


Lewis Smith1, Discussant

Dr. Fontenot has presented a sizable portion of the literature dealing with health aspects of recycling animal wastes by feeding. Statistical data was shown documenting the quality of animal wastes produced in the U.S. each year. The utility of variously processed animal wastes as livestock and poultry feeds was summarized in several recent reviews. Over the last several

---

1 Biological Waste Management Laboratory, U.S.D.A., A.R.S., Beltsville, Maryland 20850.
years prominent scientists have been predicting a world-wide protein shortage. Animal wastes processed for feeding could contribute substantially in increasing the supply of livestock feeds, thus decreasing the demand on other feed sources competitive with human needs. Therefore a discussion of health aspects of recycling animal wastes as feed becomes a discussion of benefit versus added cost of quality control and processing without compromising animal productivity.

Results indicate that feed from processed wastes can offset the shortages of protein feed and reduce feed costs in animal production systems. Several processes are now available for the conversion of animal wastes into feeds. They include composting, dehydration and pelleting, ensiling and fermentation or other biological methods. Some of the processes are well advanced in development and others are only in exploratory stages. Although a process may provide a product of universal utility for all species as a feed, the utility of a product will vary considerably from one species to another and among animals according to specific function (i.e. maintenance, reproduction, production or finishing). One nutritional limitation of processed animal waste product is low digestible energy content of some specific products.

As with any feedstuff, good process quality control and proper handling of the raw material and product after processing are needed to assure the attainment of a high quality product. A major factor in the quality and value of the animal waste product is the quality of the feed that was consumed by the animal. Usually, the higher the quality of input the higher the value of the output.

The impact of disease organisms, hormones, medicants, or other chemicals that might be introduced when feeding processed wastes appear to be of relatively minor significance to health. Of the greatest significance is that feeding trials have consistently shown satisfactory results with respect to impact on animal health. The one exception is the reported copper toxicity from poultry litter when fed to sheep. This incident could have been avoided with quality control. Responsible quality control and process management will be necessary in order to prevent the occurrence of potential hazards from pathogens, molds, parasites, pesticides, medicants and drugs, and minerals and metals. Dr. Fontenot has presented research results which demonstrate that recycling of animal wastes by feeding with proper precautions can be a safe practice.