

just shake my head in amazement at the extent we dog breeders will and do go in order to produce a litter. That includes me. The drive behind most of us can be nearly obsessive as we move heaven and earth to get our bitches pregnant.

Once considered pioneering, now all too commonplace today are surgical and transcervical inseminations. The fields of theriogenology and reproductive medicine are booming and, not surprisingly, they have become a great source of profit for their key figures. Because canine reproduction is in its heyday, so are the costs. For those veteran dog breeders no longer actively breeding or the minority who have not chosen this popular path, you have successfully avoided a cost exorbitant, time consuming, anxiety ridden, frustrating crapshoot of a lifetime.

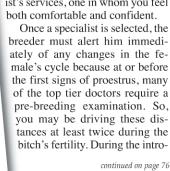
What the hell is the matter with us? The truth: purebred dog breeders have been willing participants in and have financially supported what may turn out as one of the biggest moneymaking schemes in canine reproduction history. For goodness' sake, one of my veterinarians drives a Ferrari! I am not using the word 'scheme' in its negative definition, but rather in another sense, as an elaborate game plan; all in order to maximize the chances for conception.

The processes and progression involving surgical inseminations of semen into the uterus is a good model serving to illustrate the maddening lengths we will go in order to impregnate our dogs. This discussion is not meant to give a thorough 101 introduction into the method of artificial insemination, but instead to give unfamiliar readers an inside look into these processes and the opportunity to determine for ourselves if, in fact, we are mad.

First — sounding awfully likeYogi Berra — we begin at the beginning. Long before the bitch comes into proestrus, a breeder must have researched and chosen a skilled veterinary reproductive specialist. Of added importance is that they are members of the American College of Theriogenologists (ACT) which is the certifying college for veterinarians board certified in reproduction, the Society of Theriogenology and the American Veterinary Medical Association (AVMA) which illustrates that this profes-

> sional is dedicated to promoting standards of excellence. Also inquire as to their percentage of success in impregnating bitches as measured by the total number of pregnancies. Equally important, it is best if the specialist is versed in your particular breed as some are more challenging than others. It is not unusual to drive 5 to 9 hours to use a competent specialist's services, one in whom you feel both comfortable and confident.

breeder must alert him immediately of any changes in the female's cycle because at or before the first signs of proestrus, many of the top tier doctors require a pre-breeding examination. So, you may be driving these distances at least twice during the





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ductory visit the specialist pulls blood to establish a baseline reading for progesterone and a Luteinizing Hormone test (LH), and reviews a vaginal cytology. Additionally, to ensure the bitch is healthy, they also perform a urinalysis and draw blood for Complete Blood Counts (CBC) and other laboratory work such as blood chemistry panels and brucellosis tests. For the record, the doctors are seeking specific levels of progesterone nanograms (ng), and as for LH, these levels are low during most of proestrus rising during the preovulatory surge to peak levels. He or she will also advise you of the diagnostic laboratory they use for detecting levels of progesterone. Which laboratory is a key element as you will learn further on in this article.

Okay, check one. This initial office and testing expense averages \$350-\$500 and now the real fun — I say this sarcastically — and spending of money commences. Ka-ching!

Whoops, I almost forgot to mention that simultaneously with step one the breeder should have already alerted the stud dog owner and if they have not done so already, make the arrangements to have the semen shipped to the breeder's reproduction specialist. In the best of circumstances, the semen is already stored at the specialist's practice; if not then it needs to be shipped very soon. This process requires advance notice and potential

detect elevations. If you work full-time, you are up the proverbial creek because you are running to the veterinarian every other morning. But wait, it gets even better. If you are not conveniently located near the reproductive specialist, then the breeder must schedule every other day appointments with their local veterinarian to pull additional progesterones and LH blood samples. Importantly, the blood must be drawn at approximately the same time each day. So, the local vet draws and prepares the progesterone samples. The serum must be kept frozen, packed in ice and sent via overnight courier with next morning delivery to the specific veterinary diagnostic laboratory. But not the LH samples because, in most cases, the reproduction specialist performs the LH tests themselves. In the early stages of ovulation, the local vet collects the LH samples every other day and stores them in the freezer. Once the progesterone levels rise, the theriogenologist requests that the daily LH samples be shipped to them frozen in an insulated cooler accompanied by ice packs by means of overnight courier with AM delivery. If you think all of this sounds simple, not so fast. All these tests present another problem – geographical logistics. Depending on where you live, the exorbitant FedEx Same Day delivery may not be available, only overnight courier service. Consequently, you are always one day behind in



wait times, sometimes even a week, as this storage facility needs to prepare its storage tanks for travel by charging them with nitrogen. Since the nitrogen keeps the semen frozen, the tank must be shipped via Fed Ex overnight delivery. In some cases, the facility only has a few tanks and you will experience further delays until another tank is returned — of course, via overnight delivery for empty tanks too. On the outset the process sounds uncomplicated, however it adds another cost to the left side of the ledger account. For example, to ship one breeding of frozen semen 88 miles from the storage facility to my specialist's office — including round trip shipping for the tank — costs \$450. Ka-ching!

Now, we move on to step two, which entails many more progesterone and LH blood draws usually performed after the bitch has fasted for 6-8 hours. How many blood pulls is conditional on the results from the baseline progesterone and initial LH test revealing early or low results, or if the bitch is 'coming in' fast. Now, the real work begins because usually the basal readings are low so it is necessary to draw additional blood every other day to

getting the results of the samples. Also, as you will read further down, on weekends you may be up to four days behind.

In a perfect world, your reproductive specialist pulls the blood samples, ships them and runs the LH tests. This convenience is even more advantageous because the specialists are doing this on a regular basis; therefore they usually have volume discount pricing with the diagnostic laboratory. For the rest of us, we must rely on our local veterinarian who is usually unable to qualify for volume discounts with these laboratories. In my area, a typical charge for progesterone testing is approximately \$80-\$150 per test. Some laboratories are more expensive than others depending on the assay methodology they use. I'll give you the dollar figures on all this gradual progression of lunacy in a moment because the escapades have really just begun.

Eventually, as the progesterone levels increase, we then shift to daily progesterone and LH sampling. This fills us with even more lighthearted pleasure as it entails bringing the bitch in every day — even weekends — to either the veterinarian or

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theriogenologist to have her blood drawn. This in itself presents unique challenges as many diagnostic laboratories do not have Saturday hours. Because timing is critical when using frozen semen, it may be prudent to inquire with the theriogenologist if their laboratory of choice does offer Saturday diagnostics. This ensures that if the bitch's progesterone is increasing and the weekend is almost upon you, a Friday progesterone sample will be read on a Saturday. This is most certainly a tremendous comfort to breeders who are concerned they will miss a bitch's progesterone rise over the course of four missed days versus just one to two days. Why four days? Many of us unfortunate eccentrics do not have Fed Ex Same Day delivery available on a Friday and, more consequential, the servicing laboratory such as Cornell University Animal Health Diagnostics Center is not open on a Saturday. As a result, no progesterone blood samples - only LH - are drawn on a Friday forcing the breeder to anxiously wait until a progesterone sample can be drawn on a Monday and shipped out for diagnostics on Tuesday — four long days later. Here is the other hitch — due to technical issues, you cannot simply send the blood sample to a different lab that is open on a Saturday because there are different tests, quantitative and semi-quantitative, which detect progesterone levels and provide different values. Even amongst those laboratories using quantitative tests there are different methodologies whereas one laboratory may use Radioimmune Assay Test (RAI), the highest quality and most sensitive test, and another may use ELISA or Immulite. These different assays have variability in levels of progesterone detection, thus giving a dissimilar reading than if the breeder stuck to the original plan to work with one laboratory.

Another point to consider is that all these blood draws accentuate a health note. When blood is pulled with such frequency, you need to alternate rear legs. However, even these veins may collapse initially from multiple uses and then thicken as they heal. We refrain from using the front legs because we want to save those veins for anesthetic intravenous injections for surgery. So, what dollar amount do these steps cost? Your geographic location will influence costs for overnight courier shipping charges. Using my own experience, I had seven progesterone and six LH samples drawn and, including shipping charges, the cost was over \$950. Ka-ching!

Now that the exact date of insemination has been determined by both LH surge and progesterone nanograms, it is time to hurry. The theriogenologist sets the surgical date and you must drop everything assuming your employer and spouse appreciate the magnitude of this event. Good fortune would have the specialist within an easy drive time. If fate is not smiling on you, then you are in for a lengthy excursion, including an overnight stay depending on what time the surgery is performed. Some may feel that the ideal time for insemination might fall on a weekend. At first, this may seem like good fortune, but not if the specialist is out of town that weekend. This happens more

often than not because they too have a life outside of work. This twist of fate leaves you and the specialist with only two options. Either inseminate earlier than the ideal timing; keep in mind that compromised (frozen) semen is thought to be viable for only 12 to 24 hours and you just spent \$1,950 dollars on such timing procedures, including semen transport. Or, you are referred to another specialist somewhere in the region. Someone you have no relationship with nor have even met or researched. Though it is a minor surgery, you are expected to trust a total stranger with your dog's welfare and all your effort, planning and money could be on the line.

Optimistically, the surgical insemination is performed on schedule with your familiar theriogenologist. This end cost varies from region to region, but my research reveals typical estimates of \$1,600 to \$2,000, though, I am told that in several instances, this was low.

Ka-ching! Included in the surgical bill are fees for semen preparation ranging from \$75 to \$150 and additional last minute LH tests and vaginal cytology costing about \$100 to \$150. Supplementary costs aside from the surgery are the specialist's consultation fees with your local veterinarian, usually \$150, and a short-term semen storage charge, even though it may have only been two or three days.

With as much joviality that I can muster, we have a grand total of over \$4,150. KA-CHING! This is money we somehow rationalize in our deluded minds. By all means, this does not include the stud dog fee for the semen, if any. Incidentally, the nearly \$2,000 I spent on testing, shipping and transport of semen was all for naught. When the specialist called me with the opening remark, "Lisa, we have a problem," I knew it was not good news. According to schedule, we shipped the collected LH serum when the bitch's progesterone readings were elevated. However, testing revealed that the LH surge was abnormally sooner, not ideally correlating with her progesterone levels. Without introducing a whole lot of technicalities, it is sufficient to say that the LH is central in the timing of a bitch's cycle and that very day was the

last ideal surgical date postsurge. It was 2:00 PM and even if I left that moment and drove the 6 hours to reach their office, the specialist wasn't going to be performing an elective surgery at 9:00 PM without staff. Therefore, the decision was made not to cut a bitch open if we did not believe that we still had a good chance of inseminating during her peak fertile period.

Oh well, let's try her again next season, another day, and many, many more dollars. Maybe we are all crazy like a fox?



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