

Grain Serving of Postmodern Dairy Cattle: Benefits of Processing Over-Estimated

Akbar Nikkhah

Policy Article

Chief Highly Distinguished Professor, Department of Animal Sciences, Faculty of Agricultural Sciences, University of Zanjan, National Elite Foundation, Iran.

Abstract

This policy article draws global attention towards the very high significance of feeding right amount of starchy grains to high-merit dairy cattle independent from processing type and extent. The article also warns the global dairy industry against too much concern on costly processing extent and rate of cereal grains before optimizing their dietary inclusion rate. The time has already gone for the postmodern industry to be cognizant of the pragmatic philosophy of grain feeding to dairy cattle, as mismanagement continues to yield devastating irretrievable consequences.

Keywords: Dairy Cattle; Cereal Grain; Dairy Industry; Philosophy.

*Corresponding Author:

Akbar Nikkhah,
Chief Highly Distinguished Professor, Department of Animal Sciences,
Faculty of Agricultural Sciences, University of Zanjan, National Elite
Foundation, Iran.
Tel: +98-24-33052801
Fax: +98-24-33053202
E-mail: anikkha@yahoo.com
nikkhah@znu.ac.ir

Received: April 07, 2015

Published: April 10, 2015

Citation: Akbar Nikkhah (2015) Grain Serving of Postmodern Dairy Cattle: Benefits of Processing Over-Estimated. *Int J Dairy Process Res.* 2(3), 14-15. doi: <http://dx.doi.org/10.19070/2379-1578-150005>

Copyright: Akbar Nikkhah[©] 2015. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Intuitions and Discussion

Risks from metabolic disorders such as subacute rumen acidosis and related complexities including but not limited to rumen malfunction, hepatic and systemic inflammation, immune deficiencies, and depressed productivity, increasingly challenge the sustainability of the global dairy industry [1-5]. However, limited pragmatic efforts have been made to address the challenge in a workable sense. For instance, this crucial issue has not been addressed in the most recent report of NRC [6].

Processing techniques and methods have been debatefully discussed to optimize starch digestion and glucose utilization in high-merit dairy cattle [6-15]. However, only recently, attention has realistically been paid into the fact that discussing on process-

ing per se when suboptimal amount of starchy grains are included in commercial rations, is just not more hopeful than futile [7-14]. Unfortunately, the increasing trends of modernization in global dairy industries, particularly in more developed regions, have unwisely led farmers and managers to recklessly increase dietary inclusion rates of starch grains (especially from highly degradable ones e.g., differently processed barley and wheat and extensively steam-processed corn and sorghum) to maintain production at illogical unhealthy levels [15-17]. Such efforts have not been futuristic.

In view of the increased world human population and food-water crisis in many regions, cereals must be optimally saved for optimal human nutrition. Mismanagement in grain feeding to livestock of especially ruminants must cease and efforts ought to be made to avoid grain overfeeding that does not only do any good to animal production but it also harms animal health and farm economy and environmental sustainability. This is not what global endeavours for supplying safe and secure food seek.

Therefore, the global dairy industry is warned against the unnecessary attention into the type and extent of processing cereal grains instead of optimizing their dietary inclusion rates. Simply, the problems that the current dairy enterprises are suffering from occur as a result of feeding just wrong amount and often overly excessive quantity of grains to high-merit dairy cattle. Following such reckless substandard must cease. Also, global awareness on the essentiality of feeding just enough cereal starch even to very high-producing dairy cattle must grow.

Pragmatic Word

Transitory improvements in production must indeed not be taken for granted at the expense of compromised longevity in quantitative cereal feeding to dairy cattle.

Acknowledgment

The Iran's Ministry of Science Research and Technology, National Elite Foundation, and University of Zanzan are gratefully acknowledged for supporting the author's global programs of optimizing science edification in the new millennium.

References

- [1]. Nikkhah A. (2015). Dry or Steam Rolling of Soft Grains: Dairy and Beef Bioprocessing Perspectives. *J. Bioprocess. Biotechniq.* 5: e124 doi:10.4172/2155-9821.1000e124.
- [2]. Nikkhah A. (2015). Moderating Starch Nutrition for Sustainable Ruminant Production: A Global Must. In Press.
- [3]. Nikkhah A. (2015). Gut Adaptation to Healthy Starch Assimilation in Dairy Ruminants: A Lifetime Development. *Adv. Dairy Res.* In Press.
- [4]. Nikkhah, A. (2010). Barley grain for ruminants: A global treasure or tragedy. *J. Anim. Sci. Biotechnol.* 3: 22-29.
- [5]. Nikkhah A. (2014). Bioprocessing of soft cereals for postmodern ruminants: Ascertaining decades of uncertainty. *J. Bioprocess. Biotechniq.* 4:6. <http://dx.doi.org/10.4172/2155-9821.1000e116>.
- [6]. NRC (2001). National Research Council. Nutrient Requirements of Dairy Cattle. 7th rev. ed. National Acad. Sci. Washington, DC.
- [7]. Nikkhah A. (2014). Bioprocessing of barley for food-producing ruminants: A workable dilemma. *J. Bioprocess. Biotechniq.* 4:4. <http://dx.doi.org/10.4172/2155-9821.1000e113>.
- [8]. Nikkhah A. (2014). Steam bioprocessing philosophy of cereals for ruminants: time for a new history. *J. Bioprocess. Biotechniq.* 4:5. <http://dx.doi.org/10.4172/2155-9821.1000e114>.
- [9]. Nikkhah A. (2014). Grinding as a most economical healthy bioprocessing biotechnique of cereals for postmodern ruminants. *J. Bioprocess. Biotechniq.* 5: e119 doi:10.4172/2155-9821.1000e119.
- [10]. Nikkhah A. (2015). Production curve management of starch nutrition in ruminants: A global biotechnique. *J. Bioprocess. Biotechniq.* In Press.
- [11]. Nikkhah A. (2015). Cereals bond trounces subacute rumen acidosis. *Int. J. Vet. Health Sci. Res.* 3(1e): 1-2.
- [12]. Nikkhah A. (2015). Bioprocessing of Moisturized Cereals: Ruminants Crave. *J. Bioprocess. Biotechniq.* 5: e121 doi:10.4172/2155-9821.1000e121.
- [13]. Huntington GB. (1997). Starch utilization by ruminants: from basics to the bunk. *J. Anim. Sci.* 75:852-867.
- [14]. Ørskov ER. (1986). Starch digestion and utilization in ruminants. *J. Anim. Sci.* 63: 1624-1633.
- [15]. Yang WZ, Beauchemin KA, Rode LM (2000). Effects of barley grain processing on extent of digestion and milk production of lactating cows. *J. Dairy Sci.* 83: 554-568.
- [16]. Beauchemin KA, Rode LM. (1997). Minimum versus optimum concentrations of fiber in dairy cow diets based on barley silage and concentrates of barley or corn. *J. Dairy Sci.* 80: 1629-1639.
- [17]. Silveira C, Oba M, Beauchemin KA, Helm J. (2007). Effect of grains differing in expected ruminal fermentability on the productivity of lactating dairy cows. *J. Dairy Sci.* 90: 2852-2859.