

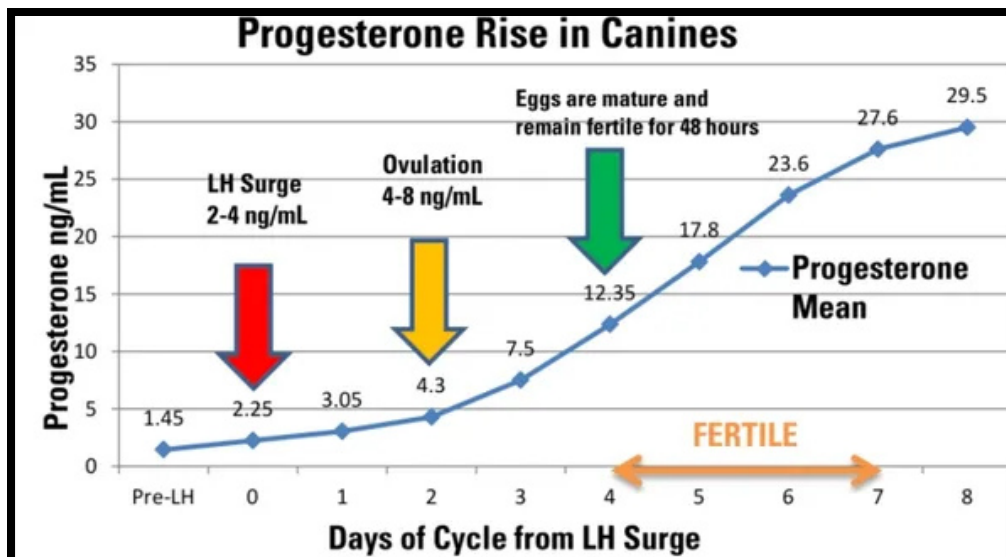
## Progesterone Testing: What You Need to Know

Serum progesterone level tracking in female dogs involves serial blood tests during their heat cycle (estrus) to pinpoint key time periods in their cycle. This blood test is more accurate than visual cues, helping vets time insemination for conception, approximate whelping, or schedule C-sections. It requires frequent testing (every 1-3 days) once the cycle begins. Tests can be needed as often every 24-72 hours, as levels rise.

### Progesterone Testing for Breeding:

During the early part of estrus, progesterone levels are as low as 0-2 ng/ml. Levels will then rise to 2.0-2.9 ng/ml during the LH surge (Luteinizing Hormone), which initiates egg ovulation. Levels will continue to rise to 5-8 ng/ml on the day of ovulation, this is typically 2 days after the LH surge. Levels can be detected as high as 20-25 ng/ml post ovulation depending on the testing equipment used. Values also vary from machine to machine, brand to brand.

Accurate ovulation timing pinpoints the exact fertile window, improving breeding success rates. After ovulation has occurred, the oocytes (eggs) must go through a maturation process before they are capable of being fertilized. This process takes approximately 2 days. When fully mature, oocytes can then be fertilized for about 48 hours.

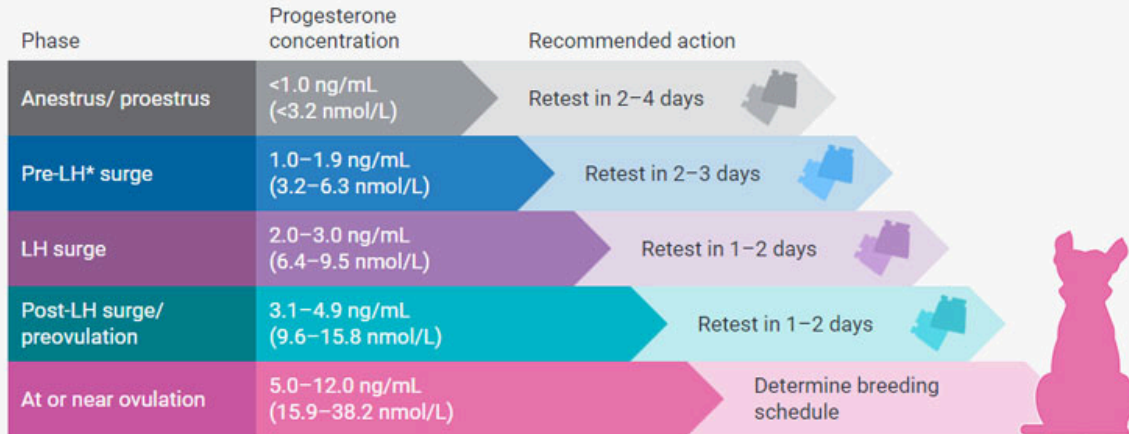


The optimum time to breed when using fresh chilled semen (for Artificial Insemination or Transcervical Insemination) is 2 days after ovulation (4 days after the LH surge) when eggs are mature enough for fertilization (progesterone level of 8-12 ng/mL). An additional additional second insemination would be preferred if possible. The optimum time to breed when using frozen-thawed semen (for Surgical Insemination) is 3-4 days after ovulation (5-6 days after the LH surge) due to its shorter life span.

### Interpretive guidelines to serial monitoring with Catalyst Progesterone

Get reliable, quantitative results to predict canine ovulation and estimate optimal fertility.

Ovulation and time of optimal fertility can be estimated by observing a distinct rise in progesterone concentrations, which is best identified with serial testing.



### Progesterone Testing for Pregnancy Management:

Tracking progesterone during the pregnancy cycle can assist the clinician with ensuring a healthy pregnancy. If abnormal fetal development is noticed on abdominal ultrasound, or if the bitch has a history of Luteal Failure or spontaneous abortion, progesterone level monitoring is essential. Luteal failure, or hypoluteoidism, in dogs is a condition where the corpus luteum (or corpora lutea) in the ovaries fails to produce sufficient progesterone, which is essential to maintain pregnancy. This progesterone deficiency leads to spontaneous abortion, premature birth, or embryonic resorption, often occurring in the second half of pregnancy. Weekly measurements of serum progesterone are necessary during the second half of pregnancy if Luteal Failure is a concern. A rapid, premature decline in progesterone indicates a potential issue and will require medical intervention. Luteal

insufficiency usually does not appear in a bitch's first pregnancy but can recur in subsequent pregnancies, making management crucial.

If a Caesarian Section (C-Section) surgery is being planned or considered to assist with a safe delivery, checking progesterone levels 60 days from ovulation is utilized to calculate a date a potential surgery date. Progesterone levels can also be checked at this time if natural whelping is planned. A drop below ~2 ng/mL typically signals labor within 24-36 hours.

#### Points to Remember:

- Start Early! We recommend initial testing around Day 5 of the heat cycle.
- Serial Blood Draws are needed. Progesterone tests should be done at several stages of the cycle to predict a fertile window and to monitor the pregnancy.
- Not every cycle is the same for a specific breed of dog. Variations can occur due to health, age, environment, etc. Cycle tracking is extremely important during the first breeding or in dogs with a history of medical concerns during pregnancy.
- There are no guarantees when it comes to breeding. Cycle tracking, identifying the optimal breeding window, and insemination processes do not guarantee that a breeding will result in pregnancy. They are tools utilized by a veterinary professional to assist the process in an attempt at the best possible outcome (pregnancy). Pregnancy management and traditional prenatal and postpartum care does not guarantee healthy puppies, but it does give them the best chance for success.