



Down on the Farm

The Challenge of Breeding Older Mares

by HEATHER SMITH THOMAS

Breeding an older mare is often a challenge, not only in getting the mare in foal, but having her carry the pregnancy to term with a healthy foal. Walter Zent, DVM (at Hagyard, Davidson and McGee, in Lexington, Ky.) deals with many reproductive problems in broodmares and sees a lot of the problems that arise with older mares. "One of the first important things to know in an older mare is her history. Has she had a foal every year, or is she an older mare that has never had a foal? Another thing we consider, is what the uterine biopsy looks like—whether or not there is fibrosis," he says.

Fibrosis

"Fibrosis is primarily due to aging of the uterus. It isn't necessarily due to wear and tear from many pregnancies. A 15- to 18-year-old mare who has never had a foal will still have some of these changes," he explains. You can't assume that the older mare won't have degenerative changes in the uterus just because she's never had foals.

"In fact, there has been some preliminary work showing that pregnancies may be somewhat protective to the uterus. The mare who hasn't had foals may actually have a worse uterus because of continually coming in and out of heat. This may be one of the causes of degenerative changes. Thus, an older maiden mare may have a less healthy uterus than the mare who has had several foals. This is not a proven fact yet, but might be a factor," he says.

"When talking about the older mare who has not been bred, I have also had the experience of working on some Saddlebred mares who were shown until they were 14 or 15 years old, and then retired for breeding. Some of those mares had cervixes that would not open properly, and also had problems with fluid in the uterus." Age alone can be a detriment in the maiden mare.

Genetics

Inherited traits include fertility and reproductive longevity, and if a mare's dam had a lot of foals she is more likely to be a better risk than the mare whose dam was not able to produce a lot of foals. "If the mother had a lot of foals, chances are good that a mare will keep producing," says Zent.

Defective Embryos

Older mares often produce embryos that are defective, which leads to early embryonic loss. "The embryo may die very early, so early that you don't think the mare got in foal; she returns to heat like she would if she were not pregnant. The embryo dies before there is any maternal recognition," he says.

"Since we started flushing some of these mares and looking at embryos—which is something we're doing even in Thoroughbreds, it gives us an idea of what we've got to work with, even though you can't do embryo transfers in that breed—we've seen some defective embryos. We may flush a problem mare in late fall, to see what the embryos look like,

and see if we can actually obtain an embryo or if for some reason the mare is not fertilizing the egg. It helps us know what's going on with that mare," he says.

Uterine Cysts

This is another problem that is common in older mares. Sometimes cysts may prevent an embryo from attaching to the uterine wall properly, but more commonly they are just a sign of an aging uterus, explains Zent. "Mares will get in foal in spite of uterine cysts. The difficulty is sometimes more in the management and recognition of pregnancy. The cysts tend to get in the way of the ultrasound. You can't see what you are doing and it is hard to know if the mare is actually pregnant. It can be very difficult to diagnose pregnancy in some

of these mares. You have to follow them along until we can actually see a heartbeat, to be sure there is anything in there, just because there are so many cysts."

Diminished Immune System

Older mares frequently have reduced immunity and become infected more easily. "We see more uterine infections, just from the normal contaminations of breeding, and more endometritis. A young maiden mare can handle a lot of contamination and throw it off easily, but an older mare is much more vulnerable. When working with a breed where you must do natural covers (such as the Thoroughbred), it presents more challenge, since you can't use the techniques that would minimize contamination. We do some things to minimize it, but it's still there, to a larger extent than it would be when using artificial insemination," he explains.



Using Caslick's Repair

"Doing a Caslick's (stitching the vulva to keep out contamination from "windsucking" or from fecal material) on older mares is very routine in this part of the country, on any mare that gives you an excuse to do one. We probably do some Caslick's that are not necessary, but on the other hand it never hurts anything, to my knowledge. Most of the older mares would certainly have a Caslick's," says Zent.

Will the Uterus Support a Pregnancy?

"Pregnancy loss is higher in older mares than it is in young mares. There's been some very good work done that shows the villi in the uterus are less numerous in some older mares, as a result of fibrosis, etc. Thus, the placental area (for attachment) is greatly reduced. You end up with a fetus that is not as well nourished as it should be. A lot of times you work very hard to get these mares in foal, and then the fetus you get isn't something you really want. There isn't much you can do about that—at least not that we've figured out yet. In the study at Newmarket, they actually counted the villi. There was a significant reduction in placental area in the older mares. This leads to a smaller fetus," he explains.

Cushings Disease

"Older mares are also more prone to pituitary adenomas and may develop Cushings Disease. This can affect not only their cyclic activity, but also the outcome of pregnancy as far as the fetus is concerned. The high cortisol level affects the fetus and it doesn't do well. The mare usually carries it too long. The signals for birth are not very well recognized by the mare's body and the fetus stays in a long time. That, along with the diminished placental area (these problems seem to go hand in hand), can be detrimental to the foal. The mare may end up carrying the fetus 13 months, but when it comes out it may be malnourished," he says. These foals may be weak or dysmature.

Is She Worth the Effort?

Even if you manage to get the mare in foal, there is always risk of her losing the pregnancy before she gets it to term, or having a fetus that is compromised in some way. "When people try to breed older mares, we let them know about these problems. We want them to make sure that they think the mares are worth the extra effort. They need to be sure that they want the foal and are willing to gamble on all of this. Sometimes sentiment and business become tangled and some of the decisions we make are more sentimental than business—which is alright. There is nothing wrong with that as long as everyone knows what's involved."

On the other hand, if a mare has been a producer of winners, the owner may want to try for one more foal. If it's a filly, it might be able to carry on that bloodline as a broodmare, even if it is not strong enough to be a successful athlete itself. "One of the uses of fetal sexing is on these older mares, to see if they are carrying a colt or a filly," he says.

Summary

"There are many things that go into the decision. Older mares are a lot of work to get in foal. You have successes that are rewarding and fun, but there are also a lot of disappoint-

ments. Some of the challenges are things you can't do anything about, like the defective eggs or embryos. People are finding defective eggs when they use the technologies of in vitro fertilization (in other breeds than Thoroughbreds). When they take the eggs out of older mares, they are often not as viable or as good as the eggs from younger mares. So the thought that embryo transfer and some of the other assisted reproduction techniques will solve all the problems of the older mares is not that simple."

You might by-pass the problem of an older uterus (using a surrogate mare to carry and raise the foal), but if you are using an old egg that isn't very good, you are still out of luck. "Those older mares can be terribly hard to flush eggs from, and a lot of times you don't get anything. By contrast, when you use a young maiden mare you will get a good embryo from her, most of the time. With an older mare, you are lucky to get one out of four. It will always be a gamble because of this problem or that problem." There are many strikes against her.

"In an old mare with a big, baggy uterus, it is hard to get all the fluid out, and hard to make sure you do. That's not to say it's not worth trying, but everyone should realize that when you are working with a mare who is over 15 or 16 years old, depending on her history, your chances are diminished. If she's 18 and she's had foals the last four years, I'd rather take a chance on her than if she's 18 and has had three barren years."

The other point that people need to understand is that the uterus ages whether or not it has had a pregnancy. "A lot of people assume that if a mare has not had foals, it should be easy to breed her, but that's not necessarily true. The other important facts are that the eggs are not as good, and these mares are very difficult to get embryos out of, even using assisted reproduction techniques. There isn't a magic bullet," he says.

"After you get them pregnant, you still have to worry about whether they can carry it. There is also the risk with an older mare of more likelihood of uterine hemorrhage, and other compounding problems," concludes Zent. The stakes just get a little higher in your gamble.



©Paula de Silva photos