

The reproductive (estrous) cycle of Friesian horses

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'Putting in foal', it sounds so simple but actually it's too often taken for granted. Breeders are all familiar with the thorough veterinary support care, but what do the vets focus on? Is the estrous cycle of the Friesian horse any different from the cycle of other breeds? The pattern of the estrous cycle varies considerably from mare to mare. In Friesian mares the cycle is found to last longer. They have larger pre-ovulation follicles and the pattern of uterine oedema leads to a slightly different analysis. All data come from 340 Friesian mares aged between 3-21 and were collected during the breeding seasons of 2009, 2010 and 2011. The average cycle lasted 24½ days (varying between 17-33 days). The duration of the cycle showed no relation to the mare's age or her condition (maiden, barren or lactating). The diameter of the pre-ovulation follicle was 50mm during the 24 hours preceding the ovulation and 52mm on the day before that. The day preceding the ovulation the follicle stopped growing and in many cases it even decreased in size. Up to the last day the follicle had shown an average daily growth of 2.4mm. The relatively slow growth rate and large diameter of the follicle shortly before ovulation explains why Friesian mares have a longer cycle. The dominant follicle softened shortly before ovulation and easily changed shape during ultrasonic tests. There was minimal uterine and cervical tone. The cervix measured 3 to 4 fingers. The uterine oedema (so-called wagon wheel) already peaked six days before ovulation and gradually waned with the onset of ovulation. Buildup of uterine fluid was found at any random moment. Too much buildup of fluid is damaging for the sperm and therefore it is common practice to expel it. The veterinarian will then use a therapy involving the administration of oxytocin, a hormone that will cause the uterus to contract and effectively expels the fluid, and/or he will flush the uterus with a sterile solution.

Hormones: Mares are often treated with an agent called Prostaglandin F2alpha (PG) to manipulate their reproductive cycle. In Friesian horses, the time before ovulation sets in averages nine days following administration. Additionally, the egg is flushed away after which an injection with human Chorionic Gonadotrophin (hCG) brings on the ovulation. When the follicle is smaller than 45mm this remedy appears to be less effective in Friesian mares. Both hormones are subject to rather specific criteria that define the moment of administration. To make sure that fertile sperm cells will be present in the Fallopian tubes the mare must be inseminated with fresh/cooled semen 0-48 hours before ovulation. Repeated inseminations may increase the risk of infections and decrease the likelihood of conception. An oncoming ovulation is likely when rectal examination shows a softened follicle and minimal tone in the uterus and cervix. The ultrasound scan reveals a soft and flexible follicle that is >45mm. There should be less evidence of uterine oedema than during the previous check. Two days after the insemination the mare will be checked for signs of ovulation. If this is the case, let's keep our fingers crossed until the next pregnancy check takes place after a sixteen day interval.