

Nutrition and dairy cows

MINNEAPOLIS — Though rumen fermentation can easily supply the necessary protein for moderate milk production in dairy cows, it may not prove sufficient to meet the protein needs of high milk producers, according to Dr. Werner G. Bergen, professor of animal science, Michigan State University.

Speaking to more than 600 scientists, nutritionists, veterinarians, and feed industry personnel at the 33rd Annual Pfizer Research Conference here, Dr. Bergen said, "When a cow's daily milk production is below 45 lbs., and daily gains of growing beef cattle are below 2.0-2.3 lbs., the



Werner G. Bergen

rumen supplies adequate protein to the animal. However, higher-producing ruminants require all of the microbial protein produced by ruminal fermentation, plus substantial amounts of dietary protein that escapes ruminal breakdown."

As the proportion of this rumen undegraded protein (RUDP) increases in the diet, the balance of essential amino acids becomes critical. Microbial protein (MCP)

and RUDP combine to become the protein source available for digestion and absorption in the small intestine of ruminants. As long as MCP represents 40 percent or more of the protein flow to the small intestine, the nutritional quality or amino acid balance should be favorable.

According to Dr. Bergen, in cattle fed RUDP sources such as soybean, heated soybean or corn-gluten meal there were little

differences in amino acid profiles of digesta in the small intestine. Feeding essential amino acids singly did not stimulate milk production. However, as the productive levels of dairy cows continues to increase, it will probably become necessary to feed rumen-protected methionine, lysine and possibly tryptophan and threonine, to provide sufficient protein for the ruminants.

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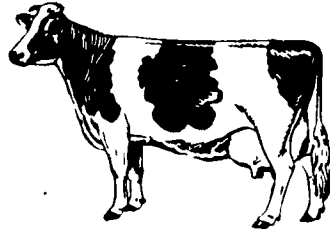
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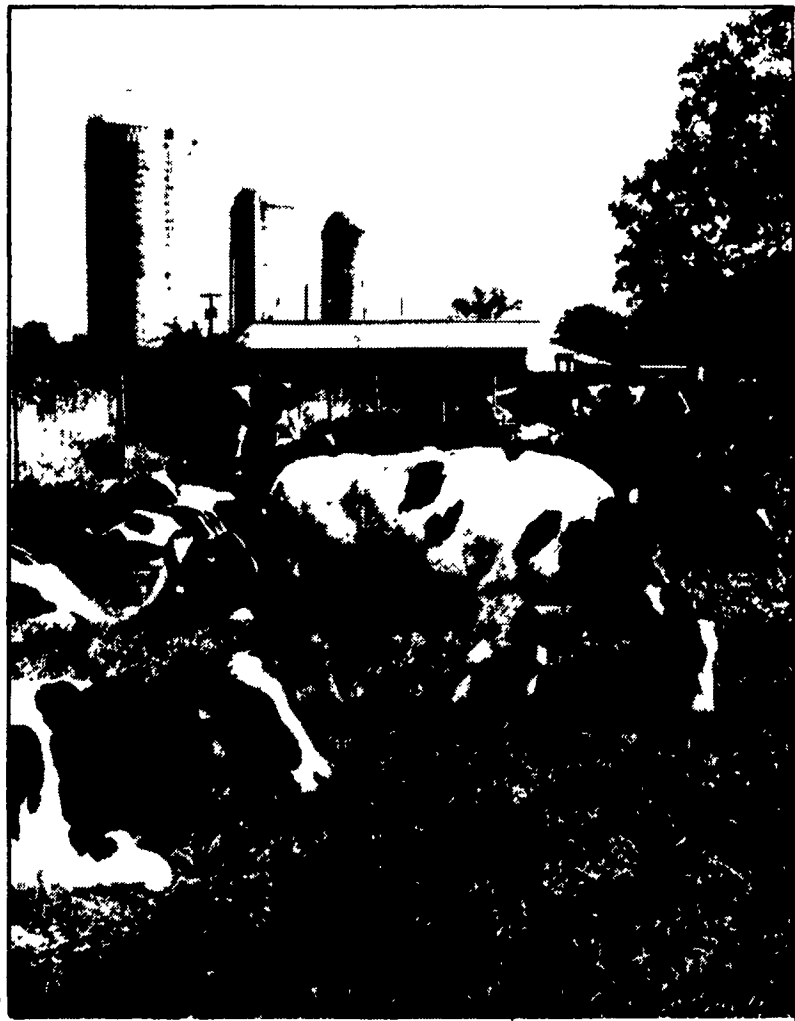


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