



## FALSE PREGNANCY

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Mares should ovulate approximately every 21 days throughout the breeding season. In the normal course of events, a mare will ovulate a follicle one to two days before she goes out of heat. A corpus luteum (or CL) subsequently develops and begins to produce progesterone. The CL of a nonpregnant mare will produce progesterone for about 14 or 15 days during the 'luteal phase' of the estrous cycle.

In all large animal species, including the horse, the uterus must determine if a pregnancy is present or absent prior to the end of this normal luteal phase. The term for this process is 'maternal recognition of pregnancy'. The critical features of the recognition process are 1) the embryo produces a chemical signal and 2) the signal is detected by the dam's uterus. In the *absence* of an embryo or failure to detect an embryonic signal, the endometrial lining of the uterus releases hormones (prostaglandins) that travel through the blood stream to the ovary and destroy the corpus luteum. Progesterone levels drop rapidly and the mare will then develop another follicle and return to heat. This cycle repeats itself multiple times each breeding season in the non-pregnant mare.

In the *presence* of an embryo, the endometrium does not release significant amounts of prostaglandins into the circulation. The corpus luteum is thus preserved and production of progesterone is

allowed to continue. Progesterone is a key hormone required for maintenance of pregnancy and will also prevent the mare from returning to heat.

In some instances, the corpus luteum of a *non-pregnant* mare can continue to produce progesterone beyond the normal two-week lifespan and an affected mare will fail to return to estrus. The term for persistence of progesterone production by a CL is pseudo-pregnancy or false pregnancy. Causes of false pregnancy include embryonic loss after the time of maternal recognition of pregnancy, diestrous ovulations, severe uterine pathology, and potentially inadequate prostaglandin release.

As noted previously, the corpus luteum will be spared if a mare becomes pregnant and stays pregnant past the time of maternal recognition of pregnancy (days 12 to 14 post-ovulation). Mares that lose their pregnancy after the window of opportunity for maternal recognition will retain their corpus luteum. In other words, mares have one chance per estrous cycle to determine their own pregnancy status and to 'recycle' themselves if they are not pregnant.

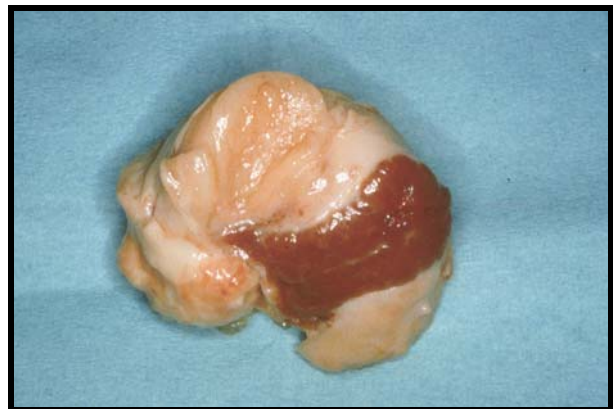
Mares with severe, chronic damage to their uterine lining may have an increased incidence of persistence of the corpus luteum.

This is because the damaged endometrium may have a decreased ability to release sufficient prostaglandins to destroy the corpus luteum.

False pregnancies are not uncommon in mares. The incidence may range from 5 to 10% of estrous cycles. Therefore, horse owners and breeding managers should not rely on exclusively on teasing to determine if a mare is pregnant. Mares that fail to return to estrus within 2 to 3 weeks after going out of heat are not always in foal. It is recommended that an ultrasound examination be performed 14 to 16 days after breeding to determine if a mare is pregnant and to detect the presence or absence of twins. A recheck should be performed at 25 to 35 days to verify that the mare is still pregnant.

Pseudopregnant mares will not return to heat as long as the CL is actively producing progesterone. The lifespan of a retained CL may be up to 2 to 3 months. Consequently, a persistent corpus luteum can have a serious adverse effect on the breeding season if the condition remains undiagnosed and untreated. Veterinary examination of an affected mare will reveal good tone in the uterus and cervix on palpation and the presence of a corpus luteum during ultrasound evaluation of the ovaries.

The condition of false pregnancy is easy to treat if recognized. Administration of a single dose of prostaglandins will destroy the retained corpus luteum and the mare will return to estrus in 3 to 4 days. However, it is critical that the mare be examined by ultrasound prior to administration of prostaglandins to confirm that the mare is not, in fact, actually pregnant and that no other reproductive abnormalities are present. Inadvertent or inappropriate administration of prostaglandins to a pregnant mare will result in loss of the pregnancy.



**Corpus luteum in an ovary**