

PURE DOG TALK 380 – PROGESTERONE TIMING FOR PREGNANCY SUCCESS

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Laura Reeves:

Welcome to Pure Dog Talk. I am your host Laura Reeves and I am back with my very, very, very favorite veterinary voice. This is Dr. Marty Greer and today we are talking about progesterone, that wonderful, wonderful chemical inside of our girl dog's bodies that tells us so much. And Marty and I were just talking about, well, which part of this are we talking about?

Dr. Marty Greer:

Right.

Laura Reeves:

Because there is a lot that we can learn, right, Marty?

Dr. Marty Greer:

There are so many aspects and nuances to it. It's not just this one simple number that we can hang our hat on. It's complicated.

Laura Reeves:

Right. It's complicated. That's our life.

Dr. Marty Greer:

For sure.

Laura Reeves:

For sure. So let's start with, my bitch is in season, I'm going to get a baseline progesterone. We've talked in previous podcasts that we'll link here. I'm going to get a progesterone timing so that I know when she ovulates so I know not only the best time for her to be bred, but also when she would be due.

So let's take it from there and break down as much as we can the different numbers that are associated with different breedings, right? Because it's different for fresh, frozen, or chilled, am I correct?

Dr. Marty Greer:

That's correct.

Laura Reeves:

Okay. So let's start there.

Dr. Marty Greer:

Perfect. So we want to do progesterone timing on the front end, not just to get the bitch pregnant, but to make sure that we get her unpregnant at the right time.

Laura Reeves:

Exactly.

Dr. Marty Greer:

I think there really is a word unpregnant. We call that whelping or we call it C-section, whatever way we get her unpregnant. But it's really important from the beginning of the heat cycle to know when ovulation occurred because we know bitches are pregnant 63 days plus or minus 24 hours. That's a normal pregnancy. It is not 58 to 72 days, like we've been told for many decades, prior to the time that we could do progesterone testing. We know it's 63 days plus or minus 24 hours, period.

Laura Reeves:

Yep. And I think that that is so critical when it comes to having questions at the end of the time, as you say, whether you're doing a natural whelping or whether you're doing a C-section, for saving puppies lives, for getting healthy, strong, full-term puppies, all of those things. And I just can't even imagine any more not doing progesterone timing.

Dr. Marty Greer:

Oh, I know.

Laura Reeves:

So yeah, I can't, I truly can't. So let's talk, we'll just take them in order, a fresh, live cover, what are we looking for?

Dr. Marty Greer:

We breed 48 hours after progesterone reaches five. Five in my hands is ovulation. It can be four to eight, depending on which lab are you using and how they're interpreting the results. But essentially, ovulation happens at approximately five and you'll see from the day after five, that the progesterone jumps significantly and it continues to rise pretty significantly until about three to five days after ovulation. So we want to nail it down so that we can tell what day she hit five. So that means progesterone testing every 48 to 72 hours, once you get close.

Now, once they get above three, usually the day after they're at three is the day that we call ovulation. They're usually somewhere at four to eight at that point. So that's where we want to really start focusing on how carefully and how frequently we time our bitches and we want to make sure that our technology is accurate.

There's a number of different progesterone pieces of equipment out there. Some are really easy to interpret, you can just take the number right off the machine, the IDEXX Catalyst is one of those, the reference labs that we use such as IDEXX and Antech, Marshfield, those labs, we have really accurate results straight off the machine.

There's a lot of people who use the Mini Vidas, by BioMerieux. That usually requires a step of interpretation that you look at the number that comes off the machine and interpret it based on which machine you're running it because every veterinary clinic has a different chart that goes with their machine, so it makes it more complicated when you're using that.

Laura Reeves:

Interesting.

Dr. Marty Greer:

The Tosoh is generally right on. And then there's a whole multitude of inexpensive progesterone machines that people are using either through their veterinary clinic or through their own use. And that's where it really gets complicated because some of them are not going to be reading five the same as another Catalyst or a Tosoh will read a five.

So we want to make sure we know what equipment we're using, what technology we're using, and then it has to be run really carefully, that the sample is spun correctly, drawn correctly, handled correctly, and the right amount of sample is put in, the right reagent is used. There's a lot of technique that goes with this. So you want to be really accurate in how you're handling these samples because that little bit of a difference can throw your numbers off.

Laura Reeves:

That's really interesting. I had not really thought or contemplated that piece of it. I'm very fortunate. My clinic that I work with has their own machine in house and so hallelujah, right? I mean, that's just ...

Dr. Marty Greer:

Right.

Laura Reeves:

Instead of that next day turnaround, I've got two or three hour turnaround and I think that can often make a huge difference.

Dr. Marty Greer:

Right. Oh, yeah. But at one point, we had five different progesterone machines in our office at the same time testing them, that was last spring. Because we really wanted to get a handle on what was accurate, where our numbers were coming in and what was working for us.

And the week that we started using the Catalyst, nine weeks later, we started seeing litters of 12 and 13 instead of litters of eight or nine, we started seeing litters of 12, 13, 14 puppies. So we feel like that little bit of a tweak from one piece of equipment to another made that much of a difference. It was just this overwhelming number of, Oh my gosh, can you even count how many puppies are on this X-ray? Because it was really significant.

Laura Reeves:

Interesting.

Dr. Marty Greer:

So people need to pay attention to those nuances. Yeah. So not all veterinary clinics are created equal, not all progesterone tests are created equal. You need to know your equipment, you need to know your veterinary clinic or your reference lab. So it's really important that we're assessing those pieces of detail.

Progesterone itself is a pretty stable hormone. So the way that the sample is frozen, not frozen, whatever, is probably not the technique, but there's one piece of equipment that we've used that if you don't pipette the sample volume exactly correctly, it throws off your results. And precision pipetting is something that you want to limit only a certain number of people in your hospital, in your laboratory, to do.

So if you're doing this at home, you may not have the precision or if you're doing this at a lab that you don't understand well, it may not have the precision that it takes to make sure that your results are accurate.

Laura Reeves:

Huh. See, all right. Once again, I love it. Learn something new every day. It's my favorite thing.

Dr. Marty Greer:

Well, we live and breathe progesterone.

Laura Reeves:

Right.

Dr. Marty Greer:

We live and die by our progesterone machine so we take very good care of our machine and we kind of stand next to it and we're like, Oh, I love this machine, because it's really important to us.

Laura Reeves:

Yes. Absolutely.

Dr. Marty Greer:

I started doing breedings before there was progesterone and then when we started using progesterone it would take us a week to 10 days to get a result back and now it takes 21 minutes and my staff is like, what's taking so long? Yes, 21 minutes folks. Slow down.

Laura Reeves:

Oh my God, that's fabulous. Okay, so next best option, we've got fresh chilled coming in to Oregon from Wisconsin. I need to have at least a couple of days notice, what are my numbers, what am I looking at for fresh chilled?

Dr. Marty Greer:

So it's normally two days after five or three days after three that you're going to want to have the breeding take place. If it's a weekend or a holiday, it's a little trickier to get your shipping figured out, but essentially you want to do your breeding 48 hours later. And at that point, we do still repeat the progesterone the day of the breeding and it should be in the teens. So 12, 13, 14, somewhere under 18, is typically where we're going to see a fresh chilled semen take place.

Now, we have seen progesterones as high as 37 and still get successful large litters if we're doing a trans-cervical insemination, but the cervix tends to physiologically close three days or so after ovulation. So you can put semen into these dogs later and unless you bypass the cervix, the cervix won't allow the semen to get up into the oviducts where fertilization takes place.

John Versagan did some really nice work that shows that the eggs are actually fertile for five days after ovulation, but the cervix closing is your limiting factor. So a trans-cervical or a surgical insemination, if it's on the late end, is going to improve the chances of a successful breeding.

Laura Reeves:

Okay. That's another piece of information I never heard. I love that, to know. I think it might explain my last litter and why it didn't take.

Dr. Marty Greer:

Yeah.

Laura Reeves:

Fascinating, fascinating piece of information there. Okay. And also I think for many of us, I know I personally have rarely had great success with fresh chilled and I've always had better success with frozen surgical implant. And once again, I think we might find an answer there. Fascinating.

Dr. Marty Greer:

Right. It might be the timing. The other variable that I think probably needs to be considered is there was a study, actually two studies that were done that a Emmanuel Fontaine presented at Royal Canin a couple of years ago that indicated that nonsteroidal anti-inflammatories given two, three and four and then again at 15, 16 and 17 days past ovulation improved fertility, that 50% of the bitches that had previously failed to conceive had litters on that protocol.

So I think we need to be looking at some of those variables because I put all my postsurgical and I still do surgical breedings. I just did one two days ago. It might be the last one we do for a long time with our supplies being limited.

Laura Reeves:

Right.

Dr. Marty Greer:

But we do give postop pain medication the day of ovulation and the day of breeding for three days after the surgical breeding and then I started repeating it at 15, 16 and 17 days post ovulation.

So at the time of the breeding, maybe we weren't really better at getting bitches pregnant with a surgical breeding, but we were better at reducing inflammation in the uterus because we put them on NSAIDs.

So that's a variable that I think a lot of people haven't taken into account. So I might not be as smart as I thought I was by doing this surgical breeding and that was actually the drug and not my magical touch of putting the semen into the uterus.

Laura Reeves:

And singing a Kokopelli song to it?

Dr. Marty Greer:

Yeah, exactly. We actually sing 99 bottles of beer on the wall sometimes.

Laura Reeves:

Oh, my god.

Dr. Marty Greer:

Because I had a friend ...

Laura Reeves:

I love that.

Dr. Marty Greer:

Be careful what you wish for because the friend of mine that I did that for because her last litter was one. We did a breeding with that song being sung and then she ended up having 11 puppies.

Laura Reeves:

Oh my gosh.

Dr. Marty Greer:

So do be careful what you wish for. May not turn out the way you want it.

Laura Reeves:

My repro vet, when I was in Nebraska, Dr. Kelly Stitch, has an entire room covered with Kokopellis and I would bring her Kokopellis from my travels. Right.

Dr. Marty Greer:

Cool. Cool.

Laura Reeves:

Yeah, it was great. That was her sort of take on the whole thing.

Dr. Marty Greer:

Good luck charm.

Laura Reeves:

Yep. Yep. Kokopellis in the breeding room.

Dr. Marty Greer:

Whatever it takes.

Laura Reeves:

Exactly.

Dr. Marty Greer:

We have fava beans.

Laura Reeves:

Oh my God, I love it. That is so awesome. So that surgical or that frozen semen, again, your number's going to be a little bit different than your fresh or your fresh chilled.

Dr. Marty Greer:

Correct. We breed one day later than fresh chilled. We breed three days post ovulation when we're doing frozen semen breeding. The point being that the semen has already undergone a step called capacitation when you have frozen it so it will be ready to fertilize an egg earlier, once it's delivered into the oviducts than it would be if you had used fresh semen. So you want to put it in one day later because it doesn't have to go through that extra step.

So three days after ovulation for frozen, two days with fresh or fresh chilled. Now, like I said, you can usually get away with it being a little bit later. Fresh chilled gives you a cushion of a longer time period.

And it's interesting to me that you've had better success with frozen than fresh chilled because that's really counterintuitive and not what we typically see. I usually encourage people to do frozen only if they don't have a fresh chilled option.

Laura Reeves:

Honestly, I am going to tell you, breeding my own litter since 1996, so I've got, I don't know, 25 litters.

Dr. Marty Greer:

23, 24. Yeah.

Laura Reeves:

Yeah. Like that. And I have had multiple and my mother bred Clumber Spaniels and did frozen surgical implant and had ridiculous success with it. And in all of my litters I think I've had two that took from fresh chilled.

Dr. Marty Greer:

Huh.

Laura Reeves:

Yeah. I've done the percentages over the years and my success rate with frozen was just significantly better.

Dr. Marty Greer:

Fascinating.

Laura Reeves:

Okay. So now we've got the swimmers and the eggs meeting up and making kissy face. What's our next step of keeping an eye on our progesterone levels and talk to us, because I think we missed a step in here somewhere or give our listeners an understanding of what is sometimes talked about, the LH surge, the luteinizing hormone. Am I getting that right?

Dr. Marty Greer:

That's correct. And some people still use that. We stopped using it when it left the market for quite some period of time and haven't re-initiated it. It's actually the hormone that triggers ovulation. So if you want to know when ovulation occurs, that's technically the hormone you should be testing. But progesterone follows an LH surge and with an LH surge, you want to breathe five to six days after ovulation. Well, I can get you that information with a progesterone and not have to do a once a day blood draw at the exact same time every day for your bitch. So LH requires daily testing because the LH surge goes up and down, just like it indicates with the word surge, so it's up for less than 24 hours.

If you do progesterones, you'll see some wobble before it gets to three. But once it gets to three, it tends to rise pretty steadily. Some, a more steeper rise, in some bitches than in other's, but at least you have a steady incline and you can then interpret the data. If you have a progesterone of a three and a progesterone of a seven, you divide the difference, you know, from when she was at five. You can do that math pretty simply on a graph.

So that's the advantage of progesterone over LH, and there are still some people who swear by LH. I personally just haven't been enthralled with it because when we couldn't get it, we stopped using it and learned how to do other things and that's where we've gone with that, plus a vaginal cytology. And I still throw that in because I think it's important, especially if you have a bitch that's stalling.

Laura Reeves:

Yes. Talk about smears. Yeah.

Dr. Marty Greer:

Yeah.

Laura Reeves:

That's old school man. That's goes back to my early days.

Dr. Marty Greer:

It is. And that's where I started breeding bitches too, was using only vaginal cytologies before we used frozen semen. But the vaginal cytology is really useful if you have a bitch that's not climbing the way you think she should be. You can take a look at that cytology and if she's not cornifying and progressing through her heat cycle the way you think she should be, she may either have a cystic ovary or splitting her heat cycle and it can be difficult with just one or two progesterones and one or two vaginal cytologies to sort that out.

It may require some additional testing and sometimes these bitches just say, you know, I was just kidding about that. I'm not really going to have a heat cycle right now. The girl next to me came in, so I thought I'd kind of try it, but I'm not quite ready, so I'm just going to wait another six or eight weeks and thank you for throwing money out while you were doing it, because like all women, we like having money thrown at us.

Laura Reeves:

That is so fabulous because yes, split cycles, silent heats. There's another one.

Dr. Marty Greer:

Yeah.

Laura Reeves:

I had a bitch that I couldn't get pregnant, couldn't get pregnant, couldn't get pregnant. Finally, I was like, I'm over it. The minute I saw any discharge I took her in. That was the day she ovulated. Like, okay.

Dr. Marty Greer:

Yeah, like some are really clean. They're just really very difficult to catch. In bitches that we absolutely cannot evaluate whether they've ever had a heat cycle, we'll do a progesterone once a month for about six months to see if there's any indication that she's had a cycle and then we can start watching her.

The other thing to do of course is take your trusty box of tissues or toilet paper or if you can get it and daily just blot her vagina and see if you can elicit any kind of discharge. Just part the lips of the vulva, you know, a little bit upstream to where she would be looking at off of herself and just check for anything because some bitches don't swell, some bitches don't act like anything is going on. They're just really sneaky about their heat cycles.

Laura Reeves:

And super clean. The super cleaners.

Dr. Marty Greer:

A white towel under the crate can be helpful too, if you have a bitch that's difficult to catch.

Laura Reeves:

Oh, yeah.

Dr. Marty Greer:

So instead of a patterned blanket or something, you know, go to the store, buy two or three white towels, and just keep those underneath her all the time in the crate.

Laura Reeves:

Okay. And so if you have a bitch that split her heat cycle, right? Like you're looking at your slides from the vaginal smear and talk a little bit about cornified cells because for those of us who are old school, we know what that means. For other folks, they might not.

Dr. Marty Greer:

Right. So cornified cells refer to the epithelial lining of the vagina. It tends to start off with big round soft cells with a nucleus in the middle, light staining. Those are the normal lining of the vagina. And as the bitch gets closer to ovulation, those cells become thickened, cornified, more angular, more densely staining. They lose their nucleus and it's all part of the protective mechanism that a bitch's vagina goes through so that when there's a mating, she doesn't end up injured from the mating itself. So it's a nice physiologic change that we can use to track where the bitches are in their heat cycle.

Now other people get a little freaked out by the bacteria. There should be a lot of bacteria on the vaginal cytology prior to the time that she ovulates. That's absolutely normal. It's absolutely normal. During ovulation, it should be a mixed bag, meaning that when you look at it, the bacteria will be different sizes and different shapes.

But you should see bacteria. Do not interpret that as a dog that needs to be on antibiotics because that's absolutely normal to have bacteria in there. They need normal flora to protect them against pathogens. And the only bacteria that we know, the only one that we know should not be in the vagina at any time during their heat cycle or not during their heat cycle is brucellosis.

Laura Reeves:

Right.

Dr. Marty Greer:

Every other bacteria is considered fair game. So the people who want to spend their money on a vaginal culture are usually just spending their money worthlessly. There's no point in doing that and there's no point in culturing the male because most of the time, again, that's a normal amount of bacteria that should be in the sheath of the prepuce. We expect to see that.

So there shouldn't be bacteria in the ejaculate. There shouldn't be bacteria in the uterus. So if you really want to know what's going on in there, then you can flush the uterus with a trans cervical scope and collect the fluid out of the uterus. I have yet to culture anything on any of those bitches that we've collected those fluids on.

So I think that's really a huge waste of a client's money and I just won't do it. I think there are much better places to spend your money and please do not routinely put your bitches on antibiotics during their heat or not during their heat. It is not healthy for them to have a clean vaginal track. They should have mixed bag bacteria.

Laura Reeves:

Excellent. Thank you. I like that.

ADVERTISING:

Hang tight guys. Got a little bit of information for you. We'll be right back to the podcast in a minute.

So hey, crew. New year, new decade. Let's have some new Pure Dog Talk promos while we're at it, shall we? All right. Our patrons group continues to grow and thrive. It's like the NPR of dogdom. It's so cool. And Pure Dog Talk offers you, my loyal listeners, an opportunity to get in on the fun. Pure Dog Talk patrons are invited to join a closed Facebook chat group just for you and I promise you, no drama mamas, no keyboard warriors, just fabulous, supportive, Pure Dog Talk fans. That's it.

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And to celebrate the new year, I am adding a whole new technological challenge to my life. Oh my God. I will be hosting Facebook live discussions for patrons only on the final Monday of each month from 6:00 to 7:00 PM Pacific time zone. You all join us from wherever you are, but that's when there'll be.

Just a few of our planned topics of conversation include advertising on a shoestring budget. Yeah, trust me, we can talk about that. Campaigning a special, just for owner/handlers. Problem solving the stack, tricks of the trade for grooming, like what products do I like or anybody else like, open mic, Q and A's, all that kind of stuff.

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That you guys, you all believed in this mission and you supported it from the beginning. You are the heart and soul of my crusade to provide all pure bred dog lovers a constantly growing, challenging, treasure trove of knowledge in a 21st century format.

So just click the be my patron on pod bean button on the website. It's quick, it's easy, it's secure and I hope to see all of you on the next Facebook live chat.

Laura Reeves:

Okay. So now we're getting to a different part of our process, right? We're at the end of the pregnancy, we're pregnant, we know we have puppies, we're getting to the end and say we're maybe 10 days out and we start seeing some sketchy discharge.

Dr. Marty Greer:

Right. And the clear vaginal discharge is 100% normal during a pregnancy. It should be just a clear mucus. That's the most reliable sign of pregnancy. That along with a lowered appetite at around 24 to 28 days of pregnancy are the most consistent findings for a normal pregnant bitch.

Now, we tend to monitor progesterone. We started doing progesterones at the time that we do ultrasounds on our bitches to confirm pregnancy, and it should typically be in the teens or much higher. It can be as high as above 40, which is above what our equipment can measure. That's normal. We need the progesterone to be above two to maintain a pregnancy. So it's a pretty low progesterone that it takes to keep them pregnant. So we don't want to over-interpret those results. We do want to be watchful on a dog that's had a history of losing a litter, either apparently resorbing an entire litter or a bitch that aborts the litter prior to the time that they were due to whelp.

So it's important to really monitor those bitches carefully, if they start to lactate early, if they start to nest early, if they stop eating well. If they're not getting bigger the way you think they should, they may be resorbing litter or they may be getting ready to dump their progesterone and lose the litter.

Now, there's two causes of that. There's primary and secondary Hypoluteoidism, which means the progesterone is too low. It's rare to have primary Hypoluteoidism. That's really rare. So we don't run around diagnosing that all the time. It tends to be familial. We can see it in Bullmastiffs and a few other breeds. Cavalier King Charles Spaniels. There's a couple of breeds that do it.

So if you know you have a line of dogs that does it, yes, you're going to be more vigilant. You're going to want to order Whelp Wise as a service that can offer Tocodynamometry, which is a way to measure uterine contractility during the pregnancy.

And you're going to want to watch that progesterone, but we don't, again, start routinely supplementing bitches with progesterone because if we do that we can cause some significant fetal abnormalities, if it's administered before day 45 of the pregnancy. We can have intersex puppies instead of boy puppies and girl puppies. We get puppies we can't even tell what they are.

so we want to really be very conservative on the use of those products. And then we also have other drugs like tocolytics such as Terbutaline, which is a smooth muscle relaxant that's used during asthma in people. That's a drug that we can use to quiet the uterus if it's becoming increasingly irritable and contractile.

Laura Reeves:

And so a case study, we can hash this out. We love to do this. Bitch that had brown, gookie, not good discharge at 53 days. 52, 53 days. Has basically exactly what you just described. Not growing the way she should, started not eating. In this case, this was my own bitch. She eventually lost the entire litter. I wound up C-sectioning nine dead puppies.

Dr. Marty Greer:

Yeah.

Laura Reeves:

And a follow on litter was normal. Third breeding, resorbed. Fourth breeding, said okay, we're going to test this progesterone level and she did have to have supplementation at the end of her pregnancy.

Dr. Marty Greer:

Right.

Laura Reeves:

To keep her final litter. So what are some of the secondary causes of this?

Dr. Marty Greer:

Well, it can either be an unhealthy uterine environment from an infection or an unhealthy uterus for other reasons. We can see cystic endometrial hyperplasia which causes cystic changes in the lining of the uterus and that interrupts the ability of the placenta to stay well attached. We can see fibrosis, which is scar tissue in the uterus. We can see puppies that had something wrong with them such as a genetic incompatibility between the male and the female. Or some infectious cause. We can see brucellosis. We can see other bacterial causes. So sometimes we'll lose an entire litter over it. Sometimes we'll lose a partial litter.

Yesterday, our practice, we had a bitch that has a challenging history of fertility because of course she's a winning bitch in the confirmation ring, because of the guarantee, that you will be first but you will lose your fertility.

Laura Reeves:

Yeah, that was mine. Yeah.

Dr. Marty Greer:

Yeah. And it happens. So in her particular case, we were monitoring her closely. She had initially five conceptions. One came to term. We had to supplement progesterone with her because there was a secondary problem with her uterus. It wasn't primary. It was secondary. So it can take a whole array of supportive care to make sure that we can keep the bitches pregnant. And she ended up with only one puppy. Well, she wants to breed her again. So with the C-section, I biopsy the uterine site where the puppy was delivered from and that puppy's placental site and then a resorption site.

And then we send those to our diagnostic lab. There's one diagnostician at the Ohio State University, that does a really nice job with theriogenealogy type of samples to see if we can determine from his read on the uterine changes if there was anything suggestive that we could change for her next pregnancy.

Sometimes we can and sometimes we can't. So sometimes you'll save yourself money by doing the uterine biopsy and getting a result back that says there's nothing more we can do. Just give it up. Or the alternative of, Oh, yeah, this is what the problem was. So going forward you can do something different.

So I started writing an article yesterday that I got as far as the second line, and it's called know when to hold them and know when to fold them, and then I realized that's Kenny Rogers's song.

Laura Reeves:

Kenny Rogers.

Dr. Marty Greer:

So I'm like Oh, well, okay.

Laura Reeves:

Okay. Maybe we're not going to do that. Oh, my gosh.

Dr. Marty Greer:

But we need to know, going forward, if that bitch has future fertility that's going to be positive or negative. And if it's not going to work for you in the next breeding, then you can just say, you know what, she's done. She's just never meant to be a great mom, let's spay her and be done with it. Versus, oh my gosh, this is the underlying cause.

And we've seen some pretty nasty septic pregnancies. The bitches have been pretty sick. We've lost part of the litter, but not all of the litter. So you know, there's a huge difference in how these outcomes can play out. Anything from wildly successful breedings to things that are just a totally very disappointing outcome.

So we want to give the bitch and the puppies every chance we can. And so monitoring progesterone, monitoring ultrasound and knowing what's going on whelp wise can be really useful tools and managing pregnancies.

And the most important thing is that you can't do what's called reverse progesterones on these bitches that are high risk. You've got to know from the beginning at the time that you bred the bitch what her due date is because you cannot count on progesterone in every case in a high risk pregnancy for that progesterone to drop appropriately.

So I use reverse progesterones, I know how to use them. I just can't always make them work because if the bitch has something wrong with the pregnancy, it is not going to give us an accurate outcome and we're going to end up in trouble on the other end of the pregnancy, so please, please, please do your progesterone's at the time of the breeding. Don't assume that you can get her pregnant and that you can get her unpregnant safely without knowing her exact due date.

The other great thing about exact due dates is you're not spending every night staring at the dog, night after night after night.

Laura Reeves:

Right.

Dr. Marty Greer:

You can sleep. You know when she's due. You can go to bed. You can be well rested when she has her litter. Or you can make an informed decision on when to do a C-section if you choose to schedule one.

Laura Reeves:

Yes. Like I said at the top, I, at this point in my life, cannot conceive of doing a litter with literally no joke without the progesterone test because it is any enormous amount of peace of mind for me.

Dr. Marty Greer:

Right.

Laura Reeves:

Okay. I want to go back to something you just said a little while ago because it caught my ear and then I got distracted and squirrel, I'm back. A genetic mismatch between the sire and dam causing a problem in the litter. Wait, what?

Dr. Marty Greer:

Yeah.

Laura Reeves:

Come on, talk to me.

Dr. Marty Greer:

Yeah. So things like too close of inbreeding or line breeding, other kinds of genetic incompatibilities can cause the loss of a partial or an entire litter. And I actually have a pretty long list and I can share this with you so that you can put it on your website, of all the reasons that bitches can fail to manage to either get pregnant or maintain a pregnancy.

And the problem is, before 30 days, you don't know if she conceived or not, but that's the value of ultrasound. And a lot of people are like, nah, I don't need to ultrasound. She's either pregnant or she's not. I don't need to know. Well, that's not exactly true because our diagnostic workups, if you have a bitch that failed to conceive, are going to be different, going down a different diagnostic tree than if we know that a bitch conceived and then lost that litter.

Laura Reeves:

Yes.

Dr. Marty Greer:

Please do your progesterone testing and please do your ultrasounds because that's going to give your veterinarian a leg up on how we sort out who got pregnant and who didn't. But yes, inbreeding, line breeding, genetic incompatibilities can cause the loss of litter. I've actually had that diagnosis made. I've had a diagnosis of fibrosis. I've had a diagnosis of semen causing an allergic or an inflammatory reaction in the bitches uterus, allowing her to fail her pregnancy.

Laura Reeves:

What?

Dr. Marty Greer:

So we can see all kinds of really interesting things, if you do a uterine biopsy, and it can be done either at the C-section, if you have evidence at the C-section that many puppies or more than one were lost, you may want to consider that. So talk to your veterinarian before they go to surgery. You don't want to wake her up after the C-section and say, Oh shucks, we should've done that.

Laura Reeves:

Right.

Dr. Marty Greer:

So you can save placenta, you can save uterus at the C-section, but you can also, at around 60 days from the breeding if she failed to conceive, we think is the ideal time to go in and take uterine cultures and uterine biopsies to determine what the underlying cause was.

And we've seen some really interesting types of responses on those biopsies. So it can be very useful going forward. If you have a bitch that's valuable enough to keep in your breeding program, knowing that her fertility is causing you some issues that you'd like to try to overcome.

Laura Reeves:

Right.

Dr. Marty Greer:

Now sometimes you don't want to overcome those. She's may say, you know, she's beautiful but I don't want to perpetuate this. Some of these are probably perpetuated and some of them are probably random, so you can't always say without knowing what the underlying cause was, whether this is something you want to keep in your gene pool or not. You need a diagnosis to make those decisions.

Laura Reeves:

And that biopsy you're doing trans cervically, normally?

Dr. Marty Greer:

There are some veterinarians who do that. I am personally not comfortable with that. Number one, you're doing a blind biopsy. So we don't know if we're getting the area that has pathology or we're just guessing at what we've got. Number two, you don't get full thickness, so you only get the endometrial lining. You don't get the full wall of the uterus, including the muscle layer and the outer layer.

Laura Reeves:

Okay.

Dr. Marty Greer:

So the importance of that is sometimes the pathology is in the layers that are deeper than the endometrium and you miss your diagnosis because you didn't get full thickness. So I typically go to surgery for them. I know there's veterinarians, especially the ones that do equine who are comfortable with doing those blind biopsies, but I personally am not one of them.

Laura Reeves:

Fascinating. I have to tell you, you know me and my geek outs, this is fully after two and a half years, my favorite geek out session yet. So I'm serious. It was fabulous. I love this stuff. Thank you, Marty. We could do this for like, I don't know, six hours. So.

Dr. Marty Greer:

Yeah. But I got a C-section to go to. So I'm going to head out.

Laura Reeves:

You got to go to a C-section and I got a litter of puppies to deal with. So thank you very, very, very much. This has been, I mean, fabulous. So we will talk to you again next month.

Dr. Marty Greer:

Thank you. I always enjoy this.

As always, if you have any questions or input, we'd love to hear from you. The show notes and links to resources on today's topic are available at puredogtalk.com. Drop us a note in the comments or email to laura@puredogtalk.com. Remember guys, this podcast is for you, so if you want to know something, give me a holler. We'll do a podcast for you. If you wouldn't mind, you could help me out here. Take a couple minutes to visit iTunes and give us a review.

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