



# FATS AND PROTEINS RESEARCH FOUNDATION, INC.

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THE DIRECTOR'S DIGEST  
D. M. DOTY  
TECHNICAL DIRECTOR

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## FPRF RESEARCH RESULTS PUBLISHED

The March 15, issue of Feedstuffs features six articles dealing with nutritional studies on animal proteins and fats. These research reports were cleared through Dr. O.H.M. Wilder of the National Renderers Association and you will undoubtedly be interested in reading all six of the articles.

Three of the articles report results of research sponsored by FPRF and excerpts from these articles are presented below. Reprints of the articles will be sent to you as soon as they are available.

Nutritional Constituents in Animal and Poultry Byproduct Meals. D. M. Doty. "The composition of animal byproduct protein meals is not influenced by season or geographic area of production. Meals produced by independent renderers and meat packing companies have essentially the same composition. The samples analyzed show that many producers of animal and poultry byproduct meals produce products of uniform composition. The data presented here on the nutritionally important constituents of animal and poultry byproduct meals will enable mixed feed manufacturers to use these meals with confidence to supply important minerals, vitamins and amino acids."

(Additional results obtained in this study have been presented in "The Director's Digest," Nos. 36, 44, 52).

Animal Byproducts as Sources of Amino Acids for Growing Swine. R. J. Meade. "The data presented demonstrate that there are differences in the capacity of different samples of meat and bone scraps to supply the essential amino acids to correct deficiencies in basic cereal grains when formulating diets for growing swine. Generally, meat and bone scraps and related animal byproducts can replace one third of the soybean meal in supplying amino acids essential to support rapid and efficient gains of growing pigs. The first limiting amino acid in meat and bone scraps is tryptophan, a deficiency that is corrected when soybean meal furnishes one half to two thirds of the supplemental protein. It was suggested that some of the essential amino acids were not fully available from the various samples of meat and bone scraps used experimentally. It did not appear that levels of 1.52% calcium and 0.97% phosphorus were deleterious to either rate or efficiency of gain of growing pigs when diets contained adequate amounts of the essential amino acids as supplied by the 16% protein corn-soybean meal diet."

(Some of the results from this research were reported previously in "The Director's Digest," Nos. 39, 49).

Effect on the Nutritional Value of Poultry Byproduct Meal of Adding an Antioxidant During Processing. Wiley Kirkland and Henry L. Fuller. "Three tons of poultry byproduct meal was obtained in March, 1968 and two tons in July, 1968. Half of each lot was treated with an antioxidant, ethoxyquin, at the rate of 750 ppm. The separate lots were sacked in polyethylene lined bags and stacked in a warehouse. Metabolizable energy determinations were made on the March samples after 24 weeks of storage and on the July samples after 12 weeks. In the March samples the stabilized PB meal was 15% higher than the unstabilized after 24 weeks of storage. After only 12 weeks of storage (July production) the stabilized meal was more than 10% higher in M.E. One fact stands out clearly - the PB meal was remarkably stable to oxidation even when no antioxidant was added. Although iodine values had dropped significantly by as early as six weeks, indicating that some oxidation was occurring, there was no outward indication of rancidity detectable by organoleptic methods even after 12 or 24 weeks in storage."