GONAD ACTIVITY OF MALE AND FEMALE FAWNS OF THE WHITE-TAILED DEER[1]

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Knowledge of the factors influencing the onset of puberty in white-tailed deer *(Odocoileus virginianus)* is of interest because if deer reach puberty during their first year of life they may contribute substantially to herd productivity. Joubert (Anim. Breed. Abstr. 31(3):295-306, 1964) in a review of puberty in farm animals has emphasized that onset of puberty is largely controlled by bodyweight and age. But in seasonally breeding animals the seasonal effect serves to complicate the relationship between onset of puberty and bodyweight and/or age. Gonadal activity was studied in white-tailed deer in order to determine whether puberty was attained or not and to determine the relationship between bodyweight and the onset of puberty. Gonads of male fawns were collected 3 to 6 November 1971 7 fawns) and 8 to 11 December 1971 (12 fawns) during legal hunts in South Carolina. Bodyweight of fawns was recorded, testes and epididymides weights were taken and testes and epididymides were separately homogenized and numbers of spermatozoa in each organ were counted following the method of Amann and Almquist (J. Dairy Sci. 44(8):1537-1543, 1961). One testis was removed from each of 19 male fawns captured at the Radford Army Ammunition Plant, Dublin, Virginia over the interval January to May, 1972. Bodyweight, weight of testis, weight of epididymis, and number of spermatozoa in each organ was recorded. Twenty-one female fawns captured at the same location and during the same interval were examined by laparotomy to determine ovarian activity and whether animals were pregnant. Nine fawns (25 percent of total: 6 of 17 from South Carolina and 3 of 19 from Virginia) were found to have spermatozoa in the testes (i.e. had attained puberty). Mean bodyweight of postpuberal fawns was 30.2 kg (± 4.17) in November and 30.79 kg (± 1.72) in December. Those fawns without evidence of spermatogenesis had mean bodyweights of 25.3 kg (± 2.56) in November and 27.1 kg (± 0.84) in December. Paired testis weights and paired epididymis weights were significantly ($P<0.05$) heavier in postpuberal fawns than in those without evidence of spermatogenesis. Mean paired testis weight, and mean paired epididymis weight in postpuberal fawns and in fawns without evidence of spermatogenesis was 25.04 g(+ 3.16)vs 11.15 g (± 5.04), and 4.25 g (± 0.02) vs 2.94 g (± 0.53), respectively, in November and 18.26 g (± 3.96) vs 12.50 g (± 5.10), and 4.11 g (± 0.76 vs 2.86 g (± 0.88), respectively, in December. Mean numbers of spermatozoa in paired testis and paired epididymis in postpuberal fawns were 0.636 (± 0.119) x 10^9, and 0.307 (± 0.215 x 10^9, respectively in November; and 0.270 (± 0.278) x 10^9, and 0.234 (± 0.173) x 10^9, respectively in December. Only 1 of 21 (4.8 percent) female fawns examined during the interval January to May, 1972 was found to be pregnant. Ovarian examination of 13 fawns revealed no evidence of previous ovulations. Numbers of follicles of diameter 5 mm or greater ranged from 0 to 4. Six of 13 fawns (46 percent) had one or more such follicles.

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