BREAKTHROUGH IN GENETIC DISEASE DETECTION

PREVENT DENTAL PROBLEMS

EQUUS

THE HORSE OWNER'S RESOURCE

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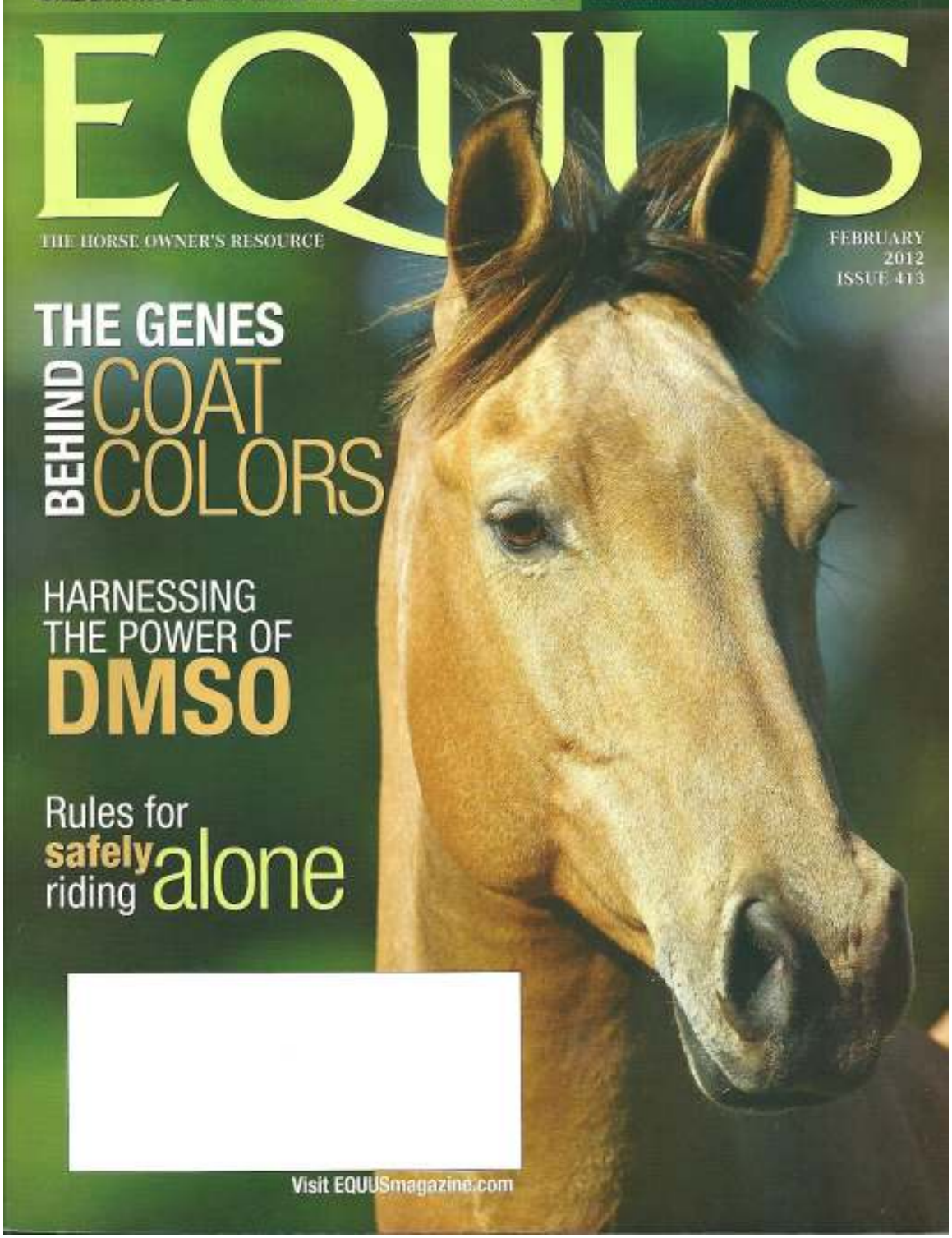
THE GENES BEHIND COAT COLORS

HARNESSING THE POWER OF DMSO

Rules for safely riding alone



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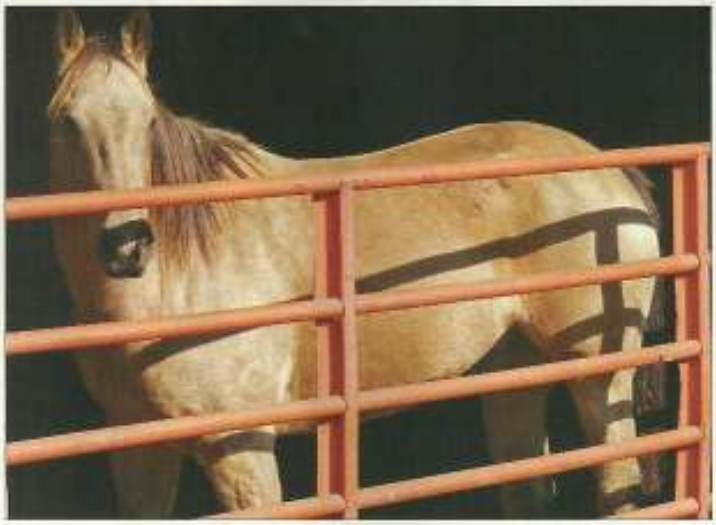
Still standing

Despite sustaining two severe hoof injuries that threatened not only his soundness but his life, a gelding named Fritz manages to carry on.

By Dorothy Stephenson



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I zip up my coat as far as I can and tighten my scarf around my neck, pulling it up over my nose and mouth. I squint against the harsh, raw winter winds that blow so fiercely here in the mountains of Virginia. As I watch the water flowing into a five-gallon bucket hanging from the spigot, I will it to flow faster. "Brr!" I say, "Hurry up!"

Finally the bucket is full, and I hurry to deliver it to my 6-year-old Quarter Horse gelding, Fritz and I have been through a lot together over these past five years—I'm now helping him heal from his second serious hoof injury. We've had our share of bad days, for sure. But I couldn't imagine life without him.

A horrific injury

Our troubles began when Fritz was just a year old. One day he came stumbling out of his pasture with a huge laceration just above his right front hoof. Something—wire, I assume, although I never found the culprit—had sliced horizontally through the back of Fritz's pastern deep into his digital cushion and just above his coronary band, leaving the back half of the hoof nearly detached from the leg. I was close to panicking, but I knew I had to stay calm to help my horse.

My local veterinarian came out immediately, sedated Fritz and set to work stitching the foot back together. I stood nearby in total shock—eyes wide with my hand over my mouth, reminding myself to breathe.

After he finished wrapping the wound, we discussed Fritz's prospects. The good news was that the injury didn't appear to have reached any of the vital tendons or ligaments that run down the back of the leg and support the horse's weight as he stands and walks. Then there was the bad news: Because the wound was in an area that moves constantly, Fritz would likely keep reopening it, and healing would be slow, if it occurred at all.

In addition, the veterinarian said if infection set in and spread to the nearby joint between the coffin and pastern bones, the result could be devastating sepsis[1]. All in all, I was told, the prospects were dim that Fritz would ever be sound enough to ride—and even pasture soundness might not be possible. I felt like all the air had escaped from my lungs.

After the veterinarian left, I sat with my sweet friend. I remembered the day he was born, and I thought of the many times I had played with him when he was small, and how he would lie down on his side for the occasional belly rub or full-body scratch down. The thought of having to put him down so young almost made me sick, but I knew it was a possibility I had to consider.

After days of researching, thinking, talking and lots of crying, I turned to Fritz for my answer. He was still alert and eating, and I could see life in his eyes. He wasn't ready to give up, and so neither was I.

Giving it a try

The veterinarian visited every couple of days for the first two to three weeks to mend broken stitches, rewrap the wound and check for infection. Between these visits, I changed the dressings, cleaned the wound and applied antiseptics.

Eventually, the veterinary visits dropped to once a week, and the wound began to show signs of healing with no infection. I felt like we'd cleared at least one hurdle. At my veterinarian's suggestion, I called in Don Cromer, DVM, of Westwood Animal Hospital in Staunton, Virginia. Cromer had an ultrasound machine and would be able to thoroughly examine the ligaments, tendons and other critical structures below the surface. Thankfully, they all appeared to be healthy and intact. Another hurdle cleared.

For many more months my daily routine remained unchanged: unwrap, clean, apply medicines to prevent infection, rewrap, slap my forehead in frustration after Fritz tore off the bandages and rewrap again. The foot was swollen and disfigured, but the wound was mending. Before long, I was able to leave the bandage off for a day at a time to allow oxygen to reach the skin and help it to dry out and heal.

But Fritz's foot was far from normal. His heel bulbs were not growing properly—you could physically pull them away from the rest of the hoof a bit, and the area would spread with each step. Not only was this uncomfortable for Fritz, but it undermined the strength of the entire hoof. Clearly, he would need specialized farrier care, and I was lucky to find Brandon White, a local farrier who met the challenge head-on.

White fit my horse with a straight bar shoe—one where the heel end is closed with a straight piece of metal—that stabilized the foot and supported the heels but didn't put pressure directly on them. Fritz was comfortable, if not entirely sound, and he was welcome to live his life in my pasture, keeping company with my other two horses. I thought we'd put the worst behind us. I was wrong.

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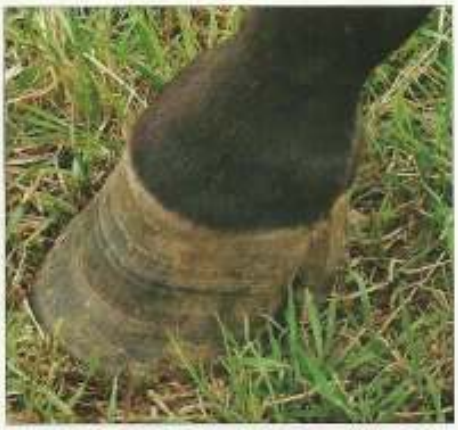

Round two

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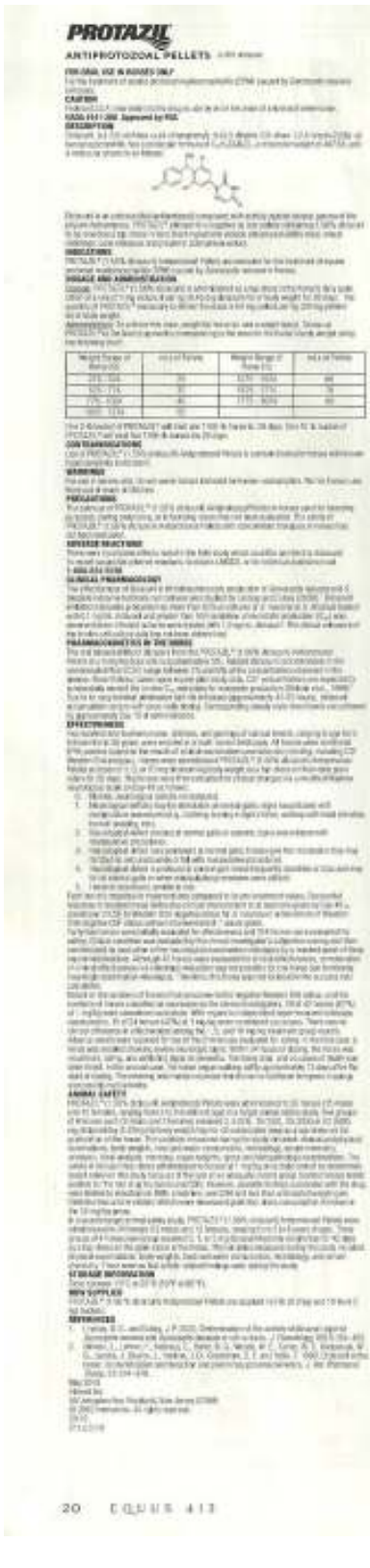
PROTAZIL

ANTIPROTOZOAL PELLETS

But he was shocked at what he found when he arrived. It wasn't just an abscess. The entire outside quarter of Fritz's hoof had pulled away from the coffin bone underneath. The section of hoof wall was literally hanging loose. White showed me how he could wiggle it and even pull it off entirely if he wanted to.

White wasn't sure how this had happened. It's possible that an infection had entered through Fritz's injured heel bulbs and festered unnoticed until it had damaged his sensitive laminae, the living connective tissue that anchors the hoof wall to the coffin bone, weakening them until the wall above cracked. Or perhaps Fritz simply took a bad step on a sharp rock and pried that section of his hoof wall away from the bone underneath.

But the cause of the injury wasn't as important as the need to help Fritz immediately.

I put in an emergency call to Cromer, who arrived quickly. He, too, was taken aback by the extent of the damage. After examining Fritz's foot carefully, the veterinarian explained that there was no way to reattach the hoof wall. Our only hope was to remove it, tend to the huge wound left behind and hope some type of serviceable hoof regrew. But he also explained that laminae do not regenerate.

In a healthy hoof, the living laminae form alternating "leaves," like the gills under a mushroom cap, that interlock tightly with the laminar horn, slender ridges on the interior surface of the hoof wall. When laminae are destroyed—due to either laminitis, which is the inflammation of those soft connective tissues, or some sort of injury like this one—they do not regrow. The laminae that remain can heal somewhat, though they are unlikely to regain all of their organizational structure, and consequently, they will bind less tightly to the overlying hoof wall. In other words, Fritz's new hoof wall might not come in anchored to the coffin bone well, if at all.

FRAGILE: After Fritz's second injury, his hoof appeared intact, but in fact half of the wall was barely attached to the tissue underneath and had to be surgically removed.

Another decision

Once again I faced a difficult choice. Fritz would have to endure another long road to recovery, with months of constant bandaging and care. Yet, through all of his treatment so far, he had remained relaxed and content, so I decided to load him up for the trip to Westwood for surgery.

The procedure went surprisingly quickly. After putting Fritz under, Cromer and his surgical team cut away the loose portion of hoof wall. Before I knew it, the procedure was done, and Fritz was wrapped and back in the barn recovering.

A week later, he returned home to live in a small, level pen with clean dirt underfoot. No running. No other horses. There was nothing more to do but wait and see whether the hoof would regrow.

Fritz and I went back to our familiar routine of wrapping, medicating and rewrapping. His foot was heavily bandaged with more than an inch of padding covering his entire hoof capsule.

HEALING POWER: It took almost a year, but Fritz's hoof wall eventually grew back and now looks nearly normal. He is currently able to go unshod and is turned out regularly with his pasturemates.

Not only did this protect the exposed tissue, it also gave him something solid and stable to stand on. The entire complex of bandages and padding extended up to his knee, and it all had to be changed every couple of days.

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Through it all, Fritz was a superb patient. He didn't seem to mind confinement at all, and, even though he was shy about people handling his foot, he was a good sport about it. And every day he was bright-eyed and happy to see me.

A beautiful sight

After about a month of this routine, a hard, white bulge appeared along Fritz's coronary band above the injured area. Worried and confused, I called White. But after examining Fritz's hoof, he had good news for me: The white bulge was new hoof wall growing in. One weight had been lifted off of my shoulders, but I knew we weren't out of the woods yet.

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So White devised a plan to help encourage Fritz to bear more weight on his injured right foot, in hopes of sparing the left. The farrier would create an artificial hoof wall made of acrylic with an aluminum shoe glued to the bottom of it. The acrylic would stand in for the missing portion and would be strong enough to support a horse's weight while the new hoof wall grew in beneath it.

White revisited Fritz every four to six weeks for nine long months to reshape the acrylic around the growing hoof and replace the shoe. Finally, in August 2011, he removed the acrylic one last time to reveal a brand new hoof wall and new heel bulbs. The hoof looked more normal than it had at any point since the day it was first injured. It was a beautiful sight.

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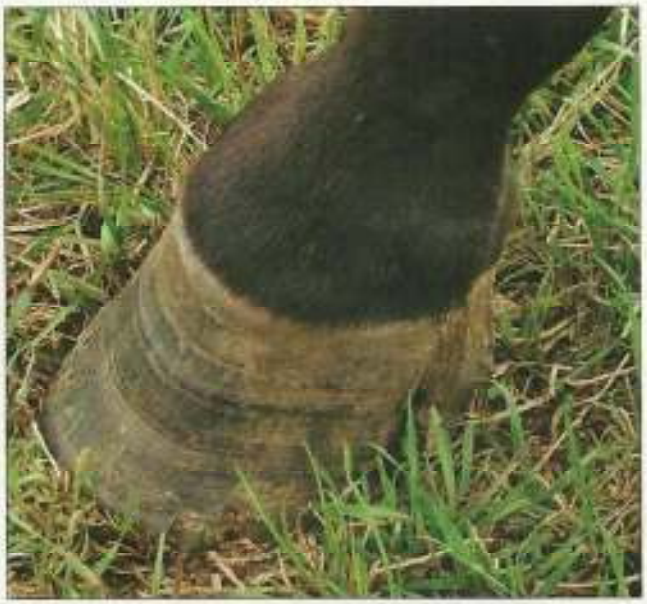

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