

TECHNOLOGY SUMMARY

Full paper is published in the proceedings of:

**MITIGATING AIR EMISSIONS FROM
ANIMAL FEEDING OPERATIONS
CONFERENCE**

Iowa State University Extension
Iowa State University College of Agriculture
and Life Sciences

**Conference Proceedings
Sponsored by:**

NRI Air Quality Extension & Education
U.S. Pork Center of Excellence
Iowa Farm Bureau Federation
Iowa Egg Council
Iowa Pork Industry Center
Iowa Pork Producers Association

Using Klasp™ to Reduce Poultry Housing Ammonia Emissions

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Species: Poultry (Broiler and Turkey)
Use Area: Animal Housing
Technology Category: Chemical Amendment
Air Mitigated Pollutants: Ammonia

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System Summary:

Klasp™ has been shown to be an effective litter amendment for minimizing ammonia concentrations, decreasing litter moisture, and sequestering nitrogen and phosphorous. Klasp™ efficiently lowers litter pH while providing a drier house environment. Klasp™ is effective in reducing and holding in-house ammonia levels below 25ppm during the first 14 days of grow-out leading to providing an improved bird environment and improved bird performance.

Application rates of Klasp™ are dependent on management practices and needs. Typical rates will range from 34 to 56 kilograms per 93 m² (75-125 lb/1000 ft²). The length of ammonia emission control increases with increasing application rate (Ritz et. al, 2007). Heat is not required to activate Klasp™ prior to bird placement. This mode of activation provides producers application flexibility and improved time management by allowing the product to be applied up to 4 days prior to bird placement.

Applicability and Mitigating Mechanism:

- NH₃ volatilization from litter is dependent on pH, moisture content, air velocity, NH₄ concentration, and temperature.
- Klasp™ applications reduce litter pH and lowers NH₃ emission
- Litter pH affects NH₃ volatilization
- Klasp™ may be applied to the litter before bird placement

Limitations:

- Moisture is needed to activate Klasp™, as a result, extremely dry houses may influence performance
- Applications rates will depend on current management practices and needs, along with seasonal temperatures
- Application costs are subject to the proximity of the producer to the chemical distributor

Cost:

Cost is dependent on several factors. The producer's proximity to the chemical distributor, application rate, and use cycle of Klasp™ will contribute to the final per house cost.