



H.J. BAKER & BRO., INC.[™]

ESTABLISHED 1850

THE HISTORY OF PRO-LAK®

Interest by H.J. Baker & Bro., Inc. to consider development of a by-pass protein product for dairy cows was initiated from discussions with animal nutritionists at Cornell University in the mid 80's. H.J. Baker then supported research at Cornell University to characterize the rumen attributes of the major ingredients used by H.J. Baker in its protein blending activities. This research documented rumen degradation of fish meal, blood meal, feather meal, and meat & bone meal (porcine) which were available to H.J. Baker

From published research of the late 80's it became apparent that amino acid extraction from blood by the mammary gland for support of lactation needs could be defined with acceptable accuracy. This allowed an expression of amino acid needs for lactation in terms of an "ideal amino acid profile."

Efforts to apply standard feed programming methods for solving the specific essential and nonessential amino acid needs to supply this ideal amino acid profile proved unsuccessful. This problem was resolved with the concept of essential amino acid indexing. This concept was applied to provide for the best total amino acid balance possible, resulting in a maximum amino acid index. Under these conditions, an "ideal amino acid balance" was maintained with respect to the ten essential amino acids as well as the non-essentials.

Thus, PRO-LAK® was formulated under situations where at least 60 percent of the metabolizable protein at the intestinal level was derived from rumen microbes with the remaining protein needs being supplied by feed residues from dry matter of corn silage, alfalfa, corn grain, cottonseed, corn distillers, and soybean meal. The objective of the formulation was not minimum cost, but rather maximum amino acid index. This concept determined the types and amounts of marine and animal protein ingredients used to produce the PRO-LAK® blend. The PRO-LAK® formula was fixed at this stage and has not changed as a result of market prices.

Immediately after formulation, PRO-LAK® was field tested with several herds to assure acceptance and feeding efficacy. Results from these initial feeding efforts provided the catalyst for nationwide testing of PRO-LAK®. The study was coordinated by established dairy nutritional investigators from five universities representing major dairy regions of the United States. The results from this 35 herd (7,289 cow) study confirmed the formulation concept and established PRO-LAK® as a proven, effective by-pass protein blend for the lactating cow.

H.J. Baker has continued with its commitment to the dairy industry for achieving a better understanding of protein nutrition by serving as sponsor to numerous university research programs.