



Managing broiler litter to reduce environmental nitrogen loss

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Broiler litter application for corn production in the southeastern United States. Photo by Rajveer Singh.

Traditionally, broiler litter (BL) is considered as a waste generated by the poultry industry. However, many corn growers have realized its importance as a cheap nitrogen source. Using BL for corn production demands an effective management strategy that can optimize yield while minimizing environmental nitrogen (N) footprints.

New *Agronomy Journal* research compared the effect of two N sources (BL and urea), two N rates (168 and 336 kg total N ha⁻¹), and two application timings (single and split) on corn yield and environmental N loss (ENL) on three Alabama soil types and production environments.

The research found that corn yield response to BL application was limited by the supply of plant-available N. Increasing the N application rate increased corn yield regardless of source and application time; however, a larger proportion of applied N was lost to the environment at the higher application rate. Split application of BL had lower corn yield but similar or greater ENL than single application.

These research findings provided valuable information needed to make management decisions for BL use in corn production systems. High-rate and split BL applications should be discouraged due to greater potential for N losses and reduced crop productivity.

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Singh, R., Prasad, R., Guertal, B., Balkcom, K., & Lamba, J. (2021). Effects of broiler litter application rate and time on corn yield and environmental nitrogen loss.

Agronomy Journal. <https://doi.org/10.1002/agj2.20944>

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