



Obtaining a Successful Mating

Your bitch has completed all of her health clearances, and you have found a stud dog that you think will compliment her strengths and weaknesses. You have waited anxiously for her to come in season, and she has just shown the first signs of approaching oestrus. So your focus has turned to making sure that she has the best chances of becoming pregnant.

Managing a bitch in season

Changes in behaviour

Before your breeding female even showed signs of coming into season, you may have noticed changes in her behaviour or noticed that other dogs (both male and female) were showing an increased interest in her. This is primarily due to differences in her body odour/scent that are the result of the changing hormone levels within her body. Experienced breeders will often be able to tell that their bitch is 'close' simply by watching her behaviour and interactions change when she is with other dogs in the weeks leading up to her season.

When a bitch is getting close to coming into season, it is not uncommon for the group dynamic in a multi pet household to change. The boys will be getting a bit full of themselves, and you may see some rivalry developing in males that were previously fine to run together. The same can be said with girls – tensions may be running high.

Whilst on season, some girls become very clingy with their owners, some appear happy to sleep more, others continue as normal. Every bitch is different, but many breeders say that their girls behave very differently during this time.

It is normal during the first part of the season (pro-oestrus period) for her to react defensively when other animals are sniffing her vulva or 'making advances'. Many girls will simply sit down or move away, but others will behave aggressively, growling, lifting their lip or even snapping at other dogs. This is normal, but you should be managing your bitch in such a way that she is not constantly harassed by other dogs and having to react in this way.

If you do have a multi dog household, you will need to manage your animals in such a way to prevent scuffles or fights when individuals are on season. You may find that you need to move to supervising interactions or separate animals completely if problems develop. You will still need to ensure that all animals receive adequate exercise, social interaction and enrichment each day, but you may need to modify your everyday routine to keep everyone settled.

Preventing unintended matings

The average female is on season for about a week to ten days before she is ready to mate, but this can vary widely, and it assumes that you have correctly identified Day 1. As soon as you see signs of bleeding, you should separate your breeding female from any fertile males, and make sure you manage her in such a way as to minimise the risks of any accidental or unintended matings.

Remember that fences and barricades that are usually secure may not be sufficient to prevent a very determined male dog from reaching a bitch who is ready to mate. There are countless stories of male dogs taking on almost 'superpowers' to get to an on season female – scaling over six foot fences, climbing into pens, digging under fences or breaking through wire. Remember too that you may have neighbours who have entire males who will also be able to smell your bitch on season and may try to gain access to her.

It is very common for males that are able to smell a bitch on season but are restricted access to become quite unsettled. They may become very restless, go off their food (losing body condition) and constantly vocalise (often whimpering and whining). As her most fertile time approaches, they can become very distressed, some frantically looking for ways to access the bitch. Depending on your facilities, you may choose to board your entire male(s) elsewhere when your bitch is in season or send your female to a more secure location.



Obtaining a Successful Mating

Daily care of in season females

For the duration of her season, your female will have some amount of discharge from her vulva. Initially, this is bloody, but as the season progresses it may lose its colour, gradually becoming a lighter/clearer 'straw' colour.

As part of your daily health check, you should be checking her vulva and noting the colour and amount of discharge each day. The amount will vary from bitch to bitch – some are very messy; others only have a 'hint of colour'. Some bitches are very 'clean' and will lick and groom themselves to the point that there are almost no signs of discharge at all.

Important!

If at any time during her season, your bitch's discharge changes from bloody or clear to a creamy colour, or if the discharge has an unusual odour, please consult your veterinarian immediately.

Regardless of the amount of discharge, the type and length of coat, and the way you house your bitch, you will want to keep her clean. During her season, you will need to pay particular attention to the area around her vulva, and if necessary, bath or groom the area daily. The discharge as it dries becomes sticky, and knots can quickly form in the hair – this includes the area immediately around her vulva, her tail feathering/coat, right down the backs of her legs to her feet. You will also have to increase the frequency of cleaning her bedding as this will become soiled as well.

Exercise

Although her social interactions may be temporarily limited, it is important that your bitch still gets adequate exercise and mental stimulation. Whilst she is in season it is not appropriate to take your bitch to the dog park or off leash area, and even walking her along the street on a leash can be problematic – you never know when you might encounter loose dogs, and you don't want her leaving a scent trail that leads to your front door.

Instead, you may have to look for ways to allow her to blow off some steam in the safety of a confined area or in your yard. Scenting activities, training sessions and increased enrichment activities may help keep her entertained and provide much needed mental stimulation.

Preparing for the mating

Notify the owner of the stud dog

Now that your bitch is in season, it is time to notify the owner of the stud dog. It is courtesy to give them as much notice as possible, as they may have to rearrange their day to day schedule to accommodate the breeding.

In most cases, the convention is for the female to travel to the male – allowing him to be comfortable in his own surrounds for the mating, and to minimise distractions – but you will need to check with the owner of the stud dog as to their preference.

Depending on where the stud dog is located, you may have to arrange travel and accommodation, or even book air or road transport for your bitch. Most stud dog owners are very accommodating, but like everyone, they have family and work commitments to contend with as well, so giving them plenty of notice will help.

Pre breeding veterinary health check

Before it is time for your female to be mated, you need to ensure that she is up to date with her veterinary health checks.

If this is her **first ever mating** she will need a 'Clearance to Commence Breeding Certificate' - with the veterinarian signing off that she has reached adequate maturity.

The clearance to commence breeding health check is an excellent time to ask your vet any questions you may have in relation to the mating, pregnancy or whelping – so take a list of questions with you!



Obtaining a Successful Mating

Remember:

Dogs Victoria has a nominated 'Minimum Breeding Age' for every breed – please ensure that you have checked that any mating you are planning will comply with this requirement.

Minimum Breeding Ages are published regularly in the Dogs Victoria Gazette, and form part of the Dogs Victoria Regulations.

If your female has been bred previously, she will need to have had a veterinary health check **within the last 12 months**, and if she will be 8 years or over at the time of the mating, she will need a special clearance within four weeks of the breeding stating that she is still fit and healthy for breeding.

Important!

*Dogs Victoria has prepared **templates** that you can take to your veterinary visit to help you meet these certification requirements. You can download the templates from the Breeder resources section of the Dogs Victoria website.*

Completed forms should be kept in your bitch's health records.

Making sure the timing is right

The most critical thing in obtaining a successful mating is making sure that you get the timing of the mating right. You need viable sperm present when the matured ova (eggs) reach the stage where fertilisation can occur. If the timing is out, the result is usually a small litter or no litter at all. In fact, reproductive specialists will tell you that incorrectly identifying the time to mate is the leading cause of 'infertility' in females.

Before the mysteries of the canine reproductive cycle were unravelled, breeders would simply watch their bitch's behaviour to the stud dog, and once she was receptive, they would attempt a mating. The standard procedure was to put the dog in with the bitch on Day 10 and again a day or two later if she was still receptive. Most breeders at this time would have been using their own stud dog or one that was local, so access to the male was generally not a problem.

This strategy was mostly successful for your 'average' bitch. If the timing was slightly out, the fact that fresh semen could survive in the female reproductive tract for a number of days usually made up for the difference, and most bitches would fall pregnant.

Of course, with modern technology, we now realise that the time to ovulation in bitches varies widely. The receptive behaviours observed – such as flagging the tail and 'standing' - may not actually correspond with ovulation and the time of maximum fertility in some females. Scientists have found that bitches who were thought to be infertile, may actually be ovulating very early or very late in their cycle and that ovulation can occur with or without accompanying physical or behavioural signs.

Document every season

One of the best strategies for a breeder is to document every season thoroughly. It is likely that your bitch will cycle in a similar way every time she comes in, and the time interval between seasons is usually very similar. Recording the details of each season, regardless of whether the bitch is to be mated or not, can provide a baseline picture of what is 'normal' for her.

Records for each season should include:

- » Start Date – the first day that swelling and/or discharge was seen
- » Daily observations of discharge colour and amount
- » Observations of behaviour changes and receptiveness\
- » Results of any tests used to determine the timing of ovulation
- » Dates and details of any matings
- » End Date



Obtaining a Successful Mating

Behavioural & physical indicators

Generally speaking, the 'normal' bitch will have a period in her cycle where she becomes receptive to the male. She will transition from avoiding or actively repelling advances by the male, to 'flirting' and almost encouraging him. A bitch in 'full season' will stand solidly, and will 'flag her tail' (moving the tail upwards and to the side whilst tilting her pelvis).

The breeder may also note that her vulva, which is already quite swollen, becomes softer and the discharge changes from bloody to blood tinged or straw coloured around this time. However, these changes are not reliable indicators of ovulation or readiness to be mated.

Vaginal smear

Before the advent of progesterone testing, many breeders relied on their veterinarian monitoring changes to the cells lining the reproductive tract over the course of the season. A sample of cells was collected from the vagina using a cotton bud. The cells were spread onto a glass slide, stained with a special dye, and then observed under a microscope.

Changes to the shape, size and composition of the cells (which is under the influence of the hormone oestrogen) were monitored over time and used to time the mating. This method relied on the ability and skill of the person looking at the cells under the microscope.

Blood progesterone test

Nowadays, most veterinarians rely on monitoring the levels of the hormone progesterone to predict the timing of ovulation accurately. Progesterone testing involves collecting samples of blood from the bitch, and monitoring the rise in progesterone that occurs around the time of ovulation.

Some clinics have the ability to process the sample 'in house', so results can take as little as an hour, but most rely on an external pathology service (similar to human doctors) where samples are transported to a central laboratory for testing.

Progesterone levels in the bitch remain at baseline until around 48 hours prior to ovulation. They then start to rise quite sharply. After ovulation, they continue to rise and remain high throughout the pregnancy. Progesterone levels can also be used to determine the timing of whelping as the level will drop suddenly about 24 hours prior to the birth.

The units used for recording progesterone levels vary around the world, which can make things a little confusing. In Australia, they are generally expressed as nmol/L (nanomoles per litre).

Ovulation occurs when the progesterone level reaches 15 to 25 nmol/L, and mating should be timed to occur 24 to 48 hours after this level has been reached. Your vet may need to take several samples spread over a number of days to determine the timing of ovulation.

Interpreting Progesterone Results

<i>Baseline</i>	<i>0 – 2 nmol/L</i>
<i>Pre-Ovulatory rise</i>	<i>2 – 8 nmol/L</i>
<i>Ovulation Imminent</i>	<i>10 – 15 nmol/L</i>
<i>Ovulation</i>	<i>15 – 25 nmol/L</i>
<i>24 hours after Ovulation</i>	<i>> 25 nmol/L</i>

Whelping occurs within 24 hours of Progesterone dropping below 6 nmol/L

Source: Gribbles Veterinary Pathology



Obtaining a Successful Mating

Natural mating

When it comes time for the mating to occur, the bitch and dog should be introduced to each other in a secure area away from other animals. The area used for matings should be out of the weather, well lit, and should have non slip flooring/footings. You are looking for a place that minimises distractions, and that will be comfortable for both you and the dogs.

All matings need to be supervised – both to check that the animals are safe at all times, and to ensure a successful mating has occurred. There may be time where a little assistance is required to achieve a successful outcome, so having an experienced breeder or mentor present is a good idea.

When they are first introduced, the dog will usually be very interested in, and highly aroused by the smell of the bitch. There is typically a period of sniffing, licking, and play type behaviour before the male will attempt to mount the bitch. If she is receptive, she will stand still, often tilting her pelvis and holding her tail up and to the side (called 'flagging'). Depending on the experience level of the dog, and the behaviour of the bitch, he may repeat this sniffing, play and mounting several times, with or without some thrusting.

Eventually, he will mount the bitch, and the thrusting will be successful in getting his penis to enter the vulva. At this point, you will see him begin thrusting harder and faster, pushing his penis further into the vulva. Next, the bulb of his penis (located at the base of the shaft) will swell inside the bitch. As the bulb swells, it acts to hold the dog's penis inside the bitch – called a 'tie' – as well as stimulating contractions in the bitch that help move the sperm in the right direction.

During the 'tie', the dog will usually dismount to one side and move his hind leg over, so the dog and bitch end up tail to tail. A normal tie can last anywhere up to an hour, and you will need to supervise to ensure that the bitch does not move around too much, potentially damaging the dog's penis. Eventually, the bulb will contract, and the tie will end naturally. Do not try to pull the two animals apart as you risk causing damage to both of them.

Natural matings are physically and mentally tiring, especially for the stud dog. It is important that both animals are allowed to rest after the mating is complete. If left together, the male dog is unlikely to settle, so they need to be separated and allowed some 'quiet time' well away from each other where they can rest and sleep.

How many matings will I need?

If the timing is spot on and both animals are fertile, a pregnancy should result from a single mating. More often than not, though, the exact timing of ovulation may not be known, so most breeders will arrange to do more than one natural mating to maximise the chances of conception.

The goal is to have viable sperm present at the top of the uterus just as the mature eggs arrive ready to be fertilised. Normal healthy sperm can last for 3 to 4 days inside the warmth of the female reproductive tract, so a repeat mating is usually scheduled for 24 to 48 hours after the first successful tie.

Important!

You should record the date of every mating that occurs – especially if you do more than one mating. This allows you to correctly calculate your bitch's expected whelp date and will enable you to properly prepare for your litter.

Will I need to assist?

In most cases, especially with experienced stud dogs, there will be little need to get involved – in fact, it is best that you leave the dog to do his thing and just observe the interaction to make sure everything goes smoothly.

However, if the stud dog is young or inexperienced, he may need a little guidance or encouragement to get the job done, especially if the bitch is a bit fidgety or vocal.



Obtaining a Successful Mating

Important!

It is crucial that early sexual experiences are very positive, and the dog is not scolded or physically punished (such as a leash correction) for showing interest in a female that is on season.

Unpleasant experiences may potentially lead to a dog who will be reluctant to mate a bitch in the future, so remain positive and encouraging, and avoid any rough handling, yelling or leash corrections during a mating.

Many breeders choose to keep their bitch on leash, just to help keep her still, and to minimise the amount of play and racing around that may occur (especially if the mating is taking place in hot weather). It also means that there is some level of control once the animals are tied, preventing the bitch from dragging the dog around the yard. Just make sure that no one gets tangled in the lead.

Trouble shooting

There may be times where having an experienced breeder or your mentor present may make all the difference. They have many strategies that may assist in getting a successful mating, and they know when to step in, and when to stand back and leave the pair alone.

If the bitch is standing solidly and flagging, and the dog is not having any success despite mounting a number of times, it may be possible to gently assist and help guide his penis towards the vulva as he thrusts. Not all males will tolerate manual assistance, but if it is done quietly and gently, it may be enough to get things started.

Occasionally the problem is that there is enough of a height difference between the dog and bitch that it makes it difficult for the dog to thrust at the right angle. The solution may be to find some ground with a gentle slope or a small step to help even things up.

Some bitches may not be very receptive to the advances of the male. If this is the case, the first thing to confirm is that she is truly ready to mate. Bitches can be very aggressive (snapping and snarling at the male) if they are not ready, and 24 hours later be flirty and extremely receptive, so correct timing is vital. A progesterone test will confirm where she is in her season.

If you have already confirmed that the bitch is right in the window to be mated, then it may be that she is insecure due to inexperience, has a preference for a different male, or the mounting and mating is causing pain. Some males can be very rough or over enthusiastic – in this case, selecting a calmer, confident and experienced stud dog next time may be the answer.

If a mating cannot be achieved, there may be a physical reason such as a stricture or narrowing of the vulva that is preventing a successful mating. An experienced breeder or your mentor should be able to tell when something is not right and whether you may need to seek veterinary advice.

When to seek help from your veterinarian

If you are satisfied that the bitch is genuinely ready to mate, but you cannot manage a successful tie, you may need to schedule a visit to your vet.

Your vet can confirm that your bitch is ready to be mated, and may be able to assist with the mating. They will also be able to examine both the dog and the bitch to ensure there are no physical problems that may be preventing a mating, and give advice on how any detected issues may be resolved.

If your regular vet does not have a lot of experience, they may refer you to a veterinarian that specialises in reproduction.