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Are Mares With Constant Forage Access More Fertile?

Are you having trouble getting a mare in foal? Try ensuring she has constant access to forage. Recent study results suggest that broodmares appear to have better fertility levels if allowed to nibble on hay or grass continuously day and night.

In the study, conception rates were 47% higher in Arabian mares allowed to feed continuously over 23 hours, compared to those that had access to the same amount of forage but only for 17 hours a day, said Martine Hausberger, PhD, director of the Laboratory of Animal and Human Ethology, a branch of the French national research center (CNRS) and of the University of Rennes 1. Hausberger teamed up with Haifa Benhajali, PhD, of Tunis-El Manar University, in Tunis, Tunisia, for the study.

"Coming closer to the natural patterning of foraging behavior in horses may be an easy and efficient way of increasing reproduction in the domestic situation," Hausberger said.

In the study Hausberger, Benhajali, and their fellow researchers followed 100 Arabian broodmares stabled at the Sidi Thabet National Stud near Tunis. All the horses received 10 kg (25 lbs) of hay and 4 kg (9 lbs) of barley daily. All the mares lived in individual stalls at night and had six hours of group turnout during the day. The researchers followed the mares during the breeding season, from April to mid-July. One hour each day was devoted to turning out the mares and bringing them back in.

For the experiment, half the mares received their full ration of hay in the stall, with only water and a small portion of cut grass available during turnout (the 17-hour group). The other half received half their hay ration in the stall and the other half in the paddock (the 23-hour group); hay for these mares was provided in individual hay nets to ensure all horses had access (and possibly to slow down the consumption speed), Hausberger said.

Mares with 23-hour access to hay had much higher fertility rates than those with restricted hay access, the study revealed. Overall, 81% of these mares were in foal by mid-July, compared to 53% of the restricted access group. What's more, the 23-hour group was more likely to conceive in the first cycle of insemination, with a first-cycle success rate of 59% as opposed to 32% in the 17-hour group.

The team also detected more cycling (estrus) abnormalities in the restricted access group than in the constant feeding group, Hausberger said. A side observation, she added, was that the constant feeding group appeared to maintain a better body condition, as well.

Reduced stress and improved metabolism are likely reasons for this significant difference in fertility, the researchers noted. Feeding horses large quantities in short amounts of time with several hours of fasting in between has been shown to cause stress as well as gastric ulcers. However, more research is needed to understand the exact mechanisms underlying this phenomenon.

"What we do know is that this is completely in line with previous research showing that equine welfare is improved when horses are allowed to feed for longer periods, like they do in nature," Hausberger told *The Horse*. "When we allow them to do what's natural for them to do, they just seem to be better off. Improved fertility is only one example of this."