Improved Feed Conversion in Broiler Production

ECONOMIC IMPACTS OF EXTENSION EDUCATION

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CHALLENGES

- The cost of feed accounts for 70% of the total cost of producing broiler chickens, which has resulted in increased importance being placed on feed conversion.
- Given the cost structure of broiler production, the industry faces significant challenges with remaining viable during times of rising feed costs and other production-related issues.
- Water is a major and oftentimes overlooked nutrient.

AGRILIFE EXTENSION'S RESPONSE

- Poultry are able to efficiently convert feed into meat and eggs due to improved gut health for optimal nutrient absorption. Precision feeding allows for reduced costs and better nutrient/waste management.
- The AgriLife Extension Poultry Science unit conducts applied research to improve feed utilization by evaluating nutritional needs, improving nutrient availability, and nutrient absorption as the genetics of the bird changes.
- Precision nutrition and feeding may provide a means to reduce waste streams by not providing feedstuffs in excess of the bird's nutritional requirements and by providing enzymes to make the nutrients more readily available, while allowing for reduced costs and improved nutrient/waste management.
- AgriLife Extension has conducted water quality research and evaluated means to use water as a carrier for products to improve food safety and gut health.
- Antibiotic usage has been severely curtailed due to consumer preference and the FDA Veterinary Feed Directive. AgriLife Extension investigates antibiotic alternatives to prevent illness by improving gut health. Examples of these products include beneficial bacteria and novel vaccines to stimulate immune function.
- Providing a stress-free environment is critical to efficient production of meat and eggs. AgriLife Extension studies the effects of environmental factors and environmental controls, such as lighting on animal stress and welfare.
- Poultry manure is a rich source of nutrients and organic matter when applied at an environmentally friendly agronomic rate. AgriLife Extension has conducted research to evaluate nutrient management such as reducing nitrogen losses due to ammonification.
- Poultry houses provide a reduced stress environment for optimal growth due to improved ventilation, heating, cooling and lighting controls which are managed by an in-house computer system that is monitored by a grower and integrator.

ECONOMIC IMPACTS

- AgriLife Extension Poultry Science specialists have worked with the broiler industry in Texas and the U.S. on applied research projects focused on various issues facing the industry, including precision nutrition, water quality, antibiotic alternatives, and poultry stress factors.
- This work with the industry in Texas has helped with improving feed conversion rates (FCR) from 1.95 pounds to 1.75 pounds since 2000, while also increasing the average finished weight of broilers.
- These improvements in the industry have resulted in economic gains of $675 million since 2000, or $29.3 million per year.