

## 9. LACK OF SEASONAL VARIATION IN MALE REPRODUCTIVE PARAMETERS MEASURED IN A CAPTIVE AND WILD POPULATION OF COMMON WOMBATS IN NEW SOUTH WALES

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Despite their abundance in the wild, common wombats (*Vombatus ursinus*) do not breed regularly in captivity, such that there is little published about their captive reproductive management. As part of the development of an artificial insemination program in this species and in an attempt to establish important baseline reproductive information, 4 captive male common wombats at Western Plains Zoo (Dubbo, NSW) were systematically examined over a 12-month period in order to assess whether male reproductive function was seasonally dependent. The reproductive parameters investigated included, peripheral plasma testosterone secretion, testis volume and quality of semen (% motility, % live and % normal) collected by electro-ejaculation. An attempt was also made to determine the extent of seasonal change in male reproductive function of common wombats in wild populations. Plasma samples and reproductive tracts were collected from 12 wild male common wombats from the Kangaroo Valley district (NSW) in June ( $n = 7$ ) and November ( $n = 5$ ); plasma testosterone secretion, epididymal sperm characteristics (% motile, % live and % normal) and measurements of testis, prostate and bulbourethral glands were compared. Our results indicated that male common wombats in captivity at Western Plains Zoo did not appear to be seasonal breeders in terms of testosterone secretion or electro-ejaculate quality (% motile, % live and % normal); there was, however, a significant increase in testis size between the months of June to October ( $F = 4.04$ ;  $P = 0.05$ ). Lack of distinct seasonal variation in male reproduction was also evident in wild common wombats in Kangaroo Valley. There was no significant difference ( $P > 0.05$ ) between wild wombats collected in June or November with respect to plasma testosterone concentration, epididymal sperm quality or testis, prostate and bulbourethral gland dimensions.