One of the primary objectives of an animal nutritionist is to develop a successful feeding program that will be translated into a defined economic return for the business. Precision nutrition is defined as providing the animal with the feed that precisely meets its nutritional requirements.

Before developing a feeding program, the nutritionist should have a comprehensive knowledge about the animal in question. Historically, most of the attention in formulation has been focused on meeting certain nutrient limitations and to a lesser extent ingredient limitations. Such a practice of formulation has been of great value to the industry; however, it only provides a partial solution to reach precision nutrition.

There is adequate scientific evidence for the importance of ingredient matrix on precision nutrition for animals. In order to arrive at a defined precision matrix, certain analytical information about the feed and the ingredients should be available. Such information, if readily available, will lead to more precise diet formulation.

Chemical analysis will continue to be the benchmark to validate other values obtained by rapid procedures. Such procedures are available by utilizing technologies such as near infrared analysis (NIRA), X-ray fluorescence spectroscopy, laser technology and in vitro assays. Analytical information obtained from such quick assays can be used in certain prediction equations to provide further nutrient values to help in achieving more realistic diet formulation.

Precision nutrition encompasses all the steps that lead to feeding the animal what we intended to feed. Feed formulation techniques should be based on reliable concepts. Such concepts may use total, available or digestible nutrient values. It is critical that whatever concept is used, it should be based on consistent, accurate, and reliable values. The established values should be used to match the animal's need. Such objectives can be obtained by using certain nutrient relationships or the ideal protein concept.

Since the driving force behind precision nutrition is profitability, it is necessary to evaluate all pertinent aspects of animal production. Such extensive evaluations will only be feasible by using computer models.

Precision nutrition will not be complete without an effective effort of reducing the excretion of phosphorus, nitrogen, and other compounds by animals. Fortunately, new methods and products are emerging to address this challenge. Some of the tools to reduce animal waste include the following:

- Use of precise nutrient matrix
- Use of precise ingredient matrix
- Proper use of modifiers such as enzymes, microorganism, antioxidants, mold inhibitors, friendly medications, and other by-products
- Genetic improvements in animals and ingredients
- Reduction of toxicants and anti-nutritional factors
- Improved feed and ingredient processing techniques that will lead to better nutrient utilization

The symposium team consists of Dr. D.J. Castaldo, Dr. N. Dale, Dr. W. Guenter, Dr. W. Robey, and Dr. J.L. Sell. The team has dedicated its efforts to bring discoveries to reality through this symposium. These proceedings are a valuable record for such contributions. The authors were very effective in conveying the message orally and in writing. The team and the readers are thankful to the management and staff of the Journal of Applied Poultry Research for their drive and accomplishments. We salute their efforts and dedications.