

## Special Interest Articles:

- Blister Beetle Poisoning
- Crazy Ants
- Imported Fire Ants in hay bales
- Eastern Equine Encephalitis confirmed in TX



## Individual Highlights:

- Insect Updates 1
- Cattle Care 2
- Pesticides 2
- Disease/Health 3
- Journal Review 4
- Special Topics 5

## Insect Updates

### Blister Beetle Poisoning

Blister beetles are members of the family Meloidae and pose a hazard to livestock that feed on forage in which the beetles are abundant. Ingestion of blister beetles by horses can be deadly due to cantharidin poisoning.

The cantharidin is produced within the body of male blister beetles and transmitted to females during copulation.

Blister beetles are found in many flowering forage crops but have a preference for alfalfa. Blister beetles in alfalfa fields contain enough cantharidin to provide lethal

doses to horses that feed on this material when it is used as hay.

I highlight the blister beetle this month due to the sudden rise in blister beetle poisoning cases throughout the US. As the forage fields begin to flower the beetles arrive to feed. If the fields are cut after the beetle have arrived and the forage is not left to dry completely before bailing, the beetles become trapped within the hay. Therefore the blister beetles are eaten by livestock that become very ill or die.

Blister beetles affect horses more than cattle and depending on the species a very small number eaten can be toxic to horses.

Early signs of poisoning are acute colic, diarrhea and excessive salivation. Becoming severely ill or dying from gastrointestinal, heart or kidney effects is not uncommon.

I have already had one call from Pilot Point, north of Dallas where alfalfa was purchased from Colorado. Many cases have occurred in Wyoming thus far as well.

### Cattle Fever Tick War

The Texas Animal Health Commission (TAHC) has temporarily quarantined 152,716 acres in Starr and Hidalgo counties. In nearby Zapata County, five mile quarantine perimeters are being drawn around fever-tick infested pastures.

As I have mentioned before, the cattle fever tick which was once eradicated from the US, has the capability to carry and transmit Babesia,

a blood parasite that can kill adult cattle. Although it prefers cattle, the tick can survive and be carried on horses, deer, elk, aoudad sheep and a number of other deer species.

Since October 2008, 127 fever tick-infested premises in eight South Texas counties have been detected and quarantined. Of these, 68 premises are in Zapata Co., 51 are in Starr

Co., and the remainder are scattered among Maverick, Brooks, Cameron, Kinney, Dimmit and Webb counties.

The Tick Force and TAHC teams are working diligently to keep tabs on the spread of the fever-tick. Not only do animals become tick-infested, but so do the pastures, as fever ticks may wait in the grass for months, before finding a suitable host.

### White house "Murder"

A pesky meets its match in President Obama and PETA reacts. Go figure.

President Obama killed a pesky house fly during an interview and

PETA responded by sending him a Humane Bug Catcher.

A what? Since when did a fly count as an animal of importance? I still can't believe

the reaction by PETA.

It won't be long before there are bug sanctuaries for unwanted and mistreated insects.

## Cattle Care

### Ritchie Industries Releases EcoFounts



*“The highly energy-efficient design is a welcome feature particularly in these economic times.”*

Ritchie Industries' new EcoFounts are now available through distributors and dealers nationwide.

The EcoFounts feature large panels for easy access to waterline and heating elements. They support ease in cleaning and maintenance. There is also a stainless steel trough, which adds longevity and overall heat coverage to

the unit.

The cover is solidly connected to the waterer on both ends with a steel rod. The highly energy-efficient design is a welcome feature, particularly in these economic times.

The units are fully enclosed with Thermal

caps to keep the heat in and maintain cooler water in the summer months.

The units have an animal capacity of 30 or 60 head of horses and cattle.

For the Ritchie distributor in your area, please call 800-747-0222 or visit [www.ritchiefount.com](http://www.ritchiefount.com).

### Walk Through Horn Fly Traps for Pastured Cattle

The Trap is Back! I say this because in the early 1900's it was developed but in recent times not heard of by many and used by even fewer. With an increased interest in non-chemical fly control and resistant horn flies, the U of MO has revisited the trap.

The trap works to reduce the number of flies on the animals as they move through it. The cattle must enter the trap several times a day at which point the flies are brushed off and directed through angled side slats with lighting. The flies become trapped

within the slats. Many livestock entomologist will write this off as an ineffective way of control horn flies. If anyone is interested I have the plans for making one but can guarantee it works, could be a project though.

#### Starting September 1,

Texas law will increase the penalty for the theft of less than 10 head of cattle from state jail felony and punishable up to 2 years in jail to a 3<sup>rd</sup> degree felony punishable up to 10 years in jail.

## Pesticides Update/Outlook

### Fly Control: Developing Attractants, Repellants for a Cattle Pest

New research from the Agriculture Research Service (ARS) shows that two nepetalactone compounds found in catnip can discourage stable flies from biting cattle.

ARS scientist estimate that the stable flies' bloodsucking habits could cost the U.S. cattle industry \$2 billion annually in reduced production efficiency and milk yield losses.

ARS scientist in Nebraska are developing a novel "push-pull strategy" to improve sustainable stable fly control, a first for this pest.

The scientist are working to identify aromatic compounds that attract and repel stable flies. Two nepetalactone compounds that discourage even starved stable flies from biting have been identified.

In the laboratory, these compounds have shown a success rate of more than 98 percent. As well has having a 95% rate in discouraging egg laying.

Several compounds have been identified that elicited an antenna response in stable flies, similar to that observed in response to pheromones. These results suggest that these compounds could be used as attractants for stable fly management.

## Esteem (pyriproxyfen) Ant Bait Labeled for Hopper Blend and Ship Swath

Based on work done by a number of people associated with the Fire Ant Management effort, data supporting the application of the insect growth regulator Esteem hot as a “hopper blend” and “ship swath” treatment to pasture and rangeland, has supported Valent U.S.A. to be issued state special use label (24(c)) by the Texas Department of Agriculture.

This product joins Amdro Pro (hydramethylnon) and Extinguish (methoprene) as having a “hopper blend” label, in addition to the Extinguish Plus (hydramethylnon plus methoprene) pre-blended product, all also resulting from

Extension applied research efforts.

These “hopper blends,” using half rates of each product mixed together, maximize both earliness and long-lasting effects of red imported fire ant treatment by combining a faster acting ingredient such as hydramethylnon with an insect growth regulator that prevent worker ant production by affected queens for months following application.

This performance profile resulting is often superior to either product applied alone at the same cost. The extended duration between needed treatments cuts treatment

costs on an annual basis when the number of multiple applications is reduced.

The “ship swath” treatment is a first for Texas and the nation. This treatment uses the conventional broadcast application rate (2 lbs/acre for Esteem Ant Bait), but applies it to every other 25 ft swath, thereby using half the material and half the application time. This effectively cuts the treatment cost in half. The lower application cost may encourage producers to adopt this technology where the cost of a full broadcast application may not be justified by losses.

## Human & Animal Disease & Health

### Two Horses in East Texas Die from Eastern Equine Encephalitis (EEE)

A horse in Jasper Co. and one in Newton Co., died from EEE. Humans can contract the disease as well, which causes inflammation of the brain. The disease is spread by mosquitoes and measures should be taken to prevent human and animal exposure to the biting pests.

“Horses in all parts of the state should be vaccinated to protect against dangerous mosquito-borne diseases, including West Nile Virus, and Eastern and Western Equine

Encephalitis,” says Dr. Bob Hillman, Texas’s state veterinarian.

After receiving the vaccination, it takes 7-10 days for antibodies to develop and booster shots must be administered as directed. Vaccines are not foolproof and protection must be used on yourself and your horses against mosquito exposure.

Prevent mosquito breeding by draining stagnant water and using approved products to kill mosquito larvae in desired water sources, such as troughs, ponds and fountains.

“Contact your veterinarian immediately if your horse acts erratically, is confused, staggers or collapses. These are clinical signs of an encephalitic, or brain inflammation, condition, and a blood test is needed to confirm the diagnosis. With appropriate supportive care, about half of infected horses may survive,” says Dr. Hillman.

An infected horse will not spread the disease to humans.

Report any cases of West Nile, EEE or WEE to TAHC.

#### Vaccination and parasite control

Even if producers do everything by the book for vaccination, if they don’t control parasites and monitor nutrition, they may be throwing that investment away.

Christine Navarre, DVM at LSU says, “I get a lot of herd health calls from producers asking what to vaccinate for. I won’t even talk about vaccination until we’ve addressed parasite control and nutrition. Without managing those two issues, they may not get all they can out of a vaccination program.”



"The bacteria isolated from flies had similar resistance characteristics."

### A Tick Can Make You Sick

[http://lymediseaseassociation.org/ledu\\_home.html](http://lymediseaseassociation.org/ledu_home.html)

LDA introduces this **FREE** educational on-line module; it is designed for grades 6 through adult. The four section slide show module in Adobe Presenter can be opened on the internet or printed. It contains pre and post tests and an audible pronunciation guide.

LDA is concerned about the 39% increase in Lyme Disease cases that occurred in 2007 and that that children are at the highest risk of developing Lyme Disease.

## Plague Confirmed in Santa Fe, New Mexico

New Mexico Department of Health has confirmed a dead rock squirrel and a dead prairie dog found at an elementary school to be positive for plague. (July 5)

Additionally, four other prairie dogs removed from a

park died in a holding facility and tested positive for plague.

Plague is curable with antibiotics if promptly diagnosed and treated.

Plague is transmitted to animals and humans by

the bite of an infected flea (the cat flea is not a good vector of plague).

See a doctor immediately about any illness having sudden onset of high fever.

## Horses Quarantined Due to Blood-Borne Disease

Seventy horses are under state quarantine at a Raytown, MO stable after 7 horses tested positive for the blood-borne disease equine piroplasmosis.

This is rarely seen in the US and there is no cure. The disease is usually transmitted

by ticks, but it can also spread by a contaminated needle.

Five of the seven positive horses were euthanized. Results from the remaining tests for the other 63 horses determine their fate.

People are not at risk for the disease, but it could have tremendous impact on the horse industry. How the horses contracted the disease was not mentioned.

[www.kmbc.com/news/19794765/detail.html](http://www.kmbc.com/news/19794765/detail.html).

## 2000 Cattle Rotting on Panhandle Feedlot

The state has fined a Sudan feedlot for letting at least 2000 dead cattle pile up and decompose, becoming a haven for flies and foul odors.

The Sudan Feedyard Inc. was fined more than \$7000 last week after inspectors with the Texas Commission

on Environmental Quality discovered the health violations through an August 2008 tip.

"The main thing that needed to happen is that those carcasses need to be removed," said Andrea Morrow, a TCEQ

spokesperson.

The bodies were a public nuisance and health concern because of the pests living off the heaps, Morrow said.

The cattle remains were found in various locations in different states of decomposition.

## Journal Reviews

Dihydronepetalactones deter feeding activity by mosquitoes, stable flies, and deer ticks. Feaster et al. J. Med. Entomol. 46: 832-840

Two dihydronepetalactone (DHN) diastereomers were yielded from the essential oil of catmint.

Both of the DHNs were found to be repellent against the mosquito species *Aedes aegypti* and *Anopheles albimanus* in vitro.

The DHNs gave comparable results to that of the popular repellent DEET.

In addition, stable flies *Stomoxys calcitrans* were found to be repelled by both DHNs and another natural monoterpenoid repellent.

Even with a human subject present, *An. albimanus* were repelled with both DHNs and the human was provided complete protection from bites for 3.5 and 5 h, respectively.

Deer tick nymphs also exhibited some efficacy with both DHNs.

Experimental transmission of vesicular stomatitis New Jersey virus from *Simulium vittatum* to cattle: Clinical outcome is influenced by site of insect feeding. Mead et al. J. Med. Entomol. 46: 866-872.

Vesicular stomatitis New Jersey virus (VSNJV) is an insect-transmitted Rhabdovirus that causes vesicular disease in domestic livestock including cattle, horses, and pigs.

Natural means of transmission during epidemics is poorly understood.

This study reports the first successful transmission of VSNJV to cattle by insect bite resulting in clinical disease.

When infected black flies fed at sites where VS lesions are usually observed (mouth, nostrils, and foot coronary band), infection occurred. This was characterized by local viral replication, vesicular lesions and high neutralizing antibody titers.

When flies were allowed to feed on flank or neck skin, viral replication was poor, lesions were not observed, and low levels of neutralizing antibodies developed.

After seeing cases of VS in Texas this summer, it is good to see some research being done to further understand the transmission cycle and vectors involved.

Survival of avian H5N1 influenza A virus in *Calliphora nigribarb* (Diptera: Calliphoridae). Sawabe et al. J. Med. Entomol. 46: 852-855.

A previous study showed the highly pathogenic avian influenza H5N1 viruses were isolated from blow flies collected in Kyoto during an outbreak in March 2004.

This study went one step further to see if the H5N1 virus could survive within a blow fly, *Calliphora nigribarb*.

The blow flies were exposed to the virus and then tested. The H5N1 influenza virus was isolated from the

crop and intestine of the blow fly adults at least 24 hours after exposure and the viruses remained viable.

These results suggest the possibly transport of H5N1 by *C. nigribarb* over a distance of 2 km within a 24 hour period.

## Special Topics of Interest

### Drought Conditions Increase Hay Purchases

Due to drought conditions across the country, you may be purchasing hay from a new source or purchasing hay for the first time.

As I mentioned earlier, blister beetles are of importance but another insect to keep an eye out for are Red Imported Fire Ants (IFA). This particular type of ant is a serious threat to people, crops, agricultural equipment, newborn and young animals. And, these exotic pests often make their nests in hay bales.

Imported fire ants look like typical everyday ants but according to USDA Animal and Plant Health Inspection Service, these ants are far from ordinary. IFA are best distinguished by their aggressive behavior and mound-shaped nests. These ants are 0.125 to 0.25 of an inch long and reddish-brown or black. They live in colonies inside hard, mound shaped nests.

These mounds can get quite large, growing 300,000 ants. This can inhibit field-worker activities and damage farm equipment.

An estimated 14 million people are stung by IFA each year in the US. IFA respond rapidly and aggressively when disturbed, clamping onto their victims with powerful jaws and stinging repeatedly. Each sting injects venom causing a burning sensation, earning these pests the name fire ants. These stings produce itching blisters that can become infected. Although uncommon, in severe cases, the stings can send sensitive victims into anaphylactic shock.

They feed on almost any type of plant and small animals, including insects and livestock. IFA pose a direct danger to many plants, trees, and agricultural crops.

They eat buds of young trees and the germinating seeds of more than 125 native wildflowers and grasses. The impact of IFA in Texas alone is estimated to be \$1.2 billion each year.

As of 2008, IFA infested more than 320 million acres in 13 south eastern states.

To help reduce new IFA infestations:

- Ask if the hay contains ants;
- Visually inspect the hay bales when they are delivered;
- If possible, request that the hay be certified for movement by the shipping state;
- Monitor for IFA where hay bales are or were located; and
- If any suspected ants are found, get them correctly identified.

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## Pampered Livestock of Today Could Not Survive in the Wild

Today's breeds (poultry), if flushed out of a house, quickly scamper back and wait for their feed and water, enjoying a pampered existence compared to the often cruel world their progenitors suffered. Suggesting that they be turned loose reflects an unrealistic, Disneyesque view of life in the wild.

Cattle and hogs lead an equally pampered life, too, in serious opposition to the yellow journalism

practiced by anti-agriculture groups who would have people believe that almost all farm animals are horribly abused, over-medicated and crammed into overstuffed quarters that would make a concentration camp manager gasp in horror.

It might come as a news flash to the animal rights movement but life in the wild is kill or be killed. Animals are the hunter or the bunted and when they

become a meal for a larger predator, death is never swift and humane. There are no large animal vets on call in the wilds of northern Montana, no medication available to rid an animal of parasites or treat it for tuberculosis or tularemia.

"These are not my words but I felt it was written well and deserved to be said. "

[http://www.cattlenetwork.com/fort\\_dodge\\_Content.asp?ContentID=321899](http://www.cattlenetwork.com/fort_dodge_Content.asp?ContentID=321899)

### What to look for in next month's issue – November 30, 2009

- What's new with Livestock Insect Workers
- Preparing cattle for winter
- Pesticide Recommendations for beef & dairy cattle
- Insects of Interest