

High grain diet destroys thiamine

CHICAGO, Ill. — "Rumen fermentation of high-grain diets provides an apparent net synthesis of B vitamins, niacin, riboflavin and biotin, but results in a net destruction of thiamine," says Dr. Jay C. Meiske, professor of animal science, University of Minnesota.

Speaking to almost 600 scientists and feed industry representatives at the 32nd annual Pfizer Research Conference, Dr. Meiske described studies of dietary effects on B-vitamin metabolism in ruminants. "The studies attempted to quantify the effects of diet, dietary additives, such as antibiotics and ionophores, on net B-vitamin production in the rumen, and net absorption in the small and large intestines.

"The feeding of high-grain diets and resulting net destruction of thiamine, corroborates feedlot

experience, where we often see incidence of polioencephalomalacia (PEM), a thiamine deficiency. This could be due to production of thiaminases or other vitamin antagonists."

Dr. Meiske theorized that environmental and managerial factors also might contribute to the problem. Because of genetic improvements related to weight gain and production, ruminant needs for B vitamins may have increased. "We're really pushing the animals," Dr. Meiske says. "If they are unable to synthesize sufficient B-complex vitamins, it may be necessary to supplement the high-excesses, and results in performance similar to that achieved with standard corn-soybean meal diets," he said.

Dr. David A. Roland, Sr., poultry nutrition professor, Auburn

University, stated that the proper time to boost calcium supplements in pullet and hen changeover diets is one week before first egg production. "If egg producers wait until birds are laying, more calcium will be utilized in egg-shell production, birds will become calcium-deficient and then overconsume feed, a symptom of calcium deficiency. Excess feed consumption can cause increased body weight and liver fat, higher fat-pad weight, decreased shell quality and development of fatty liver hemorrhagic syndrome," Roland said.

Dr. Millard C. Calhoun, associate professor at the San Angelo Agricultural Experiment Station of Texas A&M University, described an innovative, intragastric, infusion technique which provides a better un-



Jay C. Meiske

derstanding of nitrogen metabolism in sheep. "The information developed from this procedure," he explained, "allows

scientists to predict certain production situations, such as sheep responses to additional dietary protein, high rumen bypass protein, and/or rumen protected forms of specific amino acids.

For the past 32 years, the Pfizer Research Conference has been attended by several hundred nutritionists, feed manufacturers, government personnel, university scientists and others associated with the feed industry. The conference proceedings are a highly regarded synopsis of research information for industry and educational associations. Copies are available from Pfizer, Inc.

Hammond appointed

CARLISLE — Knisely's Agriculture Center, Inc. and Ralston Purina Co. are pleased to announce Guy Hammond as a staff addition.

He comes to Knisely's as a Farm Consultant and will cover Cumberland, York and Perry counties. As a large animal nutritionist, he has an Animal Science Degree from Carroll University, but will be concentrating primarily on dairy animals. His history of working on dairy farms as a herdsman and a Veterinarian Assistant for many years with his stepfather gives him the knowledge of the dairy animal.

Hammond is presently residing at 729 Petersburg Road, Carlisle.

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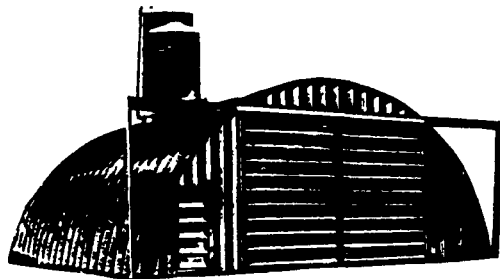
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