

Praziquantel Dewormers

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Three new combination deworming products have been introduced to the market in the last year: Equimax[®], Quest Plus[®], and Zimectrin Gold[®]. All three contain praziquantel, a dewormer effective against tapeworms. Equimax[®] and Zimectrin Gold[®] also contain ivermectin; Quest Plus[®] also contains moxidectin. Where do these new products fit into our strategic deworming plan?

Small animal owners may be familiar with praziquantel as the active ingredient in Droncit[®]. Droncit[®] has been on the market for many years as a product labeled for use against tapeworms in dogs and cats. Until this year, there was no licensed product available for horses. In cases in which tapeworms were suspected, a double dose of Strongid was used, with variable efficacy. Praziquantel is over 95% effective in killing the most common species of equine tapeworm, *Anoplocephala perfoliata*.

Tapeworms have been shown in several scientific studies to be significant causes of colic. They can be instigators in the common spasmodic or gas colic, even when present in very small numbers. It is estimated that tapeworms are the cause of 22% of gas or spasmodic colics. In higher numbers, they can cause more serious complications like cecocolic intussusception, in which the cecum actually telescopes into the large colon. This is a very serious condition, requiring surgical correction or euthanasia.

Praziquantel has been determined to be a very safe drug, even in pregnant in nursing mares. No side effects were reported in doses many times greater than the recommended amount. Although the percentages of praziquantel differ in the three products, all provide doses that are equally effective against tapeworms.

So, how common are tapeworms? Their numbers vary greatly between different areas of the country. In some regions, over 90% of horses have been exposed. In other areas, their prevalence is much lower. In Washington and Oregon combined, about 12.7% of horses are infected with tapeworms. Tapeworms are difficult to diagnose using fecal floatation, the test commonly used to identify other parasites such as strongyles. Horses may be heavily infested, yet be negative for tapeworm eggs on a fecal floatation. Blood tests are available to test for exposure to tapeworms, but are expensive, and rarely used in day-to-day practice. The only other way to identify tapeworm infestations is at a post-mortem examination, when they are visualized within the deceased horse's cecum. Because of the difficulty in diagnosing tapeworm infections, horse owners and veterinarians may be unaware of the true numbers of tapeworms present within their equine populations.

We don't have firm numbers on tapeworms in Central Oregon. We do not commonly see tapeworm infestations on post-mortem examinations of non-surviving colics at our clinic, which leads us to think that they are relatively uncommon in this area. They are, however, more common in western Oregon. The life cycle of the tapeworm includes a stint inside a microscopic pasture mite, called the oribatid mite. These mites subsist on green pastures. Horses that have access to irrigated pastures are probably at a greater risk of ingesting the mite, and the embryonic

tapeworm it contains, and thus setting the stage for an infection with adult tapeworms. And, although Central Oregon is an arid climate, we have plenty of green, irrigated pastures.

So, based on this information, what are our recommendations regarding the use of praziquantel-containing dewormers? Praziquantel is safe, effective, and reasonably priced. The new dewormers typically are priced at a markup of \$5 or less over the plain ivermectin or moxidectin product. Using a cost to benefit analysis approach, by using one of these products once or twice per year, owners and veterinarians can be certain that their horses are treated for possible infections by using one of these products at minimal expense. Since the products all contain either ivermectin or moxidectin, the more common strongyles and roundworms are also eliminated at the same time.