

THE USE OF DIETHYLSTILBESTROL AS A TEMPORARY  
CHEMOSTERILANT IN BLACK-TAILED PRAIRIE  
DOGS (Cynomys ludovicianus)

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Abstract

The effectiveness of diethylstilbestrol (DES), a synthetic estrogen, as a reproductive inhibitor in black-tailed prairie dogs (Cynomys ludovicianus) was examined in a 4-year study at Wind Cave National Park, South Dakota. In 1979 and 1980, a study colony was monitored to determine age structure, reproductive success of individual animals, and rate of colony expansion. In 1981, the colony was divided into control and experimental areas (Fig. 1). Treatment with DES during the breeding season resulted in complete curtailment of reproduction on the experimental side while reproduction of the control group was similar to that of previous years. Results were identical in 1982 when treatment was reversed (Fig. 2). There were no obvious effects of DES treatment on the subsequent reproductive capability of study animals. In 1981, surface expansion of the study colony was significantly less on the DES-treated side compared with previous years (Fig. 3). Prospects of using DES for managing prairie dog populations are discussed. The authors visualize an integrated approach to prairie dog management; that is, use of rodenticide for initial reduction and irregular DES treatments thereafter to maintain the population at low levels.

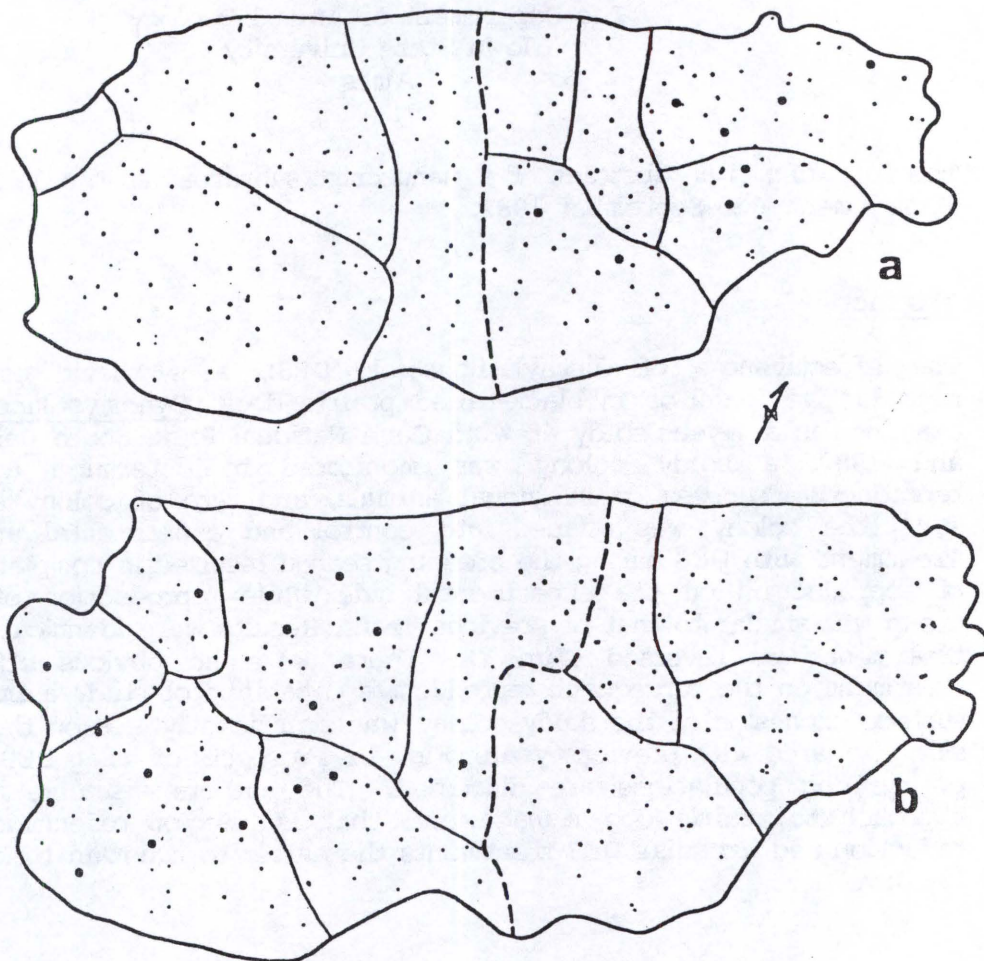


Figure 1. The study colony in (a) 1981 and (b) 1982. Area of modified vegetation indicated by heavy solid line. The heavy broken line distinguishes the experimental and control areas. Family group territory boundaries are delineated by thin solid lines. Burrows (dots) from which litters emerged are emphasized.

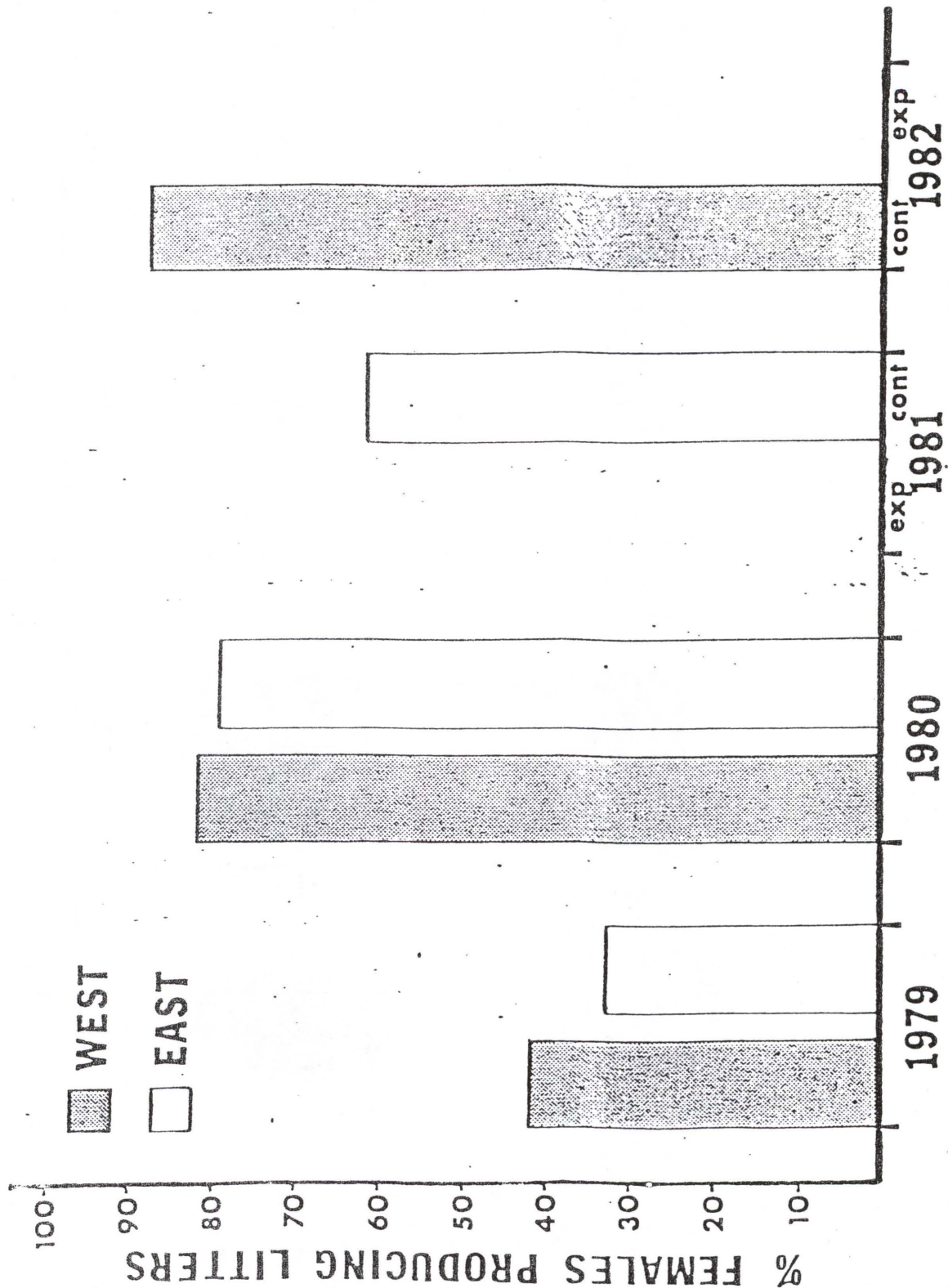


Figure 2. Percentage of females producing litters for the 2 sides of the study colony during the 4-year study period. DES was administered during 1981 and 1982: experimental (exp) and control (cont) areas.

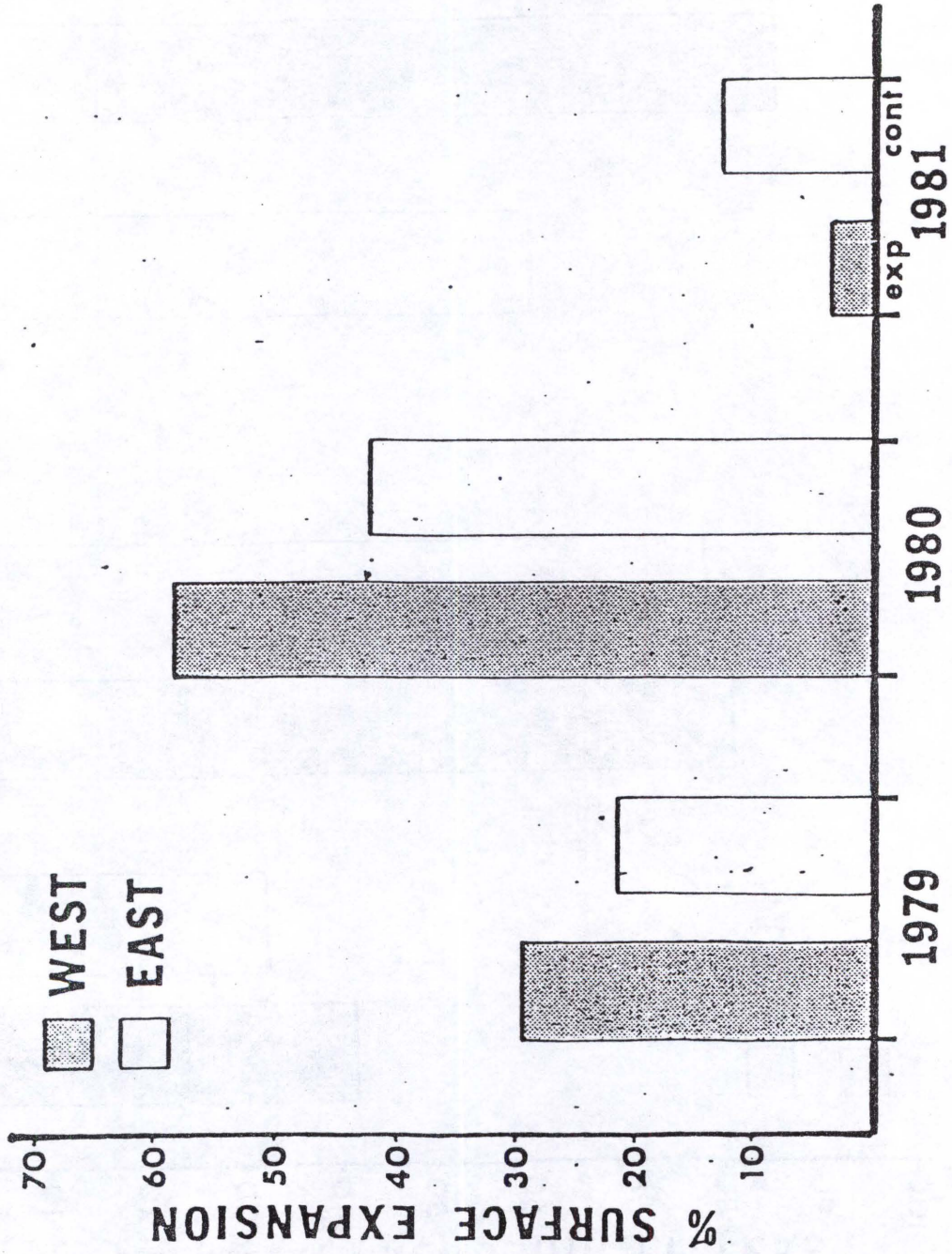


Fig. 3. Comparison of percentage colony expansion during the 3-month period following juvenile emergence in 1981.