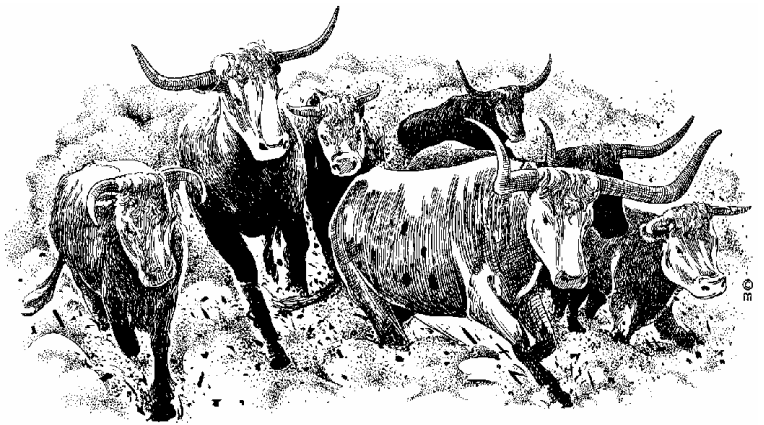


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Vol. 9, No. 3

MARION COUNTY LIVESTOCK NEWS

FEBRUARY 2003



Equine Parasite Control

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Horses are commonly afflicted by parasites, primarily by a group of worms known as the strongyles. Most adult horses acquire little immunity to most of these parasites and are quite susceptible to infection and disease. Although the most common result of parasitism is ill thrift, parasites also are a major cause of colic. In Kentucky, institution of aggressive parasite control on horse farms consistently reduced the incidence of colics by nearly 90%. In Florida we have reduced the annual incidence of colic at one boarding stable from 24 to 4 per year by instituting proper parasite control.

The most important equine parasites are the large strongyles (particularly *Strongylus vulgaris*), small strongyles (bloodworms or cyathostomes), and ascarids (large roundworms). Under most circumstances these are the parasites that **must** be controlled in Florida horses. The strongyles are seasonally transmitted, so treatment programs will be coordinated with time of the year, whereas ascarids are transmitted year-round, with season having very little effect. Less important, but not to be ignored, are bots, pinworms, threadworms, and tapeworms.

(See Equine Parasite Control pg. 2)



Thursday
February 20th, 2003
7:00-9:00 p.m.

Marion County Agriculture Center
2232 NE Jacksonville Road
Ocala, Florida

Pasture Management **Weed Control** **and** **Toxic Plants**

SPEAKERS:
Carrol Chambliss, UF Extension Agronomy
Mark Shuffitt, Marion County Extension

Equine Parasite Control

Mature horses are susceptible to all of the above except ascarids and threadworms, whereas foals are not likely to harbor adult large strongyles until they are at least 6 months old. The large and small strongyles are acquired primarily by grazing and are dependant upon horses having access to grass. Tapeworms are similarly dependant upon the presence of grass to support the tiny mite that spreads them. These parasites are not transmitted in dry-lots, barns, stall, etc., where grass is not available. In contrast, ascarids and pinworms can be acquired from grassy or non-grassy environments. Indeed, pinworm transmission is especially rapid in stabled horses where the delicate eggs are concentrated and protected from direct sunlight.

Cyathostomes ("Small Strongyles")

These are by far the most common and abundant of the major parasites of horses, with infections often exceeding 100,000 worms in a horse. Damage to the horse's gut by developing larvae of these worms can lead to ill thrift, diarrhea and colic.

In cool climates, cyathostome transmission is fairly straightforward. A "spring rise" in worm egg output in the manure of horses results in a dramatic rise in the number of infective worm larvae on pastures by late summer and autumn. Horses become heavily infected by grazing during this time. In Florida the situation is reversed. Although fecal egg counts remain high year round, infective larvae survive poorly on grass during the summer months. The net result is that most parasite transmission takes place from November to April, when horses ingest larvae that developed from eggs shed onto pasture from September to March.

Horses shed cyathostome eggs in their manure. The eggs then hatch into larvae that feed on bacteria in the manure for a week or two before migrating out of the manure onto nearby blades of grass. Horses then acquire the larvae from the pasture as they graze. Once swallowed, larvae develop in the wall of the horse's gut for about 4-6 weeks before maturing to egg laying adult worms, although some can remain dormant in the gut wall for a year or more without maturing.

Two important features of cyathostomes, (1) their short life cycles as compared to the large strongyles and (2) their propensity to develop resistance to commonly use wormers, must be taken into consideration when designing control programs.

In Florida, and most of the Deep South, treatment at 2 month intervals with ivermectin (Eqvalan), 3 month intervals with moxidectin (Quest), or monthly intervals with most other wormers from September through March will control most cyathostomes, as will continuous daily treatment with Strongid-C during this time. In cold climates, these treatments should be given late spring through summer.

Unfortunately, many horses are infected with cyathostomes resistant to the benzimidazoles (BZDs), the largest class of wormers. Since there is cross-resistance throughout the BZD group, this means that wherever resistance occurs, products containing febendazole (Safeguard, Panacur), oxfendazole (Synanthic), and febantel

(Rintal) are not effective. One drug of this group, worms are much slower to develop resistance to oxibendazole (Anthelcide), thus it may be effective when worms are resistant to the other BZDs. BZD-resistant worms are fully susceptible to ivermectin, pyrantel, or moxidectin, and these wormers should be used wherever BZD resistance has been identified. In a recent study in Florida cyathostomes on 10 out of 11 farms were highly resistant to fenbendazole. A recent study done jointly by the Universities of Florida, Georgia, Kentucky and Louisiana State University showed that, in addition to widespread resistance to the benzimidazoles, cyathostomes have now developed resistance to pyrantel (Strongid) throughout much the southeastern U.S. In contrast, resistance is not yet a problem with ivermectin or moxidectin.

***Strongylus* spp. ("Large Strongyles")**

Strongylus vulgaris is by far the most deadly of the equine worms — by obstructing the arteries supplying blood to the gut, migrating larval stages of this worm are a significant cause of colic. The life cycles of *Strongylus* spp. are similar to those of the cyathostomes except that the larvae of these worms migrate in the horse's body for some 6 months before maturing to adults. With *S. vulgaris*, larvae prefer to migrate within the arteries supplying blood to the gut before returning to the gut to become egg-laying adults about 6 months after the infective larvae were ingested from pasture.

Until more is known about the epidemiology of *S. vulgaris* in the southeastern states, year-round treatment for this parasite is probably required. Given the long time required for this worm to mature in horses (6-months) and the high efficiency of ivermectin and moxidectin for this parasite, treatment at a minimum of 6 month intervals with these wormers would theoretically prevent the shedding of eggs onto pasture and greatly suppress transmission. In cold climates, aggressive treatment spring and summer will stop transmission of this parasite. Since the appearance of ivermectin on the US market, this worm has become much less common and, indeed, has been eradicated from many properties. Also, resistance to our antiparasitic drugs has not been a problem with this worm. As a result, what was once a common and deadly parasite of horses has now become a rarity on most farms.

Ascarids ("Large Roundworms")

Parascaris equorum, the large roundworm of horses, can be deadly to foals in their first year of life. After that time sufficient immunity develops to provide strong protection. Transmission is direct and non-seasonal—infected horses contaminate their environment by shedding large numbers of ascarid eggs, which are subsequently ingested by other horses. Because ascarids shed a very tough egg that can survive in the environment for several years, and only hatches after being swallowed by a horse, transmission of that worm is non-seasonal and not affected by vagaries of climate. On most breeding farms, the majority of eggs ingested by this year's foals were passed by foals on the same farm during the preceding year. Since this parasite requires some 11-15 weeks to mature in foals, deworming foals at 2-month intervals throughout their first year of life

should provide adequate control and prevent a build-up of eggs in the environment that would infect the next year's foal crop. The BZDs, pyrantel, ivermectin and moxidectin all are effective, and drug resistance has not been a problem with this worm.

Bots

Bots are flying insects somewhat related to houseflies. However, their larval (maggot) stages live in the stomachs of horses. Before the appearance of ivermectin, bots were very common on horses. However they often were overrated in their ability to cause disease. Nevertheless large numbers of bot larvae in a horse's stomach can lead to ill thrift and, on rare occasion, death.

The most important time to treat for bots in northern Florida is in January, after the first freeze of the winter has greatly reduced bot activity. A second treatment is probably needed after the spring peak once egg laying is past. A supplemental treatment in November may be needed in especially bad years or on farms with heavy bot activity. In southern Florida treatments may need to be continued through the winter. Ivermectin and moxidectin are the preferred treatments. Good grooming with a bot knife will remove many eggs before they hatch, but be careful, hatched bot larvae have been known to infect the eye of humans! The practice of forcing bot eggs to hatch prematurely by wiping them with a warm moist cloth is especially dangerous in this regard. Wash your hands with warm, soapy water, and be sure not to touch your face, after handling horses that are contaminated with bot eggs.

Summary of Minimum Worm Control for Horses for Florida

Foals up to 1 year of age

Foals should be treated with drugs effective against ascarids at 2 month intervals beginning at 2 months of age. Depending upon the time of the year, treatment should include drugs effective against cyathostomes (see adult horses below). In Florida, this would generally be in the last half of a foal's first year of life assuming it was born on January 1 like all good thoroughbreds! Treatment for *S. vulgaris* should begin after a foal is 6 months of age, again depending on climate and season of the year, but most modern drugs used against ascarids and cyathostomes will kill *S. vulgaris* as well, so this point is moot

Mature horses

Treat horses at 2-month intervals with ivermectin, 3-month intervals with moxidectin, continuously with Strongid-C or monthly with other wormers beginning in September and continued through March. This will control large and small strongyles. Be sure to use ivermectin or moxidectin with the January treatment to control bots. Treat again for bots in late June. By again using ivermectin or moxidectin at this time, you can insure continued protection from *S. vulgaris* and cyathostomes acquired in late spring. Supplemental bot treatment may be needed in November if heavy bot activity was noticed in September or October. This program was designed for climates similar to that of Gainesville, Florida. A similar treatment schedule should be followed for other warm climate locations although the exact timing may vary by a month or so

Where pleasure horses owned by many different people are stabled together, it is imperative that all be treated — one horse left untreated can contaminate the environment for all. Where this is not done, owners can treat their horses daily with Strongid-C, which kills newly acquired worm larvae in the horse gut, thereby preventing infections from developing in spite of dangerously contaminated pastures.

Beef Cattle Management Tips

FEBRUARY

- Top dress winter forages, if necessary
- Check and fill mineral feeders
- Put bulls out with breeding herd
- Work Calves:
 1. Identify
 2. Implant with growth stimulant
 3. Vaccinate
- Provide adequate nutrition to lactating cows
- Check calves for signs of respiratory disease
- Cull cows that did not calve
- Check for lice , treat if necessary

MARCH

- Prepare land for summer crops.
- Begin grazing warm season permanent pastures.
- Check and fill mineral feeder.
- Observe bulls for condition and success. Rotate and rest bulls as necessary.
- Deworm cows as needed.
- Observe calf health and provide adequate nutrition for “good” weight gains.
- Hang forced-use dust bags by April 1st for external parasite control or use insecticide impregnated ear tags.
- Identify, vaccinate, implant and work late calves.
- Put bulls out by March 1st for calving season to start December 9th.
- Remove bulls March 22nd to end calving season January 1st.

John Mark Shuffitt
Livestock Agent II
Marion County Extension Service

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THE LAST WORD

Anonymous

If you lived as a Child in the 40's, 50's, or 60's it's hard to believe that we've lived as long as we have considering that.....

As children, we'd ride in cars with no seat belts or air bags.

Riding in the back of a pickup truck on a warm day was always a special treat.

We had no childproof lids on medicine bottles, doors, or cabinets, and when we rode our bikes, we had no helmets.

We drank water from the garden hose and not from a bottle.

We'd spend hours building our go-cart out of scraps and then rode down the hill, only to find out we forgot the brakes. After running into the bushes a few times we learned to solve the problem.

We'd leave home in the morning and play all day, as long as we were back by suppertime.

No one was able to reach us all day. No cell phones.

We got cut and broke bones and broke teeth, and there

were no lawsuits. Accidents, no one was to blame, but us.

We had fights and punched each other and got black and blue and learned to get over it.

We ate cupcakes, and drank sugar soda but we were never overweight ... we were always outside playing.

We didn't have video games, cable TV, videos or PCs . . . we had friends! We went outside and found them.

Little League had tryouts and not everyone made the team. Those who didn't had to learn to deal with disappointment.

Some students weren't as smart as others so they failed a grade and were held back to repeat the same grade...

Our actions were our own. Consequences were expected. There was no one to hide behind. The idea of a parent bailing us out if we broke a law was unheard of. They actually sided with the law, imagine that!

Our generation has produced some of the best risk-takers and problem solvers and inventors, ever. The past 50 years have been an explosion of innovation and new ideas. We have had freedom, failure, success and responsibility, and we learned how to deal with it all