Fighting Fire Ants in Pastures
Eileen A. Coite, REINS Coordinating Agent

Unfortunately, fire ants have found a home in most of our southeastern pastures. With the mild temperatures of spring and recent rains, they will be mounding up, so to speak, in the weeks to come. There are so many ways fire ants cause us problems, from damage to equipment, reduction in forage production, and of course possible pain and injury to ourselves and our animals. According to Dr. Steve Bambara, a NCSU Extension entomologist who specializes in forage insects, there is no simple solution to the fire ant problem. Management of these pests depends on the concentration of the mounds and locations. Of the products labeled for use in pastures, some are chemicals that treat the mound and will kill the ants, while others are insect growth regulators that can be broadcast across a pasture and will focus on making the queen of the colony sterile, eventually removing the colony.

What products can be used in horse pastures? There are a few choices. Amdro or Amdro Pro (hydramethylnon), Extinguish (methoprene), Extinguish Plus (methoprene+hydramethylnon), Esteem (pyriproxyfen), Award (fenoxycarb), Sevin 80WSP, XLR Plus, and SL (carbaryl). Some of these products are recommended for mound treatment, some for broadcast, some both. Sevin is specifically used as a drench treatment. Some of the products are insect growth regulators (IGRs) that will cause the queen to become sterile, causing reproduction to cease and thus controlling the colony. IGRs are methoprene, pyriproxyfen and fenoxycarb.

The key to treating for fire ants is timing and proper product application. According to Dr. Bambara, the best time to treat is mid-spring and fall, and mid-morning when air temperatures are around 70 degrees F.
morning when air temperatures are around 70 degrees F. It is also important to NOT treat if the ground is wet, or if rain is expected within the next 36 hours. Once the bait gets wet, the ants won’t be interested in taking it into the mound. He also recommends checking for ant activity or “foraging” by placing potato chips or cheese puffs on the ground near the mound. If ants appear on the snacks within 30 minutes, then the colony is active and foraging.

Some other key tips on application of fire ant bait are as follows:
- Do not store products past the expiration date. They will lose attractiveness to the ants and become ineffective.
- Do not store near other pesticides or fuels. They may absorb odors and affect taste to the ants, becoming ineffective.
- Do not apply directly on mounds. Ants do not travel on the top of the mound.
- Do not disturb the mound when treating. This will upset the ants and disrupt their normal foraging behavior.
- Do not re-apply baits within ten days of applying a direct poison, as there will be no ant activity during this time.
- Always apply and re-apply when needed, as suggested on the label.

For more information or a copy of the detailed publication “Fire Ant Management in Horse Pastures”, contact your Cooperative Extension Center or visit: http://www.ces.ncsu.edu/depts/ent/notes/forage/rifahorsenote05/rifahorsenote05.htm

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by the North Carolina Cooperative Extension nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage and examine a current product label before applying any chemical. For assistance, contact an agent of the North Carolina Cooperative Extension in your county.

As horse owners we are always concerned about some aspect of horse care. Is my horse getting enough to eat, are his shoes right or does my saddle fit properly? Probably the least thought goes to eye care. Can my horse see? Well, he doesn’t run into anything so how do we really know? First and foremost a horse’s ability to see details is around 20/33. This is slightly worse than the usual 20/20 in humans. Many domestic horses (about 1/3) tend to have near-sightness, with a few being far-sighted. Wild horses, however, are usually far-sighted. Vision is special in the horse, like people they can see the same scene with both eyes at once; this is called binocular vision. However, the horse can also see separate pictures with each eye; this is called monocular vision. Some other facts about vision are that a horse has a blind spot directly behind its hindquarters and directly below its head. A horse must lower its head to see faraway objects and raise its head to see close objects. A grazing horse can see almost all the way around its body. It takes time for a horse to adjust its eyesight to a dark stall, a dark trailer, or a dark building. Horses have a hard time focusing clearly on objects but are very good at detecting movement. It is important to know about the horse’s sense of sight to understand why it reacts the way it does. Horses can suffer from many of the same eye conditions as people; such as, cataracts, glau-

(Continued on page 3)
**The EYES Have It Continued …**

(Continued from page 2) A horse’s eye should be bright and clear, without cloudiness of the eye itself or discharge. Cataracts are an opacity of the lens of the eye and limit a horse’s vision. They can be present at birth or develop with old age. Surgery can be done to remove the cataract. Glaucoma is an increase in the pressure inside the eye of the horse. This is very painful. Horse owners are usually very unaware that anything is wrong until the affected eye turns white. At this time the pressure is extremely high and painful. This should be treated immediately by a veterinarian. Glaucoma can be treated with medication, laser surgery or a combination of both. Corneal ulcers are usually caused by trauma. For instance, a piece of hay or dust may be caught in the horse’s eye, or your horse may bump his eye on something protruding in his stall, or be involved in a fight with a pasture mate. Corneal ulcers are usually treated with medication to prevent infection and reduce inflammation. They can easily become serious, difficult to treat and vision threatening problems. Equine recurrent uveitis is one of the most common eye diseases in horses, classically characterized by episodes of active inflammation followed by varying periods of seemingly no infection. During these periods some horses will continue to have low grade infection. Regardless of the specific course, the inflammatory events eventually lead to secondary changes. It is these adverse secondary complications that make this syndrome the most common cause of blindness in horses worldwide. There are many eye diseases, too numerous to name but here are a few signs to be aware of:

Swelling of the eyelid and mucous membrane tearing, cloudy eye, sensitivity to bright light, reddened eye, constricted pupils, spasms of the eyelids, pus-like discharge, head shyness.

Dr. Brian Gilger, Professor of Ophthalmology at the Equine Health Center of North Carolina State University College of Veterinary Medicine, recommends that all performance horses, children’s horses, and breeding stock have their eyes certified through the Equine Eye Registry Foundation (EERF). Dr. Gilger further recommends that eyes should be certified prior to sale or purchase of all horses.

In conclusion, ask your veterinarian to perform an eye exam as a part of your horse’s health exam. Take the few minutes daily to look at your horse’s eyes. Notice how they normally look and look for changes. Eye health and care is essential to your horse so that the EYES continue to have it.

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**Kid’s Corner…**

Vivian & Elizabeth Rowe, Wayne County

Break the Alphabet shift code (A=B, B=C, C=D, etc.) to find the silly answer to this riddle.

SN SGD GNQRDOHSZK!  __ __    __ __ __    __ __ __ __ __ __ __ __ __ __ !

*Answer on page 6*

**Boot Boogie Relay:**
How fast can you go in a pair of boots? How about having a relay using two teams? Each team will have a person to race to see who goes the fastest putting on boots, running to a fence, then returning to the start and so on until the fastest team wins.

**Fun Fact:**
For many years, people have known that when you combine a horse with a donkey, you get a mule. But what happens when you combine a zebra and a donkey or a zebra and a horse? You get a zonkey and a zorse.
Sooner or later your vet is going to say: “your horse needs antibiotics.” Sometimes it’s not a big deal. But if you’re looking at 10 days of injections, it can get to be a big deal, for both of you. So, perhaps pills are preferable to injections. It certainly sounds easier up front…

But reality can be a tad more difficult. Perhaps the vet thinks it’s a good idea to include anti-ulcer or anti-inflammatory medication. Toss in the possibility that the horse doesn’t feel like eating or is just finicky, and this solution just got tougher.

Making up a paste of the medication and giving it to your horse with a large syringe is the likely solution. The vet can provide the syringe. While some medications readily dissolve in water, others don’t. If the pills don’t dissolve easily, you can grind them into a powder. A mortar & pestle will work to grind up the pills, although an otherwise unused coffee bean grinder works faster. Most horses dislike the taste of medications diluted only in water, so you will need to find something that is convenient for you to make up and palatable for the horse. We found that it takes between one and two large syringes of paste to get all the medication to the horse.

If your horse loves applesauce or karo syrup, you are in luck! Many horses, however, tire of just one taste, especially over several days. Or perhaps the sweetener isn’t strong enough to overpower the bitterness of the pills. When you find yourself wearing the medicine, you’ll need to find an alternative, and quickly.

Based on experimentation and some online research, I’ve found a few dependable flavors. And after yet more trial & error, found that some are more practical than others. Ripe bananas are cheap and easy to mash up. Just make sure they are sufficiently mushy to get through the syringe. Canned or fresh peaches and pears can be run through the processor. Canned pumpkin was a big favorite.

Horses have an affinity for herbs. When they don’t seem to care for a particular fruit, you might grind up some rosemary and mix it in well. It would be too strong for us, but horses seem to relish it. I haven’t tried chives but understand they’re considered tasty, too. There’s no accounting for taste, but then we wouldn’t eat alfalfa either.

Even if you do have the time, energy and patience for making your own paste, it may not be practical. Fortunately, there is baby food! Manufacturers have already done all the messy steps, pasteurized it, and packaged it in small quantities. It mixes readily and is easy to get into the syringes. At our last taste test, baby food carrots were so popular that jealousy was beginning to show itself in pinned ears.

Depending on your horse’s personal tastes you may want to sweeten the baby food further with some corn syrup. It pays to experiment to see if your horse prefers the light or the dark syrup. So all this just gets us to something that your horse won’t spit all over the barn floor.

On to the next step. Delivering the medicine is best done with two people. One person can hold the horse and keep him calm while the other administers the paste. Even if you are careful, it’s still easy to injure his mouth with a sudden movement. If you can, trim the tip of the syringe and snap on a lamb sized nipple so your horse’s gums won’t be hurt. Most horses appreciate it if you show them the syringe and ask permission before trying to give them the contents. If you try to sneak it in or manhandle the horse and just shove the syringe in his mouth, you’re in for a long and unnecessary struggle.

After he’s taken his medicine, give him some treats such as a horse cookie or a handful of alfalfa or feed. Anything will work as long as he recognizes it as a reward for taking the syringe. These syringes aren’t designed for repeated use over multiple days. You’ll find that the plunger begins to stick and gets progressively harder to push. Again, you may find yourself spewing medicine all over the barn just trying to get the air bubbles out. Putting a small amount of olive oil on the rubber part of the plunger just before you plan to use it will lubricate it and make it slide more easily. Be sure to wash your syringe thoroughly with warm soapy water after every use.

If anyone has other suggestions or has found good procedures that work well, drop us a note and we’ll share them in future newsletters.
Composting Manure  
Will Walls, Johnston County

The average adult horse presents its owner with eight to nine tons of manure a year. Multiply by several horses and you have a problem. If the horses are on pasture, you can deal with manure through pasture rotation and harrowing. If your horses are stalled or kept in a small lot, manure management becomes personal.

Many people simply heap waste into a pile and wait for nature to fix it. In a year, or two, or more, the interior of the pile will have rendered itself into material suitable for spreading on fields. The pile’s outer layer will not have decomposed properly, however, because it has lacked the necessary factors.

This isn’t a bad approach. With a little knowledge, and some work, we can do better.

We’ve heard the advantages of composting. Properly done, it kills fly eggs and weed seeds. Spread in fields, it’s a good soil amendment. The soil gains fertility and water holding capacity. Pastures treated with compost are more palatable, and with fewer parasites than pastures treated with fresh manure.

We also recognize the downsides of composting. It takes time. It costs money. It’s work. That’s where careful preparation and management of resources matter. Horse manure provides one component of excellent composting material. By knowing the seven factors affecting composting rate and quality, we can make informed decisions about how to manage our farms in ways that are best for us, our horses, and our land.

**Aeration** supplies necessary oxygen while simultaneously removing excess heat and moisture. You can improve aeration by turning the compost pile or by forcing air through it. Poor aeration, often due to excessive packing or compression, promotes the anaerobic activity that generates foul odors and longer composting times. Too much aeration cools the pile, impeding composting. Aerate based on pile temperature.

**Moisture content** should be in the 40 to 65% range with 50% being ideal. Microbes require the proper moisture range to do their work. A practical test is to squeeze a compost ball in your hand.

One to two drops of moisture is about right.

**Carbon/Nitrogen ratio** should be close to 30:1. The useful range is 20 to 40. With C/N higher than 40 composting times will increase because of slower microbial activity. Composting stops when the useable carbon is used up. Horse manure with bedding has a ratio range of 22-50 with an average of 30. To raise the C/N ratio, add pine shavings. To lower it, add grass clippings.

**Porosity, structure, texture, and particle size** all contribute to the rate of composting. Porosity measures the air space within the pile. Structure measures how well it resists packing. Texture marks surface roughness. Rougher is better. Porosity, structure, and texture influence aeration. You can adjust them by grinding or mixing. Optimal particle size for more rapid composting ranges from 1/8 to ½ inch.

**Temperature** for composting occurs in two ranges: 50-105°F and above 105°F. Most disease-causing bacteria and weed seeds are killed in the 135-145°F range. Above 150°F composting slows because the necessary microbes die. For best results, aerate when the pile reaches 140°F. You can use a long stem thermometer to measure the temperature within the core of the pile.

**pH** should be in the 6.5 to 8 range with neutral (7) being optimal.

**Time** is your friend. Composting occurs more rapidly with the proper moisture content, C/N ratio, and frequent aeration. A dry pile, high C/N ratio, cold weather, and infrequent aeration will slow the process. Composting that stops in the winter will resume when the weather moderates in the spring.

The final stage involves curing your compost. Begin when the temperature does not rise in the pile after aeration. Microbial reactions continue, but at a reduced rate. When the pile is close to ambient temperature, curing is complete. Generally allow a minimum of one month for proper curing.

You can expect your compost to contain around 40 lbs/ton of Nitrogen, 20 lbs/ton of Phosphate, and 25 lbs/ton of Potash. It’s now ready for spreading on your pasture.
## Forage Management Tips

### June
- Take soil samples from fields which will be overseeded or planted during the fall.
- Apply lime as far in advance of planting as possible.
- A late planting of summer annuals may be made to extend forage supply.
- To stimulate yield of warm-season grass such as bermuda, apply nitrogen after each cutting or every four to six weeks.
- Graze bermudagrass close (1 to 2 inch stubble) and harvest any growth that has not been grazed every four to six weeks.
- Control summer pasture weeds before they get too tall and mature.

### July
- Stick to a four to six week schedule of nitrogen applications on summer grasses. Do not delay application because of dry weather unless it has not rained at all since the previous application.
- Maintain harvesting frequency for quality hay.
- Hot, dry weather can result in nitrate poisoning of animals grazing stunted, highly fertilized summer annuals.
- Sample soils and apply lime on fields to be planted in the fall, if not already done.
- Decide which fescue pastures will be stock-piled for winter grazing.

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### REINS Volunteers by County
(Volunteers may be contacted via Extension Agents)

**Johnston County:** Julie Walls, Will Walls & Roger Davis

**Wayne County:** Jerry Boone, Lynn Lepley, Vivian Rowe, Cindy Wheaton & Vickie Yelverton

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**Hoof Prints** is a quarterly newsletter written by a team of experienced and certified equine professionals for persons interested in equine information in Southeastern North Carolina. For more information on material and events presented in this newsletter, contact your local agent and Cooperative Extension office at:

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