

Breeding Behavior of Male and Female White-tailed Deer Relative to Age Class

Jason A. Sumners, Randy W. DeYoung, Rodney L. Honeycutt, Stephen Demarais, Mickey W. Hellickson, Kenneth L. Gee, and Robert A. Gonzales

Although the breeding system of white-tailed deer is commonly described as a dominance-based hierarchy, recent studies have documented the breeding success of all age classes of bucks in white-tailed deer. It has been suggested that the breeding success of young bucks is the result of exclusively mating with young does, while older bucks concentrate their efforts on mature does, presumably because these does are more experienced and more likely to recruit one or more fawns. Additionally, older does may not tolerate mating attempts of younger bucks, preferring to mate with dominant bucks. The occurrence of multiple paternity in many white-tailed deer populations indicates that female choice may play an important role in determining the distribution of buck breeding success.

We are sampling litters of fawns and assigning paternity using a panel of genetic markers. Our preliminary results indicate that yearling bucks successfully mate with does of all ages. The mean age of female mates was 5.1, 4.8, and 5.0 for 1.5, 2.5, and 3.5+ year-old bucks, respectively. Additionally, we documented 2 incidents of multiple paternity involving yearling bucks.

The breeding success of young bucks may be restricted to the peak of the breeding season when the most does are in estrous and mature bucks cannot monopolize access to all does. The lack of an association between buck age and doe age is more evidence that overall male-to-male competition may not play an important role in gaining access to does. This ongoing research should provide further insights into breeding behavior and success of white-tailed deer.

Cooperative funding was provided by King Ranch, Inc., Texas Parks and Wildlife Department, The Samuel Roberts Noble Foundation, and the Quality Deer Management Association.