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Little difference among nitrogen sources on stockpiled tall fescue

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Drs. Ben Goff and Kathryn Payne harvesting stockpiled tall fescue small plots in December. Photo by Laura Harris.

Late-summer nitrogen application on tall fescue pastures is known to increase forage production for stockpiling and grazing throughout the winter months. However, surface application of urea-based fertilizer is particularly prone to ammonia volatilization losses during the summer in the southeastern United States. Enhanced-efficiency nitrogen fertilizer sources have the potential to reduce losses and prolong growth throughout the fall for forage production.

New *Agronomy Journal* research reports on a multi-year study in central Kentucky evaluating enhanced-efficiency nitrogen source and nitrogen rate on stockpiled tall fescue production and nutritive value throughout the winter grazing period. The profitability of these systems was also determined based on forage yield.

While nitrogen rate influenced both yield and forage nutritive value, there were no differences among nitrogen sources, which may be explained by dry weather conditions. The economic analysis revealed that only Environmentally Smart Nitrogen (ESN) at low N rates was profitable compared with standard urea, and this was only true when the value of forage was high.

Although the results of this study were dependent on the weather conditions, there is value in applying nitrogen to stockpiled tall fescue. This study also suggests that nitrogen price and assigned value of the forage are the most important factors when selecting a nitrogen source.

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Payne, K.M., Smith, S.R., & Goff, B.M. (2021). Enhanced efficiency nitrogen formulations on stockpiled tall fescue production. *Agronomy Journal*.

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