



## Down on the Farm

by HEATHER SMITH THOMAS

The mare's first milk, colostrum, contains unique ingredients that are crucial to the health of the newborn foal. Colostrum serves as a gut stimulant to help the foal pass his first bowel movements, and contains a creamy fat that is high in energy and easily digested—giving him the calories needed for strength and to generate body heat to keep him warm if he's born on a cold night. A foal that gets right up and nurses within a couple hours of birth is off to a much better start than a foal that is slow to nurse or deprived of colostrum. The foal is born immune deficient, so the antibodies in his dam's colostrum are especially important to his future health, protecting him from most of the pathogens he will encounter—until he can begin to develop his own immunity. Thus anything that hinders or interferes with the foal getting an adequate amount of colostrum can put his life at risk.

Dr. Philip Johnson, the Professor of Equine Medicine and Surgery at the University of Missouri, says that in the Midwest, and other regions where fescue is commonly used for pasture, many horse owners are still ignorant of fescue problems. Mares on endophyte-infected fescue pastures are at high risk for problems in late pregnancy, which include prolonged gestation, thickened placenta, difficult delivery and lack of milk development. They often fail to produce any colostrum and have no milk for the foal.

"This is the most common cause of newborn foal problems that we see here—fescue associated failure to produce colostrum. It continues to be a big issue, and horse owners often do not seem to learn about the importance of this," he says.

"It may differ from year to year on a given farm. I don't know if there's any proof of this, but I think the potency of the toxicity with the fescue problem is probably affected by climatic change, so it could be different from year to year." The horseman might say, "we were fine the last five years" and then experience a problem again.



# Colostrum For Foals

"Another thing that should be mentioned about colostrum is that the test for antibodies in the foal (checking immunoglobulin levels) is not perfect. Very few tests give 100 percent accuracy. One thing I suggest to people is that if the foal isn't doing well and you think you're dealing with infectious disease in a newborn foal due to insufficient antibodies via colostrum, you don't have to make a decision as to whether or not to do a plasma transfusion based on the test result. The veterinarian should go ahead and administer the plasma (if there's any question), along with antibiotics, regardless of what the test says."

Many people put too much stock in the accuracy of these tests. "If a test comes back at zero, it probably is close to it, but I don't think people should rely on that test being really accurate. If clinical circumstance warrants plasma transfusion, and the foal is valuable, the client should go ahead and do it if the veterinarian thinks it's warranted. It's just common sense; you want to cover all your bases," he says.

"There's also been a change, over the last 20 years, in the practice of giving antibiotics to newborn foals as a matter of course. Back in the 1970s, and into the 1980s, it was common to give the newborn foal a shot of penicillin, and often it would be a shot of long-acting penicillin. Long-acting penicillin in horses and foals has been shown to be worthless. Then in the 1990s, the trend was to say that we shouldn't be using antibiotics because it gives a false sense of security and potentially promotes antibiotic resistance. So throughout the '90s many veterinarians advocated against giving antibiotics to newborn foals unless they were sick," says Johnson.

"Now we've come back to using antibiotics if there is any possibility that the foal might not be absolutely normal. If everything is fine and there is no evidence of a problem I don't recommend giving antibiotics. But if there is any evidence there might be a problem, then we do advocate using antibiotics because this would give you a head start on treatment if the foal has a problem. So we've gone full circle. But we don't use penicillin on its own, because its spectrum is incomplete; we advocate different antibiotics. The idea, however, is that if there is something wrong with the newborn foal, it's extremely likely that it's an infectious disease unless you prove that it's something else. So getting a head start with antibiotics is beneficial," he says.

"I've seen foals come in that had infections for a couple of days but have not received antibiotics. There are differences in the way veterinarians manage these, and this is not uncommon. So why didn't they give the foal antibiotics two days ago? I'm not sure whether it's because they are still in the '90s way of thinking (being cautious about using antibiotics in newborns). But my feeling is that if

there is something medically compromising the newborn foal, there should be administration of antibiotics sooner rather than later, with a view to getting that treatment going sooner,” says Johnson.

“Another thing that we emphasize now, is importance of the cleanliness of the environment into which the foal is born. One of the first things he does is start licking around, trying to find the udder.” A foal will nuzzle around the mare, trying to lick her flanks and sides and even the stall wall.

“Before the foal gets his full complement of antibodies from the mare in the colostrum, his intestine is just as capable of absorbing bacteria—which can lead to septicemia infection. So it’s very important to have a clean stall and do a good job of cleaning up the mare very carefully, washing off any manure and cleaning the skin surfaces around the perineum and the udder so that when the foal is licking and sucking on the mare and everything else in his environment, there will be a reduced number of bacteria.” It’s a race between the bacteria and the antibodies from colostrum to get to the gut first.

“Another thing that people sometimes do is administer an oral antibody product to the foal even if the mare has plenty of colostrum. If they are giving a commercial source of antibodies when the mare has plenty of antibodies, this may interfere with the foal getting the antibodies from the mare,” says Johnson. The permeability of the gut wall (allowing it to absorb the large molecules—antibodies—in colostrum directly into the blood and lymph system) begins to change as soon as the antibodies are absorbed; the gut wall closes up, so to speak, to protect against absorption of bacteria. If the first antibodies absorbed are from your commercial product, then the foal may not be able to absorb much from his dam’s colostrum.

The foal’s best source of protection is from his dam’s own colostrum, because she has developed specific antibodies against the various pathogens in her environment—the same environment her foal will be born into. Colostrum from a mare that has lived on a certain farm will have the protection her foal needs, on that farm.

“The foal ideally needs to get the colostrum from their own dam. So people buying a commercial product and administering it before the foal nurses may be blocking the antibodies from the mare,

keeping those from being absorbed. I prefer to see people making sure that the mare has colostrum and that the foal is getting the mare’s colostrum, rather than giving a commercial product. The commercial product may be something to consider if a mare doesn’t have any colostrum but, in our experience, the commercial products are not very good at getting antibody levels very high in foals, based on the way they are used in Missouri,” explains Johnson.

“We see a fair number of foals come in with infections, that had the commercial product. So I am a bit negative about using these. It’s not that they just aren’t helpful, but they may even be detrimental, by blocking the mare’s antibodies from being absorbed,” he says. 🐾