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Canine Breeding Soundness Exam (BSE)

Introduction

VRC's canine breeding soundness examination (BSE) involves a comprehensive evaluation of a stud dog's **reproductive health and capability**. The goal of a BSE is to assess that the stud is fit for breeding, both physically and genetically, ensuring maintenance of health and quality of future generations. It is commonly used in scenarios including:

- 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

BSE Components

The BSE first involves a discussion regarding the dog's **history, medical concerns and genetic testing** results. Following this, we proceed to a detailed **physical examination** to determine overall health status including reproductive organs (testicles and prostate), before proceeding to a **semen evaluation** as detailed below. Additional tests may be warranted based on findings during the examination including testicular/prostatic ultrasound, or lab testing of samples.

Semen Evaluation

Collection and assessment of canine semen is an invaluable tool in confirming quality and quantity of an ejaculate. 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.

A teaser bitch (on day 8-15 of heat) is recommended to be present at the time of semen collection to increase the likelihood of a successful collection and improve the quality and quantity of an ejaculate.

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 averse to. The entire collection process takes just a few minutes.

Assessment of The Canine Ejaculate

The canine ejaculate is divided into three parts ('fractions') that are released consecutively:

Pre-sperm fraction: Clear fluid that does not contain sperm-functions in a natural mating to lubricate the reproductive tract.

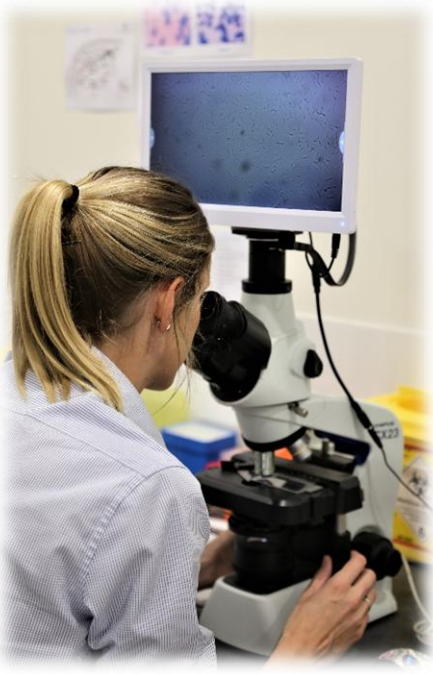
Sperm- rich fraction: Opaque second fraction that contains the sperm cells.

Prostatic fluid fraction: Clear fluid produced by the prostate- released in a natural mating during the tie to help push the semen through the vagina. We collect a small portion of this fluid to assess prostatic and testicular health.

Semen Evaluation

Dr Jasmin assesses the sperm- rich fraction under the microscope, visible to you via the microscope viewing screen, for the following:

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, with the minimum standard for a canine ejaculate is 70% total motility.

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.

Concentration: Calculation of the concentration of sperm cells per ml of semen to evaluate the total number of sperm cells in the ejaculate.