

1995. ABSTRACT. Page 189 in Second SETAC World Congress (16th Annual Meeting)
Society of Environmental Toxicology and Chemistry Press (November 5-9, 1995,
Vancouver, British Columbia, Canada)

Responses of Bucks to White-tailed Does Treated with Immunocontraceptives during the Rut. S.A. Shumake¹, E.S. Wilhelm², M.R. Hummel³, L.A. Miller¹, and G. Killian⁴.
¹Denver Wildlife Research Center, Denver, CO 80225 USA and Departments of ²Wildlife and Fisheries Science, ³Environmental Resource Management, and ⁴Dairy and Animal Sciences, The Pennsylvania State University, University Park, PA 16802 USA.

In localities where hunting or other management methods have failed to reduce overpopulations of white-tailed deer (*Odocoileus virginianus*), immunocontraceptive vaccines are receiving increased interest by wildlife managers. The objective of this study was to evaluate the potential side effects of extended estrous cycling in deer as a consequence of zona pellucida (ZP) vaccine treatments. These side effects could generate stress in deer herds during the winter months. Observations were recorded on a herd of 39 does and 3 individual bucks confined within a 7.5-acre [3.03 ha] fenced enclosure for 118 days from November 4, 1993 through March 1, 1994. Buck rutting behavior toward each individual doe was classified into 9 categories as an indicator of estrous cycling in 5 groups of ZP-treated does and a sham-injected (control) group. Only the 2 porcine ZP treated (PZP) groups showed signs of extended cycling when compared to either control animals or those treated with 3 variants of rabbit recombinant ZP (RRZP). In the PZP groups, 7 of 11 does showed late or multiple estrous cycles and only 1 of the animals became pregnant as indicated by ultrasonic fetal monitoring in January and fawn counts in August. Results confirmed that PZP vaccine can generate extended estrous cycling in white-tailed deer, and that buck behaviors can be used as indicators of this effect with confined herds.