

A GENERAL MODEL FOR THE NUTRITIONAL EVALUATION OF PROTEINS. Miguel A. Guzmán, Ricardo Bressani, Henry L. Lucas and Robert J. Monroe. Institute of Nutrition of Central America and Panama (INCAP), Guatemala, C.A., and Institute of Statistics, N. C. State College, Raleigh.

A mathematical model which relates the protein concentration in the diet to the observed efficiencies of the protein has been developed. The system is defined in terms of 5 parameters: the maximum attainable response, an index of protein quality, the "effective" food consumption, a correction for nonprotein effects, and a scaling factor. Functional relations among the basic parameters permit the calculation of meaningful constants for a given protein, i.e., the index of maximum efficiency, the level of dietary protein at which this occurs, and the level of dietary protein at which neither gains nor losses (balance) can be expected. Efficiency data obtained with either mice or rats by different investigators using either weight gains or carcass nitrogen gains as response criteria have been used for fitting the model. The protein sources covered in these trials include dried whole egg, skim milk, casein, amino acid enriched corn gluten, heated soy flour, INCAPARINA, and wheat gluten. (Supported by a grant from the Williams Waterman Research Corporation and Grant RG-7143 from NIH).

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Fed. Proc., 21:395, 1962. INCAP Publication I-239.