necessitates moderated starch nutrition to avoid back-breaking production peaks and uncontrolled tissue mobilization but to move towards improved health, longevity and efficiency. Wisdom must be exercised in improving long-term production and health simultaneously through relatively moderating starch provision. Formulating dairy diets with > 35-40% cereals of especially barley and

extensively-processed corn just facilitates facing an irrecoverable tragedy. This suggests that even feedlot diets conventionally containing up to 90-95% grain should also be revisited from a long-term postmodern perspective. Many aspects remain unexplored needing research, but the obvious is a global must for moderated feeding of starch to end the striking man-made increasing trend of animal health problems adversely affecting food safety and security.

Implications

The growing unfortunate trends of health issues in modern ruminant enterprises have, in considerable degree, been resulted from unwise quantitative and qualitative choices of starches in commercial diets. A global obligation must be set to cease the blunder and to moderate starch feeding in super high-merit ruminants.

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