

Relatively Finer but Uniformly Mixed Rations Permit Effective Bunk Management: A Farmlot Covert

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Abstract

Feeding adequate effective forage fibre in either component or mixed ration feeding systems to optimize eating behaviour and rumen physiology has often been practically misunderstood on farms. This article discusses that as long as mixed rations are highly uniformly prepared, relatively finer diet particles should permit easily manageable feed bunks and healthy chewing and rumen ecology particularly in growing and finishing feedlot cattle.

Keywords: Particle size; Mixed ration; Feedlot; Rumen health

Critical Discussion

The objective of this perspective industry article was to better current understanding of optimizing forage particle size to improve feed bunk management, rumen efficiency and health, and beef and dairy production. Feeding enough effective forage fibres both physically and chemically is a must for a functioning and healthy rumen environment in high-producing ruminants namely dairy and feedlot cattle. However, quantitative global guidelines on such fibre requirements have been puzzling to be reliably and transparently available [1,2]. As a rule of thumb, the current recommendations to guarantee sufficient chewing and well-buffered rumen conditions are based on average forage cutting length of about 8-10 cm. In few parts of the world, this may be shortened down to 4-5 cm. Nonetheless, the latter is rarely practiced on-farm just to minimize risks of inadequate rumination, prolonged subacute rumen acidosis (SARA, i.e., longer than 3-6 h of <5-5-5.8 rumen pH), malfunctioned rumen, impaired microbial metabolism, and perturbed immunity.

The above fear followed by including rather longer forage in commercial rations stems from mismanaged feed bunk implication. Interestingly, what is overlooked often is the reality that no uniformly of entirely mixed rations may be prepared with long forage chops [3-5]. As such, the effort of increasing forage chop length does simply become futile by an improperly mixed heterogeneous ration. Consequently, particle selection occurs exceedingly and chances for SARA increase dramatically. This may not be improved even by more frequent feed deliveries [6]. Such a feed bunk mismanagement is, thus, a result of being too-concerned on ration physical effectiveness and adopting unwise too-safe forage chop lengths.

Farm experience suggests that modestly shorter forage chops that allow robust and uniform mixing of forage and concentrate are superior to much longer chops. For instance, forage chop length may be risk-freely reduced down to 3-5 cm in commercial settings. To complement this, free choices of moderately long dry forages such as

hay may be offered but at a totally different circadian time relative to mixed ration deliveries. Notably practical, the uniformly prepared mixed ration can reasonably be offered within a delicate limit-feeding program to ensure no explosive ruminal over fermentation of starch and protein while receiving adequate forage effective fibre.

Implication

Rational but not too much concern must be exercised in preparing super dairy and feedlot rations to not gain seemingly adequate effective forage fibre at the expense of preparing erratically mixed rations and misrepresentatively ingested morsels and of forage-concentrate.

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