

98 Executing a better nutritional grouping strategy in commercial dairy farms. J. A. Barrientos Blanco*, V. E. Cabrera, and R. D. Shaver, *University of Wisconsin-Madison, Madison, WI.*

The objective of this study was to evaluate the economic benefits of a nutritional grouping strategy (NGS) in a lactating herd from a commercial dairy farm. Seventy-eight days (June–August 2017) of data from lactating cows from a commercial Wisconsin dairy farm were used for the study. Lactating cows ($n = 1898 \pm 115$) are weekly regrouped in 14 pens according to lactation, days in milk (DIM), or a combination of both for which 8 diets are provided. Diets are seldom reformulated and nutritional requirements are not factored to allocate cows to pens. The same 14 pens were used to simulate the implementation of NGS following closely current farm criteria, but also including nutritional requirements (net energy (NE), metabolizable protein (MP)), and milk yield in an attempt to generate more homogeneous groups for improved diet accuracy. The goal was to implement a continuous weekly system of cows' pen allocation and diet reformulation. The NE and MP requirements from the NGS were used to formulate the diets with the NDS software using the same feed ingredients and prices as the current farm diets. Diet MP and NE density were adjusted to the nutritional group requirements. Milk yield prediction, adjusted DMI, diet costs, and income over feed cost (IOFC) were used to compare actual farm feeding strategy vs. NGS. Results indicate that NGS improves nutritional accuracy of the diets related to better diet nutrients allocation among groups. Therefore, the diet cost of NGS decreased for low nutritional requirements and increased for high nutritional requirements groups compared with current farm groups. The total cost of 78 d of feeding lactating cows for current farm groups was \$485,638, whereas for NGS was \$478,252, which resulted in \$7,386 diet cost savings. Predicted total milk production increased 21,081 kg for the 78-d period. Adjustments in nutrient density of diets for NGS increased the percentage of crude protein which resulted in higher prediction of milk yield. Diet cost savings plus higher income from milk in NGS results in higher IOFC. Current total IOFC of farm groups was \$769,314, while for NGS was \$783,810, which resulted in an increase of \$14,496.

Key Words: feeding costs, nutritional accuracy, income over feed cost