Tularosa Equine Clinic

# Inducing early cyclicity in mares

Since the horse industry uses an arbitrary date of January 1 to uniformly age horses, most breeders of performance horses try to produce foal crops as close to that date as possible. The biggest limiting factor is that horses are seasonal breeders and mares in fact, undergo a transition period in both the fall and spring that is tied to daylight length. These transition periods are frustrating for breeders and veterinarians alike because the mares do not cycle predictably (if at all) and generally resist external hormonal control. To circumvent this, research has repeatedly shown that you can basically "back up" the spring transitional estrus period by using a combination of artificial lighting and exogenous hormone administration. It is very important to note that mares need to be exposed to increased daylight length for at least 60 days for the hormonal control (synchronization) to work. It is also important to note that mares have to be exposed to a number of "short" or winter days for this to work.

Once the lighting regimen is started, it is critical that the mare be brought inside before dark and that the extra hours of "daylight" are added after sunset rather than before sunrise. It is also imperative for success that the correct numbers of hours are achieved, and that the barn lights are not just left on all night. Leaving the lights on all night can be counterproductive. A minimum level of lighting also has to be achieved to ensure success. A good rule of thumb is that you should be able to read a newspaper in the darkest corner of the stall. Usually, a light bulb between 100 and 200 watts will achieve this minimum level. The type of light is not critical, meaning that the light can come from fluorescent or incandescent lights. The lights should be in the stall; if they are not, then all shadows need to be eliminated so that the mare does not stand in a shadow, thus negating the lights.

Typically, we recommend starting the lighting program no later than December 1 and no earlier then November 18. You will need to know the average sunrise/sunset times and then calculate how many additional hours of light are needed (usually 3 - 5 hours).

Around the third week of January (if the breeding shed opens as typical on Feb 12-15), mares are still under lights, and brought up for an initial palpation with documentation. The mares are given 3cc of intramuscular formulated progesterone and estradiol ("P&E") every day for 10 days. On day 7 and day 10 of this regimen, mares are again palpated and day 11, injectable prostaglandin(prostin) is administered. Mares are examined 7 days after the last prostin shot and are tracked closely after that. 85%- 90% of mares will ovulate on day 10 after prostin with a few ovulating day 9 and a few day 11. For shipped semen, it is critical that you factor the shipment schedule in when you start the P&E shots.

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