Balancing early feedings optimizes dairy calf performance

Pre-weaning feeding and nutrition variables and their results are examined in a new perspective and commentary in Applied Animal Science

Champaign, IL, December 18, 2023—The proper balance of fat and solids in early liquid feedings of dairy calves facilitates starter intake and rumen development and minimizes post-weaning slump. A commentary on the challenges and recommendations for a pre-weaning diet are presented in a new article in Applied Animal Science. “Effective rearing of preruminant dairy replacement calves influences financial success of modern dairy farms. A longtime expert in calf nutrition and management shares advice and recommendations for different liquid-feeding and starter systems in this Perspective and Commentary article,” said David K. Beede, PhD, Editor in Chief of the journal.

The perspective focuses on the major feeding and nutrition variables, primarily liquid feeding, calf starter composition and level, forage feeding, and water, as well as their interactions and influence on functional rumen development.

The author explains that calves are nonfunctional ruminants at birth and must be fed a liquid diet. “In nature, that is provided by the dam’s milk,” explains A. F. Kertz, PAS (Andhil LLC, St. Louis, MO, USA). “But because that milk is typically sold by commercial dairy farm operations, its use when fed to calves has historically been minimized.” For this reason, it is more common that some milk replacers are fed in most dairy herds.

The author analyzes research showing that increasing the percentage of fat in milk replacer negatively affects calf starter intake and can negatively affect average daily growth as well, especially postweaning. Although higher-fat milk replacers are beneficial in colder weather, calf starter intake still needs to be fostered for rumen development.

“The challenge then is to moderate milk replacer feeding early enough before weaning to ensure adequate calf starter intake before weaning to optimize functional rumen development and minimize post-weaning slump,” said Kertz.
Captions: Finding the right balance between milk replacer and calf starter can optimize functional rumen development in calves (Credit: A. F. Kertz).

Kertz offers several recommendations to dairy farmers. “Feed a well-texturized calf starter to optimize functional rumen development and avoid needing to feed forage or roughage before weaning,” said Kertz. “Too much forage fed too soon impairs rumen development and confounds true body weight gain with gut fill.” Kertz also notes that water is the most essential nutrient needed in the greatest quantity by dairy calves and recommends physically separating water and calf starter containers to avoid contamination of each in the other and to achieve better intake and performance.

The article appears in the December issue of *Applied Animal Science*.

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**Notes for editors**


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Full text of the article is also available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext. 143 or [ARPAS@assochq.org](mailto:ARPAS@assochq.org) to obtain copies. To schedule an interview with the author(s), please contact A. F. Kertz at andhil@swbell.net.

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