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## **Induction of Ovulation**

Manipulation of the timing of ovulation is important in managing mares in controlled breeding programs. Bova supported a study performed by Dr John Chopin during the 2010 breeding season comparing of the efficacy of Human Chorionic Gonadotropin (hCG), deslorelin, deslorelin combined with hCG, and histrelin against a placebo in induction of ovulation in the mare.

Sixty-eight mares entered the study when oestrus was determined (by rectal palpation, ultrasound, or teasing behaviour) and treatments were administered when a mature ovarian follicle (>35mm diameter) was detected with concurrent uterine oedema and a relaxed cervix. Mares were allocated to one of five treatment groups: 1) 2500 IU hCG in 1 ml; 2) 2.25 mg deslorelin in 1 ml; 3) 2 mg deslorelin and 2500 IU hCG in 3 ml; 4) 0.5 mg histrelin in 1 ml and; 5) saline in 1 ml or 3 ml vials(10 each). Twenty treatments in each group were formulated and administered (a total of 100 treatments). Mares were subsequently examined daily by palpation *per* rectum and ultrasound examination until ovulation was detected.

Mean ( $\pm$  SD) time to ovulation for mares that received the placebo, histrelin, hCG, deslorelin, and deslorelin/hCG combination was 4.05 ( $\pm$  1.61), 1.88 ( $\pm$  0.49), 2.21 ( $\pm$  0.71), 2.36 ( $\pm$  1.5) and 1.89 ( $\pm$  0.31) days, respectively (shown in figure 1 below). The combination of deslorelin and hCG produced a tighter ovulation group than the other treatments, although this was not significantly different.



Figure 1: Box plot of days to ovulation for each treatment group. C = 2 mg deslorelin and 2500 IU hCG in 3ml; D = 2.25 mg deslorelin in 1 ml; H = 2500 IU hCG in 1 ml; H = .0.5 mg histrelin in 1 ml; P = saline.