

The Effects of Supplemental Feeding on White-tailed Deer Productivity

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Greater numbers of white-tailed deer can lead to a reduction in high-quality forages and cause an increase in vegetation species that are not preferred. These changes in plant communities can lead to changes to soils, nutrient cycles, and populations of other animal species. Supplemental feeding may influence deer productivity leading to increased numbers and greater vegetation and ecosystem-level effects. Our objective is to use stable isotopes to quantify supplemental feed intake and relate feed intake to measures of productivity in white-tailed deer.

Female body condition, age, and pregnancy status including sex of the fetus, number of fetuses, and conception date can all be used to indicate the productivity of an individual female deer. We will obtain this information from female deer during March–April. Hair and blood samples will be analyzed for ratios of carbon and nitrogen isotopes to determine the proportion of supplemental feed in the females' diets over the past 6 months.

By establishing a relationship between feed use and the above measures of productivity, we hope to determine how supplemental feed affects productivity of white-tailed deer. Additionally, we hope to use this information to evaluate the potential environmental impacts of supplemental feeding.

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