



Canine Semen Assessment

Introduction

Collection and assessment of canine semen* is an invaluable tool in ensuring the success of your breeding program and future matings. It is a service commonly sought for:

- Pre- breeding assessment to confirm fertility prior to mating
- Post- breeding assessment following a breeding that has not resulted in pregnancy
- Determination of quality prior to freezing a semen sample

Canine semen qualities

Canine semen quality is optimal at around **2 years** of age (and in some smaller breeds even earlier). Semen quality and fertility significantly deteriorate in dogs **greater than 6 years old** secondary to prostate and testicular degeneration/disease.

What is involved with canine semen collection?

At VRC Dr Hyatt uses the 'open hand' technique to collect an ejaculate. This technique is chosen as there is no involvement of plastic sheaths and cones that some studs can become adverse to. The entire collection process takes just a few minutes.

A teaser bitch* is recommended to be present at the time of semen collection to:

- Increase the **likelihood** of collection (particularly important in boys that have not been collected before)
- Improves the **quality** of the ejaculate
- Increases the **quantity** of the ejaculate

Characteristics of canine semen

The canine ejaculate is divided into three parts, or 'fractions', that are released consecutively:

1. **Pre-sperm fraction:** This is clear fluid that does not contain sperm. We do not collect this fraction but its purpose in a natural mating is to lubricate the reproductive tract.
2. **Sperm- rich fraction:** When the ejaculate starts to become opaque the second fraction is being released. This fraction contains all of the sperm¹ cells, therefore being the important fraction for collection.
3. **Prostatic fluid:** This is the clear fluid released after the sperm- rich fraction is completed. It does not contain sperm cells. In a natural mating, this fluid is released during the tie to help push the semen through the vagina and up to 100 mls can be released. We collect a small portion of this fluid to assess prostatic and testicular health.

Following collection the sperm- rich fraction is assessed under the microscope and be visible to you via the microscope viewing screen. You will then receive a semen collection and assessment report detailing the results of the collection including motility* and morphology* assessment.



¹ Microscopic image of canine semen

*Definitions:

Semen	Male reproductive fluid in its entirety. Semen contains sperm, fluid from the prostate and testicles, and may contain other cells.
Sperm	Abbreviation of 'spermatozoa', sperm are the cells resembling tadpoles that contain male DNA and fertilise the egg of the female.
Teaser Bitch	A bitch in standing heat (usually day 10-15 of heat), presence of which greatly improves the likelihood, quality and quantity of a semen collection from the male.
Sperm morphology	Microscopic assessment of the form/shape of the sperm cells in the ejaculate. This enables us to determine the likelihood of fertilising ability of these cells. Morphology does NOT alter the phenotype of the offspring (i.e. a sperm with a coiled tail will not produce deformed offspring, it will just be very unlikely to be able to swim to the egg and then fertilise it).
Sperm motility	Microscopic assessment of the movement of the sperm cells in the ejaculate. This is usually provided as a % of sperm motile in the sample.





Canine Semen Assessment