

POULTRY MANURE AS A FEED INGREDIENT FOR LIVESTOCK:  
RUMINANTS AND NON-RUMINANTS

by

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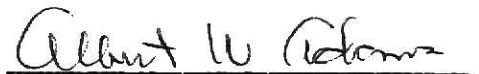
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## INTRODUCTION

Intensive production of livestock and poultry in confinement systems has led to a large accumulation of animal manure and the resulting problems of handling and utilization of this material. Commercial feedlots and broiler operations in the United States were developed on small areas of land making spreading manure on the land a problem. Wastes from large concentrated operations are a nuisance and source of pollution when located close to municipalities, lakes, and streams. It is imperative to handle waste properly if pathogenic microorganisms are present in order to avoid water and air contamination and risk to human health and comfort.

The world demand for protein could exceed supply from conventional sources and at the same time that intensive animal production systems are producing large amounts of manure and causing problems of pollution. This waste is largely nitrogenous and a potential source of crude protein for ruminants. There is a need for a nutritionally safe way to recycle these waste nutrients back into animal feeds thereby solving the pollution problem and conserving protein at the same time. The potential to incorporate waste into a balanced ration at a cost lower than that of conventional ingredients is a determining factor.

Recycling animal manure as a component of livestock feeds is not a new idea. The barnyard naturally recycles waste as the hogs follow cattle and chickens follow the hogs. Coprophagy is the act of eating manure and the nutrition of hogs and chickens can be supplemented by this practice. Durham et al. (1966) observed that cattle consuming an all concentrate ration produced high quality manure. Gohl (1975) noted that with intensive livestock and poultry operations, large amounts of manure and nutrients are wasted. Consumers may have aesthetic objections to the recycling of manure as an animal feedstuff but economy may rule.