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THE EFFECTS OF ENDOPHYTE-INFECTED KY 31 TALL FESCUE SEED ON NORTHERN BOBWHITE REPRODUCTION

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ABSTRACT

We assessed the impact of feeding an endophyte-free, endophyte-infected (*Acremonium coenophialum*), KY 31 tall fescue (*Festuca arundinacea* Schreb.) and a control diet on northern bobwhite (*Colinus virginianus*) reproduction. The birds consumed significantly more of the tall fescue diets compared to the control diet. There was no difference in female body weights at the end of the experiment. Male birds lost significantly more weight on the tall fescue diets than the control diet. The birds were in positive nutritional balances on all diets. There were no treatment effects on egg production, fertility, embryo mortality, hatch ability, or number of chicks per hen. Significantly more birds died eating endophyte-infected tall fescue seed compared to endophyte-free and control diets. These results indicate that tall fescue does not affect quail reproduction as indicated by previous authors. However, the endophyte does affect the weight gain of male birds and caused high mortality in these birds. We propose the alkaloids created by the endophyte caused a swelling of the cloaca which elicited a behavioral response in the birds causing them to become cannibalistic. These data support the idea that tall fescue does not provide quality nutritional habitat for northern bobwhite.

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