Artificial Lighting Programs for Horses

Of course horses didn’t “fall back” with the time change on November 1, but now is the time to give some thought to your horse’s day length, or photoperiod. The length of day controls two major body processes in horses. The first is important to folks involved in showing because they want to keep a nice, short hair coat on their horse for the show. The second, and most important to breeders, is the reproductive cycle of the mare and stallion. Mares are seasonally polyestrous which simply means that they have multiple estrous cycles when the season (day length) permits. Most mares in New Mexico normally show estrus (heat) from late March to late September. However, if you want to try to get your mare bred early in the season (February), now is the time to make plans to put your mares (or show horses) under artificial lights.

Melatonin is the hormone produced by the pineal gland of the horse that measures the length of night. So as days get shorter and nights get longer more melatonin is produced which inhibits reproductive function. Mares require 60-90 days of increased day length before they have the first ovulation of the year. Therefore, if you want to breed mares in February, you should place them under artificial lights starting November 1 and certainly before December 1. If you don’t get them under lights by December 1, you probably won’t realize much impact of a lighting program as day length will naturally increase after the winter solstice.

The key requirements for a successful lighting program include: (1) Provide enough artificial light (added on in the evening at ~5 pm) to provide for a total light period of 16 hours in a 24 hour day. You’ll need to control this with an automatic timer that shuts the lights off ~11 pm at night. If you keep horses under 24 hours of light, you will run into problems later in the year where they may shut down cycling or grow long hair during the summer. (2) The light intensity should be 10 foot-candles which can be provided by a 200 watt incandescent light bulb or two 40 watt fluorescent bulbs in a typical box stall. The good rule of thumb is that you should have enough light to be able to read the fine print in the newspaper classifieds in all areas of the stall/pen. If you can’t, then you don’t have sufficient lighting. (3) The lighting program needs to be maintained until mares have transitioned into normally cyclicity in February. It has been reported that even a 3-5 day “break” in the lighting regimen may be enough of a signal to interrupt the beneficial effects of any previous lighting schedule.

Remember that along with resuming reproductive function, mares will shed their winter hair coat within 30-60 days after being placed under lights, so be sure to provide suitable shelter in cases of severe weather. By following these simple guidelines, you should be on track to get mares bred in February so you get those January foals that many in the performance horse world are hoping for.

MARK YOUR CALENDARS –
** New Mexico Section, Society for Range Management – January 7-8 in Albuquerque at the Hilton Hotel
** Extension Annual Conference – January 12-14 in Las Cruces at the Hotel Encanto
** NM Association of Counties – January 19-20 in Santa Fe
** Southwest Beef Symposium – January 20-21 in Tucumcari

Merry Christmas & Happy New Year