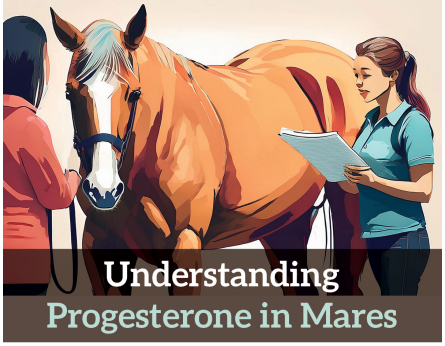

Understanding Progesterone in Mares

BROUGHT TO YOU BY THE HORSE
YOUR GUIDE TO EQUINE HEALTH CARE

Progestogens, particularly progesterone, are steroid hormones crucial for sustaining the embryo in a pregnant mare. Progesterone helps the uterus accept and retain an embryo, aids in histotroph production for embryonic nourishment, and enhances uterine tone to support embryonic growth.

What measuring progesterone can tell you

- Whether a mare has ovulated.
- If an early pregnant mare has lost the embryo.
- If a pregnant mare needs synthetic progesterone (progestin) therapy, especially in cases of:
  - Uterine infections.
  - History of pregnancy loss.
  - Luteal insufficiency.

Concentrations above 1 nanograms per milliliter (ng/mL) indicate luteal tissue presence (a follicle has ovulated, luteinized, and is producing progesterone).

Above 4 ng/mL is needed to maintain pregnancy.

Keep in mind, compounded progesterone supplements that mimic natural progesterone could lead to confusing test results, whereas progestin doesn't interfere with these values.

Progesterone Dynamics During Pregnancy

1 Early Pregnancy

- Produced by corpus luteum (CL) in the ovary.
- Pregnancy confirmed by ultrasound and progesterone measured in the first 30 days.
- Concentrations peak between 60 and 120 days.

2 Mid- to Late Gestation

- From Day 120 to term, responsibility for maintaining pregnancy shifts to other progestogens produced by the fetoplacental unit.
- Progesterone decreases to nearly undetectable levels between 180 and 200 days.

Laboratory Testing Techniques

Veterinarians typically test progesterone levels at 14 days. Some will retest at later stages during the first 120 days. Testing techniques include:

1 Immunoassays

- Widely used in veterinary diagnostics.
- Limited specificity (true negative) due to antibody cross-reactivity.
- Variable results between labs.

2 Liquid Chromatography-Mass Spectrometry (LC-MS)

- Higher specificity and accuracy.
- Can detect a wider array of progestogens.
- Allows detailed analysis of progestogen changes and placental health.

3 Stallside Diagnostic Tests

- Handheld and horse-side.
- Rapid and quantitative results.
- Enables the vet to run a progesterone test while conducting an ultrasound.

Take-Home Message

Monitoring progesterone in pregnant mares helps veterinarians determine if ovulation has occurred, gauge the stage of pregnancy, and identify potential problems. Thanks to technological advances, results are now delivered more quickly.