



2012

# Effects of Patch Burning and Grazing Exotic-Grass Monocultures on Northern Bobwhite Habitat and Productivity

Eric D. Grahmann  
*Texas A&M University*

Michael Hehman  
*Texas A&M University*

Fidel Hernandez  
*Texas A&M University*

Follow this and additional works at: <http://trace.tennessee.edu/nqsp>

### Recommended Citation

Grahmann, Eric D.; Hehman, Michael; and Hernandez, Fidel (2012) "Effects of Patch Burning and Grazing Exotic-Grass Monocultures on Northern Bobwhite Habitat and Productivity," *National Quail Symposium Proceedings*: Vol. 7 , Article 56. Available at: <http://trace.tennessee.edu/nqsp/vol7/iss1/56>

This Bobwhite Habitat Management is brought to you for free and open access by Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in National Quail Symposium Proceedings by an authorized editor of Trace: Tennessee Research and Creative Exchange. For more information, please contact [trace@utk.edu](mailto:trace@utk.edu).

# EFFECTS OF PATCH BURNING AND GRAZING EXOTIC-GRASS MONOCULTURES ON NORTHERN BOBWHITE HABITAT AND PRODUCTIVITY

Eric D. Grahmann<sup>1,2</sup>

Caesar Kleberg Wildlife Research Institute, Department of Animal and Wildlife Sciences, Texas A&M University-Kingsville, TX 78363, USA

Michael Hehman

Hixon Ranch, P. O. Box 263, Cotulla, TX 78014, USA

Timothy E. Fulbright

Caesar Kleberg Wildlife Research Institute, Department of Animal and Wildlife Sciences, Texas A&M University-Kingsville, TX 78363, USA

Fidel Hernández

Caesar Kleberg Wildlife Research Institute, Department of Animal and Wildlife Sciences, Texas A&M University-Kingsville, TX 78363, USA

## ABSTRACT

Buffelgrass (*Pennisetum ciliare*) is an invasive, exotic grass that threatens biodiversity and wildlife habitat throughout the southwest. This is especially true for northern bobwhites (*Colinus virginianus*). Bobwhite populations have decreased over the past century because of a loss in habitat and usable space. Use of exotic grass monocultures by quail tends to be limited to edges adjacent to woody plant communities. We evaluated if creating a mosaic of small prescribed burns followed by intense cattle grazing in exotic-grass monocultures will increase usable space for bobwhites and increase bobwhite abundance in La Salle County, Texas. We randomly assigned a patch burn-graze treatment to 2,200-ha pastures dominated by buffelgrass and randomly selected 2 experimental controls (grazing only) to 2,200-ha pastures. We burned patches totaling 25% of each pasture in January 2010 and allowed grazing after burned grass reached 15 cm in height. Grazing intensity (standing crop removal) was sampled in June and August 2010. Patch-burning and grazing resulted in more heterogeneity in standing crop of buffelgrass ( $P < 0.001$ ). Bobwhites appeared to use exotic grass monocultures in burned patches with a greater abundance of native forbs and woody plants during the first year of study. Bobwhites avoided areas where there was no native vegetation, and their abundance was closely associated with brushy riparian areas ( $P = 0.09$ ). There were no differences ( $P > 0.05$ ) in bobwhite abundance between treatment and control pastures. Severe drought during the first year of study may have affected the results.

**Citation:** Grahmann, E. D., M. Hehman, T. E. Fulbright, and F. Hernández. 2012. Effects of patch burning and grazing exotic-grass monocultures on northern bobwhite habitat and productivity. Proceedings of the National Quail Symposium 7:34.

**Key words:** buffelgrass, *Colinus virginianus*, northern bobwhites, *Pennisetum ciliare*, Texas

<sup>1</sup> E-mail: eric.grahmann@students.tamuk.edu

<sup>2</sup> Present address: 720 West Kleberg, Kingsville, TX 78363, USA.