Investigation of estrus induction failures following Ovuplant® administration in dogs
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Introduction
The deslorelin implant, Ovuplant® (Ayerst Laboratories), is licensed for use in horses and has been shown to reliably induce estrus in the majority of anestrous bitches. Anovulation and abortion due to premature luteolysis have been reported during the induced estrus and subsequent luteal period, respectively. The objective of this study was to evaluate the endocrine response in a diverse population of privately owned bitches that did not become pregnant after receiving an Ovuplant® for estrus induction. We hypothesized that ovulation failure, diagnosed by serum progesterone concentrations (P4) that failed to rise above 5 ng/mL was the most common cause of reproductive failure.

Keywords: Canine; deslorelin; estrus induction; GnRH; ovulation failure

Methods
Privately-owned bitches (n=37) were presented for Ovuplant® estrus induction and breeding management. Some of the bitches were affected by cystic endometrial hyperplasia before estrus induction was attempted. Ovuplant® implants were placed in the vestibular submucosa during anestrus, at least four months after the last estrus and when P4 ≤ 1 ng/mL. Serial venous blood samples for P4 determination were collected to determine the optimal time for breeding. Progesterone was measured using the Immulite chemiluminescent immunoassay system (Siemens Diagnostics). Bitches were bred, naturally or artificially, one to three times to a male selected by their owners. Implants were removed within three days of the last breeding or within 21 days for bitches that did not ovulate.

Results
Of the 37 bitches, 16 (43%) did not become pregnant, including seven (19%) that did not ovulate (P4 ≤ 3 ng/mL). The remaining nine bitches displayed P4 profiles that were not different from those published for spontaneously cycling bitches. Two bitches that did not ovulate and one bitch that ovulated but did not become pregnant failed to show any external signs of pro-estrus. None of the pregnant bitches aborted. Following the Ovuplant® induced cycle, 13 of the 16 bitches were bred during a subsequent spontaneous estrus, and of these 10 became pregnant. Three bitches were not re-bred.

Conclusion
Ovuplant® treatment is an effective method for inducing estrus, but ovulation failure must be expected in a significant number of treated bitches.

References