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Observations from Pre-weaning Rebreeding of Doe Rabbits in a Sub-humid Tropical Environment

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Abstract

Reproduction studies were carried out in the dry and raining seasons in a sub-humid tropical environment. The objective was to investigate reproductive physiology and performance in rabbit does rebred pre-weaning. Thirty rabbit does were each subjected to three pre-weaning re-mating time-periods; intensive (1–9 days), semi-intensive (10–20 days) and extensive (21–28 days) post partum. Rabbit kits were weaned at 28 days of age. Mean post partum re-mating interval was 1.9, 14.2 and 25.9 days for does rebred intensively, semi-intensively and extensively respectively. Willingness to mate decrease as post partum re-mating interval increased. Acceptance of mating was better in the dry season in intensively and semi-intensively rebred does. Conception rate among does that mated was; extensive (98.8 %) > intensive (76.9 %) > semi-intensive (68.5 %). Conception rate was higher in the dry season and when litter size being nursed by the doe at mating was less than five. The trend of conceptus survival to kindling was 75 %, 76.9 % and 100 % for does under intensive, semi-intensive and extensive rebreeding respectively. In another study, ovarian and uterine histology were studied 48 hours after mating. Does under semi-intensive mating had the least ($p < 0.05$) number of follicles. There were significantly ($p < 0.05$) more small follicles in does under extensive mating. Seasonal variation in follicular number and size were not significantly ($p > 0.05$) different. Histopathological assessment of the ovary at 2 and 10 days after mating showed no visible lesion in does under intensive and extensive re-mating. The ovary in semi-intensively re-mated does had vacuolar degeneration of stromal cellsat 2 days after mating and generalised necrosis of stromal cells/congested ovarian vessels at 10 days after mating. At 10 days after mating, the gravid uterus in intensively mated does had diffuse hyperplasia of uterine mucosa and vacuolation of epithelia cells. The gravid uterus in intensive and extensive re-mating hade no visible lesions. This study suggeststhat pre-weaning rebreeding in the doe rabbit should target re-mating at 21–28 days post partum. There is however that challenge of improving doe receptivity to mating during this period.

Keywords: Doe rabbit, histopathology, physiology, re-mating interval, reproduction

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