



# Breeders' Briefcase

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## TIMING THE FERTILE PERIOD OF THE BITCH: BRIEF REVIEW (part 2 of 2)

Courtesy AKC/CHF

Canine Reproduction Seminar Dr. Scarletta Gotwals DVM

### **Natural Breedings:**

Many dog breeders are very busy and have to plan in advance for a breeding. They need the breeding to work when planned. They do not have time for missed breedings. OVT maximizes conception rate and provides a more accurate due date.

### *Subfertile bitches or bitches who previously missed*

The number one cause of a missed breeding is improper timing. Whenever a bitch does not conceive, OVT should be required for the next breeding.

### *Bitches with abnormal cycles or who have split heats*

Without OVT it is very difficult to know when a bitch is definitely ovulating.

### *Bitches requiring planned C-sections*

The best way to accurately predict a due date is with accurate ovulation timing. The majority of bitches whelp 65 +/- one day from the day of the LH surge regardless of when bred. If the OVT is accurate the C-section date can be narrowed to a 2 or 3 day window the day the breeding is actually done. This is a big help in assuring mature puppies at surgery.

### *Stud dogs that have low-fertility*

Many stud dogs are able to maintain a high conception rate with OVT despite

having subnormal semen quality or low counts. For these dogs OVT tailors breeding days to their particular problem.

### *Busy Stud Dogs*

When access is limited, OVT may make the difference between success and failure.

### **Fresh Chilled and Frozen Semen Breedings**

Fresh chilled or frozen/thawed semen lives for a much shorter time than fresh semen. It is imperative to use advanced OVT for these breedings.

### **Ovulation Timing Protocol**

#### *When to start testing:*

Call the veterinarian who will be doing the timing when the bitch comes in to season to plan the breeding. If you need a Brucellosis test take the bitch in within the first 3 days of heat. There are a few general steps to follow; if a bitch has an ultra short season (5 to 7 days of bleeding) start timing immediately, if she normally has 9 to 11 day seasons start timing by day 5, if she normally has 14 day seasons start timing by 8 days, if her seasons last 3 weeks start timing by day 10. For fresh chilled or frozen breedings you always want to be sure to start ovulation timing early enough. When in doubt, start ovulation timing early. If the stud dog is close by and you do not have to allow for travel

time you have more flexibility in when to start ovulation timing.

### *Testing Frequency:*

The higher the stakes the more frequently you need to test. If the breeding is local and there is unlimited access to the stud dog you may need to only check a progesterone level every 3 to 4 days. For breedings requiring the bitch to travel testing is generally done on alternate days. Frozen semen breedings usually require daily blood testing.

### *Value of even one progesterone:*

A single progesterone value will give one of three results: low, mid range, or a high progesterone level. If the level is very low then you know you have at least four days or longer before a breeding will be needed. If the level is mid range (2.0 to 4.0 ng/ml) you need to start breeding within two days; if the level is high (>5.0 ng/ml) you should start breeding immediately; if the level is very high (> 15.0 ng/ml) you need to evaluate if the bitch is still in season and if she is, breed ASAP. Breedings beginning when the bitch already has a very high progesterone may be too late and you will need to start sooner for subsequent breedings.

### **What is ovulation timing?**

#### *Ovulation Timing FAQ's*

Ovulation timing is the process of using blood hormonal values in the bitch to predict when her optimum fertile period is. The bitch ovulates two days after her LH surge (Luteinizing Hormone-the biological trigger resulting in ovulation). Following ovulation the eggs require an additional two days to complete maturation and to be fertile. Therefore the optimum fertile period in the bitch is days 4, 5 and 6 post the

LH surge (day 0). Since LH blood levels are often only present for a short time, 16 to 24 hours, we use a second hormone, progesterone, to estimate when the LH surge occurred. Blood progesterone levels are generally less than 1.0 ng/ml prior to the LH surge and rise to 1.5 to 2.0 ng/ml, around the time of the LH surge. Post the LH surge progesterone levels continue to rise and are usually >5.0 ng/ml by the beginning of the fertile period and are often >10-15ng/ml by the end of the fertile period. Blood progesterone levels are the single best indicator of the fertile period in the bitch.

### *How are blood progesterone levels monitored?*

The gold standard for measuring progesterone levels is quantitative assessment by an outside lab. In areas of the country where access to timely progesterone results are limited there are several in office semi-quantitative kits available. The in-office kits are less expensive than lab values but are more subject to errors in interpretation. I personally prefer actually knowing what the value is. I am fortunate to have access to a lab that runs progesterones daily. Samples collected in the morning have same day results usually by 6 to 7 PM.

### *When should I use ovulation timing?*

Ovulation timing (OVT) should be utilized any time a breeding is important. OVT provides control over a breeding and documents breedings occurring during the bitch's optimum fertile period. OVT is essential any time where there is a reduction in the quality of semen used (e.g. fresh chilled semen breedings, frozen semen breedings, older stud dog, heavily used stud dog, etc.). Another advantage with OVT is knowing more accurately when the bitch is expected to whelp. The bitch whelps 65 +/- a

day from her LH surge regardless of the days bred.

*How many visits are required to time a bitch?*

Generally the first progesterone level is checked during the first 5 to 7 days of heat. Subsequent progesterone levels are checked every 2 to 4 days until the fertile period is determined. If a bitch has a very short season (<9 days) she needs to be checked at the first sign of blood. You can expect 1 to 4 visits for routine OVT. The expense typically is in the \$75 to \$255 range for ovulation timing. Artificial inseminations or other procedures incur an additional charge.