

LH SURGE DETERMINATION AS A USEFUL ADJUNCT IN DETERMINING OPTIMAL MATING TIME IN THE BITCH

Ruth B. Daniels, Paul E. Mundell

Canine Companions for Independence, Santa Rosa, CA, USA

Due to the relatively long survival time (ca. 7 days) of canine sperm in the female reproductive tract after natural insemination, approximate timing of ovulation traditionally has proven adequate. However, when using older studs, or when inseminating with frozen semen and other cases where fragile semen is used, more accurate ovulation timing is desirable. Canine Companions for Independence (CCI) has found that using the commercially available, semi-quantitative assay to determine the preovulatory luteinizing hormone surge (Status-LH, Synbiotics, San Diego, CA) provides a very accurate baseline for calculating optimal mating dates.

Data was collected on 122 matings in the breeding colony of CCI. LH peaks were determined using the Status LH assay and concurrent serum progesterone levels were measured. Bitches were bred naturally or using TCI and fresh extended semen on days three and five after determination of the LH peak.

All bitches conceived and parturition occurred between 62 and 68 days later (mean gestation length = 64.64 ± 1.19 days).

Serum progesterone levels measured on the date of the LH peak showed a moderately high degree of variance between bitches. Levels ranged from 0.4 to 3.5 ng/ml (mean = 1.8 ng/ml, S.D. = 0.625 ng/ml). Our results indicate that reliance on progesterone concentrations between 2.0 and 2.9 ng/ml as marking the LH peak, as commonly cited in the literature (e.g., Root Kustritz, 2001), will potentially result in missed conceptions. Due to the more sharply demarcated, pulsatile nature of the LH peak, variation found between individuals in LH surge timing appears to be less than that found when determining progesterone levels.

Keywords: Luteinizing hormone; LH peak; Progesterone; Ovulation timing