

## ACORNS AND STOMACHACHES and PERSIMMONS AND THE HORSE

Problems with persimmons are not common, we often go an entire year without treating any horses for persimmons-related conditions. But, if we are to see problems, fall is the time. Last year we saw several cases of severe intestinal problems brought on by persimmons. Like acorns, these are primarily a problem for the horse that develops a taste for them.

The horse that starts craving persimmons can develop two problems. The most common is a blockage from an accumulation of seeds. As we all know, these seeds are about the size of a dime, flat, hard, and have a spoon or fork inside (depending on the severity of the upcoming winter)! If the horse loads up on the fruit of the persimmon, the seeds will accumulate in the large bowel.

The presence of so many seeds will actually block the bowel and prevent movement of other materials. Once the accumulation of bowel material becomes large enough, the horse will start feeling full. This is not at first painful, but does make them uncomfortable. They usually will not eat and will only splash around in the water with their nose. They want to drink but feel too full to take much in. As we know by now, if this build up is not relieved soon, the horse will start trying to find a comfortable position by laying down and eventually rolling.

When one of our patients develops this problem, we treat them with pain relievers and intestinal lubricants. Once the logjam of seeds breaks up the horse will be fine.

As we all know, there are few animals on earth that can chew up a persimmon fruit before a frost. But as soon as the fruit matures, it becomes soft and very sweet. If the overweight horse loads up on these, the high sugar content can be enough to cause laminitis, or founder. The same problem can be brought about (in the horse with this body condition) by overfeeding grain, a strange feed, lush fall pasture, etc. .

The overweight horse that has not foundered must be prevented from consuming too much of any high calorie food. They tend to accommodate small amounts, but an overload is enough to push them into founder.

We have had our frosts so the persimmon is turning sweet. Problems with this fruit are with those horses who develop a craving. After they have cleaned up the ground they will stand under the tree and wait for the next ones to fall. If you see your horse or horses doing this, they should be locked away from the persimmon trees. The fruit does not last long, as other animals eat them, and they are so soft they quickly decompose. A few days locked away from these trees--and probably the oak trees as well--will prevent risk to those horses who develop such an appetite.

## ACORNS AND STOMACHACHES

This week we will discuss the effect overeating of acorns can have on Dobbin. In this neck of the woods, it appears there will be a very good crop of acorns from the various species of oak. Illnesses caused by acorns, usually involving the intestinal track, are common in the fall. There are actually two general problems for the horse that consumes acorns and other oak products, such as leaves and buds.

The true toxicity associated with oaks is due to Dobbin eating buds (in the spring), leaves, and acorns. These oak products are very high in tannin. When absorbed from the gastrointestinal track, tannin enters the blood stream and circulates through the liver and kidneys. Upon contact, tannin will damage these very important organs. As a result, the kidneys do not do a good job of filtering the waste products that are usually excreted through the urine. These products stay in the blood stream and are circulated back through the liver, where they cause additional damage.

In the liver, the combination of the tannins and the waste products damages the cells. Now the liver cannot do the efficient job of producing digestive enzymes. The reduced intake of feed--from his loss of

appetite--and the reduced digestion of what he does eat will quickly lead to dramatic weight loss. The loss of appetite is difficult to reverse, as regeneration of damaged liver cells is very slow.

Now that you are worried about even having your horses across the fence from oak trees, I should mention the problem of toxicity from oak products is very rare. It may be a problem in the spring with the new, tender buds and leaves, but only if there is little else for the horse to eat. A shortage of roughage provided by grass and hay causes the horse to search out coarse fibrous food stuffs to chew on.

The problem we do see with oak products is from the overeating of acorns. The effects we see are those we would expect anytime Dobbin eats too much protein. Acorns, being in the nut family, are very high in protein and fat.

The fat usually does not cause a problem unless the horse is overweight and prone to founder. For this horse, the sudden intake of fat along with the energy released from the breakdown of protein, can be enough to send them into founder. The amount of extra calories from acorns is more than that absorbed from grain, and much greater than that gained from grass or hay.

The acorn is a dense food that is also high in protein. If Dobbin only ate a couple of hands (hooves?) full, there would be little problem. But no . . . Once the acorns start falling, he has to see just how many he can take in. The sudden intake of so much dense, high protein food brings on the stomachache which in horse is called acute gastritis. The response to protein is similar to an allergic reaction. The lining of the stomach and small intestine becomes very inflamed, red, and swollen. This irritation results in the bowel becoming hyperactive and Dobbin starts cramping. They are often so sick they will be breathing with flared nostrils.

As is typical anytime the horse has abdominal pain, he will start trying to find relief. Now we are back to the early signs of colic. At first they will stand or lay, and will frequently look at their side. They may kick at their belly. In an attempt to find a comfortable position they will lay down, stand up, and lay back down. They will usually refuse even to eat grain, so now you know there is a problem. They will eventually start rolling in an attempt to find a more comfortable position.

All of this will occur before you see the first of the very loose diarrhea! The loose stool accumulates at the first of the small intestine, a very long way from the rectum. The diarrhea is due to the body's attempt to dilute the irritating substances, which in this case is the acorn. Fluid will be drawn into the bowel, creating dehydration for the rest of the body. As the diarrhea builds and the dehydration becomes more severe, Dobbin's condition rapidly deteriorates. Obviously he has created an emergency condition. Along with therapy to prevent shock and pain, he would be treated with intestinal protectants. Of course a very important treatment is massive amount of fluids, both orally and intravenously.

So how do you keep Dobbin from indulging on acorns? If he only eats a few along with his grass or hay, there would be little problem. But the real problem is with his obsession for this new treat. Some horses will become obsessed with eating acorns. If you have a horse like this, and he may be the only one in the herd, limiting his intake is the only prevention. If the wife has lots of spare time between work and dinner, she can pick or vacuum the acorns from small paddocks. Few of our clients have this time, or the horses are in larger areas. Unfortunately, in this situation, fencing is the only way to prevent the horse from eating all they can find.

Once we have a few hard freezes, the acorns will be both harder to find and they will be broken down so they are not as dense or toxic. But as we mentioned above, the whole problem is with the horse that develops a personal craving for the acorns. Unfortunately therapy has not proven to be successful so we must find ways to protect Dobbin from himself!