Dealing with Ticks
Eileen A. Coite, REINS Coordinating Agent

Living in the southeast, I suspect all of us have had to deal with ticks from time to time. If you haven’t, count your blessings! Most of the time we think of tick control for our dogs and cats, but unfortunately ticks will also often hassle our equine companions, and for those that trail ride or even seek out a shady spot with their horse on these sweltering days, both horse and rider can be in danger. While living on their host and feeding on our blood, ticks can transmit nasty germs that cause diseases such as Rocky Mountain spotted fever and Lyme disease, which can both cause serious problems for the rider. In addition to the rider, ticks can be a nasty nuisance to our horses. As with us all, some horses tend to be more sensitive than others, and some will develop nasty wounds from tick bites. On my own horse I wondered and worried summer after summer what kind of nasty fly was causing the welts and wounds after a bite, until I asked my veterinarian one day and was surprised to find out it wasn’t a fly bite at all, but a reaction to a tick bite.

So what is the best method of tick prevention and control? First, it’s best to avoid frequenting heavily wooded areas if at all possible. Mowing of weeds and tall grasses in pastures and around the barn area is also critical. Not only will mowing take away the habitat and environment ticks like to live, but it will also minimize the chances for encounters with snakes! Insect repellents and pesticides are helpful too, both for us and our horses. Those containing DEET (N, N-diethyl-m-toluamide) are very effective at
controlling tick, as well as other pesky insects such as mosquitoes and flies, and let’s not forget fire ants we might pick up in the pasture or anywhere on the farm or trail. Fly control products labeled for use on horses and livestock may also help prevent tick bites, popular products for ticks in particular are the “spot-on” type insecticides available at most farm and feed stores. These often last up to two weeks and are very convenient in situations where horses are continuously outside or at times where daily applications of fly spray may not be an option. Spot on products not only help control ticks, but also other flying insects such as gnats, mosquitoes and flies. In addition to insecticide application on the animal, heavily infested areas or areas near woods can also be treated with ground application of liquid or granular pesticides, such as Sevin (carbaryl). Remember when using granular products to do so before a rain event or water the granules enough that the pesticide will be released.

Here are some other interesting facts to know about ticks: They are most active in spring, summer and fall, but sometimes even winter. If a tick has not found a host to feed on by fall, most will move into a sheltered location and become inactive until the next spring. A ticks mouth parts are barbed and it produces a glue-like substance to help hold onto the host once bitten. A female tick usually feeds 8-12 days until full and can increase her weight by 100 times! Eggs of a female tick found in crevices or a pile of leaves will hatch within two weeks, and the female can produce thousands of eggs. The complete life cycle of the tick varies by species, but can be from just a few months or up to two years.

Culicoides
Will Walls, Johnston County

*Culicoides* are a species of tiny flying insects known variously as biting midges, biting gnats, no-see-ums, and punkies. Whatever you call them, these things are trouble.

A biting adult can be as small as 0.5 mm, or less than the thickness of a penny. They usually attack in swarms getting in the ears, around the eyes, along the crest, along the belly, and on the dock.

Midges overwinter as larvae and pupate in the spring. Adults soon emerge in the warm weather. The male feeds on plants and is not a direct concern for us. The female biting midge, however, will take several blood meals from mammals during her month-long life span.

Although tiny, these insects can be a serious problem. The irritation they cause buzzing around and biting is bad enough but they also spread disease and parasites.

Horses can have an allergic reaction to the saliva of the biting female midge. That reaction can cause an allergic dermatitis called Summer Eczema or Summer Seasonal Recurrent Dermatitis. You may know it more commonly as “sweet itch.”

Parasites can use flies as intermediary transportation to their target host. Midges are known to pass along thread-like nematodes called *Onchocercae*. These skin invaders can cause eruptions on the head, neck, belly, and chest. A common sign is dry, scaly skin shedding particles resembling dandruff. Look for the evidence along the mane, withers, belly, and chest.

You will see midges during the day. But they become most highly active around sundown and will continue to feed throughout the night until after dawn.

Unfortunately, control of biting midges is impractical in North Carolina. There is no treatment approved for animal application that is effective against the biting midge. Chemical sprays are temporarily effective but more adults rapidly return to the treated area after the spray dissipates. Screening that is effective against mosquitoes does not completely prevent biting
Culicoides Continued...

midges from entering a barn. The best protection is the use of fly masks that protect the eyes and ears. Fly sheets may also offer some protection for the sensitive belly areas.

Providing shelter can help, especially if you can put a fan on them. These small insects do not fly well in a breeze. Another idea is to provide good habitat for birds and bats that feed on flying insects.

You may also be able to reduce the midge population on your farm by taking steps to remove environmental factors necessary for their survival. Biting midges breed in salt and fresh water habitats. The larvae eat decaying organic matter in mud. Controlling stagnant water sources on your farm will help minimize how close they can lay their eggs to your horses. Unfortunately, female midges can fly up to 1.25 miles from where they develop. Most of us cannot put a two-mile buffer around our horses.

Nonetheless, the more you can do to control the wet organic matter associated with stock operations, decaying plant matter, and manure piles, the fewer midges your horses will have to deal with.

GO GREEN, GO WASPS!
Vickie Yelverton, Wayne County

Sports? Cheerleading? No, but an environmentally friendly answer to fly control. What I am talking about are parasitic wasps for fly control. Wasps!!! These wasps do not harm people or animals. Several species are available for purchase from commercial companies. They are gnat sized, feed and breed only in the immediate area of a fly population. The female parasitic wasp lays her eggs in the fly pupae. The developing wasp feeds on the fly pupae, and stops the development of the fly and therefore stops the fly cycle.

This all sounds like the perfect answer to fly control, no chemicals, no labor just let the little wasps do their job. But there are specific practices that must be adhered to in order for fly control to be achieved. Of the species available, some are specific to location so do not buy unspecified mixed species. Most commercially available species are effective against house and stable flies. Parasitic wasps reproduce to maturity in about 2-3 weeks. Fly pests reproduce more rapidly than the wasps, so there must be additional replenishment of the wasp population on a regular basis, about every 3-4 weeks. The initiation of a fly control program with the parasitic wasp varies depending on your location. In the southern states it is recommended that the program begin in February and continue until mid November. The program begins later and ends earlier in the north, from about mid April until about mid September. Changing circumstances will change your fly control program, things like the number of animals you have or if your neighbor increases his herd, you will need to alter the frequency and amount of the replenishment of the wasp population. The parasitic wasps are susceptible to pesticides. It is recommended that if you spray with pesticides that you wait 48 hours before releasing the next batch of replenishment wasp or wait 48 hours after the last release before spraying any pesticide. Manure removal is important in any fly control program but with parasitic wasps all manure can not be removed. Some manure must be left in place so that the wasp population can reproduce.

In conclusion, an environmentally friendly fly control program using parasitic wasps can be effective. A few specific guidelines must be followed but in doing so the fly population can be controlled without damaging the environment.

So.....GO GREEN, GO WASPS!!!

For more information about parasitic wasps: www.arbico-organics.com
Bugs that bite get our attention because they HURT. If you have ever been bitten by a horse fly or a deer fly you know what I mean. The biggest of our aerial attackers, the horse fly may reach 1 inch in length. The horse fly belongs to the family Tabanidae. To make it worse there are about 350 species in North America. The name horse fly refers to its attraction especially to horses and other large animals, including people.

The horse fly’s body is mostly hairless and often black, gray, or brown with a broad band on its abdomen and very rotund. The fly has short antennae and large, iridescent green and purple eyes; so we could also call them flying purple eyed horse eaters!

The male horse fly stays among plants and feeds on nectar and pollen. The female searches for a meal of blood. Her bladelike mouthparts cut skin. She usually goes for legs or wet skin, sweaty shiny horses in the summer time. This is another good reason to provide plenty of shade for your horses.

The female horse fly deposits her eggs on plants near ponds and lakes. She loves swamps or very damp and dead, wet vegetation. The eggs, which look like thick worms develop in this wet habitat. The hungry larvae spend two winters there before pupating in spring. Adults emerge and feed mostly in July or early August. They like dark shiny (wet) large animals and our horses fit the description to a tee! They also seem attracted to the carbon dioxide we exhale.

Adults emerge and feed mostly in July or early August.

The greatest horse fly activity occurs on warm, sunny days when there is little or no wind. A slight drop in temperature or a sudden breeze reduces biting attacks. Horse and deer flies are visual insects, locating hosts by movement. Dark, moving objects and shapes are most attractive to the flies.

Close cousins of horse flies are deer flies, which also belong to the family Tabanidae. The name deer fly refers to its habit of feeding on white-tailed deer. Deer flies are those pesky bugs that buzz around our head (even getting caught in our hair) on hot summer days, usually in July.

The deer flies lie in wait in shady areas under bushes and trees for a host to happen by. Sight is the main host finding mechanism, but carbon dioxide and odor also play a role. Moving objects, especially if dark colored, are most prone to attack. Attacks occur during daylight hours with a peak beginning at sunrise and lasting three hours. A second peak is two hours before sunset and commences shortly after. Attack frequency is low on overcast days or at cooler temperatures. One good thing is that horse flies and deer flies retire for the night we all get a break and they are not around for long, mainly concentrated in July and August.

Fly sprays are basically ineffective when it comes to horse flies and deer flies. The best control is obtained by trapping the female flies before they have the opportunity to bite/reproduce. This will reduce the population and make the area around your barn and pasture a much more enjoyable place for both you and your animals.

A number of fly traps have been developed which attract these flies using dark, moving objects, as well as carbon dioxide and other attractants. Although these traps will not completely eliminate all the flies, they will reduce the populations to a more tolerable level.
Fill in the blanks with the answers to each clue. The letters in the flies spell out the group (Phylum) for pests that attack horses.

1. The best way to control flies to keep the barn ___ ___ ___ ___ ___ ___ ___ ___

2. The second stage of the fly life cycle is the ___ ___ ___ ___ ___ ___ ___ ___

3. Blister beedles produce a poisonous secretion called ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

4. A major breeding site for flies is ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

5. Eggs are deposited on the horse's hair coat by the ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

6. Face flies, horn flies and deer flies can attack horses that live in ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

7. Ticks feed on large quantities of ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

8. A fly with a boyonet-like mouth part is the ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

9. Black flies are also know as ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Answer: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Answers on page 7

Tacky Flies

Take a 5 x 7 index card and tape it to a stall door, tack door, feed room door or barn wall. Make sure you do this in the spring or summer when flies are around. Leave up for 1 hour. Take the card down and count the number of brown or black spots. This will give you an estimate of fly numbers in your barn.
2010-2011 Extension Horse Short Course & Clinic Series

Offered by:

- **September 24, 2010 North Carolina’s Unwanted Horse Symposium**  
  Recommended for veterinarians, animal control officers, concerned horse owners and enthusiasts, Iredell County Cooperative Extension Office, Statesville, North Carolina  
  Contact Dr. Mike Yoder (919-515-5784)

- **October 23-24, 2010 Developing the Green Horse Farm**  
  For those horse owners seeking to decrease their carbon footprint  
  Location to be determined  
  Contact Dr. Mike Yoder (919-515-5784)

- **October 29-31, 2010 NCSU Horse Judging Short Course**  
  Recommended for new judges, horse judging team coaches, or judges attending a certification test  
  Holiday Inn Hotel & Suites, Cary, NC

- **November 12, 2010 Ring Steward & Scribe Short Course**  
  Holiday Inn Hotel & Suites, Cary, NC  
  Coordinated by NC A&T State University in cooperation with NC State University  
  Contact Dr. Rusty Miller (336-334-7786 Ext. 2029)

- **November 13-14, 2010 NCSU Open Horse Show Judges Certification Clinic**  
  Martin Building, NC State Fairgrounds, Raleigh, NC  
  Sponsored by Southern States Cooperative

- **December 9-11, 2010 NCSU Horse Breeding Management & Transported Semen Short Course**  
  NCSU Equine Educational Unit, Raleigh, NC  
  Sponsored by Exodus Breeders

- **December 11-12, 2010 Business Management for the Equine Professional**  
  If your horse business generates taxable income, you will not want to miss this course  
  Location to be determined  
  Contact Dr. Mike Yoder (919-515-5784)

- **December 12, 2010 NCSU Foaling Management Short Course**  
  Holiday Inn Hotel & Suites, Cary, NC

- **January 6-8, 2011 AQHA Specialized Novice Judging Short Course**  
  Holiday Inn Hotel & Suites, Cary, NC  
  Contact AQHA for information; Judge Department (http://www.aqha.com/showing/judges/index.html)

- **January 29-30, 2011 NC/VA 4-H Horse Volunteer Leaders Conference**  
  Guilford County Extension Office, Greensboro, NC  
  Sponsored by the North Carolina & Virginia 4-H Horse Programs

- **February 5, 2011 Youth Horse Judging Team Training Clinic**  
  Martin Building, NC State Fairgrounds, Raleigh, NC  
  Sponsored by the NC 4-H Horse Program

- **February 12, 2011 Equine Health: Understanding Metabolic Disorders of the Horse**  
  Gain a better understanding of how to prevent, treat, and manage laminitis, insulin sensitivity, and other metabolic diseases that affect thousands of horses annually  
  NCSU - Location to be determined  
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- **February 13, 2011 First Time Horse Owners: What You Should Know**  
  Answering the questions that help you manage your horse for greater health and enjoyment  
  NCSU - Location to be determined  
  Contact Dr. Mike Yoder (919-515-5784)

- **April 14-17, 2011 Equine Industry Tour**  
  Location: North Carolina, Tennessee, and Kentucky  
  Contact Dr. Mike Yoder (919-513-3509)

** Must complete application with AQHA Judges Department and receive approval to participate from AQHA

For additional information contact Extension Horse Husbandry, NCSU, Box 7523, Raleigh, NC 27695-7523  
Phone 919-515-5784  Fax 919-515-3509

Visit us at our Web Site: www.cals.ncsu.edu/horse-husbandry/ under the adult programs section for additional information in educational programs for adults and youth horse enthusiasts
Join us for the Bill Scott Horsemanship Clinic

**September 18th & 19th** “The Connection” - “One Horse, One Rider, One Mind”

**Location:** On the Bit Farm, 4547 Arrington Bridge Road, Seven Springs NC 28578 -

**Registration** deadline is **August 20th** for more information contact Jana Lake (910) 385-5209 or by email at jana@janalake.com or Eileen Coite at Eileen_Coite@ncsu.edu. You can also request a copy of the registration form from Kim Davis at (919) 731-1520 or online at [www.billscotthorsemanship.com](http://www.billscotthorsemanship.com)

Bill Scott, this North Carolina horseman has developed a philosophy that melds the influences of such notable horsemen as Tom Dorrance, Ray Hunt, and Buck Brannaman and the most influential teacher: the horse. The popular clinician, Bill has developed his program to help riders attain the connection he describes as “One Rider, One Horse, One Mind.”

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**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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552 copies of this public document were printed at a cost of $.02 per page