The Variance of Nitrogen and Phosphorus Levels in Chicken Manure Induced by Flock Age

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Natural fertilizers, such as chicken manure, are very important for good crop yield. Current research uses non laying type birds at a fixed time point in their lifespan to determine nitrogen and phosphorus levels of chicken manure. My study examines nitrogen and phosphorus levels in the manure of egg laying chickens over the life of the birds. I hypothesized that the nitrogen levels would increase, with a slight drop at 20 weeks of age, with phosphorus levels decreasing over the life of the bird. Samples were taken from two different types of chicken houses where manure fell either directly below the cages and collected over three days or a floor below and is collected over eight months. One cup of manure was collected per house over a 115 week time frame. Manure samples were analyzed for 15 different nutrient compounds, including nitrogen and phosphorus. The data shows that the nitrogen content of the manure has an overall increase of approximately 0.2 lbs/week, as expected. The phosphorus had a slight decrease until 60 weeks of age, but then started increasing as the age increased. Manure with more accurate nutrient data can have a positive economic impact of farm communities that use manure to increase crop yield, as well as a potential ecological impact by minimizing nitrogen and phosphorus runoff from fields. Further research tracking levels over a longer period of time as well as water, plant, and soil analysis is currently underway.