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Insect Updates 2008

Cattle Fever Tick

The original cattle tick fever quarantine zone has been enlarged by 24,000 acres in Starr Co. but reduced in Dimmit Co.

The enlarged quarantine zone is due to *Boophilus annulatus* and *Boophilus microplus* ticks (cattle fever ticks) being found in premises outside the quarantine zone. The ticks can carry babesia, the blood parasite that

causes "cattle tick fever," a deadly cattle disease.

Quarantine areas are present in Starr, Zapata, Maverick, Dimmit, Jim Hogg, and Webb counties. The discovery of the cattle tick out of the quarantine zone is very serious and being addressed with urgency.

Over 1 million acres are currently under preventive

quarantines; so far only the fever ticks and hosts for cattle fever ticks are present. No babesia parasites have yet to be discovered in any of the collected ticks or hosts.

Thus far District 8 has nothing to worry about unless cattle are moved without inspection. I will keep you updated on these events.

Crazy Ants

The crazy ant – "crazy raspberry ant" – is called "crazy" because of their erratic running behavior. Scientific name *Paratrechina pubens*, is currently found throughout the state of Florida and is present in 10 Texas counties (Brazoria, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, and Wharton)

The crazy ant will bite humans, but its bite is not nearly as painful as that of the red imported fire ant. Its primary nuisance is its

taste for electronic equipment, including traffic signal boxes, computers and air conditioners.

They are currently limited to the Houston area, but the pest is potentially devastating to agriculture in both livestock and crops, according to Dallas Extension Entomologist Mike Merchant.

Talstar® label provides for treatment of nursery plants if needed or if required by any regulatory action in the future in the

10 counties listed earlier. For the label to include additional counties, positive identification has to be made by Texas A&M entomologists.

Immense numbers associated with foraging trails make crazy ants difficult to manage. They move their nests frequently and may infest potted plants, garbage, discarded boxes and even motor vehicles. The ants are easily transported unwillingly by people around the state.

Africanized Honey Bees

Africanized honey bees – “killer bees” – have been documented in more than half of the 254 counties of Texas.

According to Dr. Tanya Pankiw, Africanized bees

are well established in Texas and not just in rural areas but urban areas.

In 1991, when killer bees were first making roads into the state, there was one death attributed to

their stings. Since then, the deaths per year have increased yearly, with three in 2006 and eight in 2007.



“Deaths from Africanized honey bees and red imported fire ants do occur.”

Red Imported Fire Ants

The sting of red imported fire ants can “burn like fire.” Deaths to their stings are rare, but it is common for a person to receive multiple stings from ants swarming out of their disturbed nest.

About 1% of stung individuals are allergic to the venom and at risk of

severe medical complications.

Entering the US in the 1930s, red imported fire ants now infest the eastern 2/3 of the state and some urban areas in western Texas.

Texas AgriLife Extension and Research

entomologists and agricultural economists now estimate the economic impact of the pest to be \$1.2 billion annually in Texas alone and more than \$6.5 billion nationally across both urban and agriculture sectors.

Upcoming Program Notice:

“Managing Urban Wildlife”

Open to anyone interested in wildlife populations.

When: March 4, 2009
8:30 AM – 4:00 PM
Lunch provided

Where: Texas AgriLife Research & Extension Center Pavilion
17360 Coit Rd.
Dallas, TX 75252

\$25 / person seating limited
Pre-register by Feb. 25

Contact Fred Burrell @ (214)904-3050 for more information.

Farmland Care

Beneficials on farmland: Identification and management guidelines - <http://tinyurl.com/5qnmy9>

This publication has plenty of information and easy to read. Loaded with colorful pictures, it looks at many insect families and describes the beneficial within. The authors provide information on how the insects are helpful, what they look like and where they are found.

It is a very useful tool for farmers, producers, and county agents and even homeowners. It gives ideas on how to encourage more beneficial insects to an area.

A June 2008 publication from the United Kingdom’s HGCA (Home-Grown Cereals Authority), it

profiles key groups of beneficial species that in some way directly or indirectly deter pest species.

The publication is directed for use in the United Kingdom but can be utilized in the United States.

Frost Effects of Forage

Prussic acid poisoning occurs when sudangrass or sorghum sudangrass hybrids are severely stressed or have frost damage. Hydrocyanic acid develops within a few hours after the frost and usually dissipates within a few days.

Safest management is to remove cattle and sheep

from frosted fields for several days. Livestock can be returned to frost injured sudangrass 18" or taller and sorghum sudangrass 30" or taller after 3 – 4 days.

If the grass is shorter than this, withhold cattle for 10 days to 2 weeks following the frost. Watch out for new shoots of re-growth,

these can be toxic if eaten and should be avoided for 2 weeks.

Luckily the chances of prussic acid poisoning occurring are rather uncommon. This is attributed to ranchers, farmers, and producers' knowledge and determination to prevent it from happening.



"Prussic acid poisoning can be very serious but it is relatively uncommon."

Pesticides Update/Outlook

USDA Kills Pesticide-testing Program

USDA kills pesticide – testing program due to costs. The executive branch has halted testing of pesticides levels in fruits, vegetables, and field crops.

The \$8 million-a-year program is too expensive;

a decision critics say could make it harder to protect consumers from toxins in their food.

Data has been collected for the past 18 years and used by EPA to set safe levels of pesticides in food.

Institutions that have been utilizing the USDA data will now have to buy similar information from a private company. The use of private companies will cost \$500,000.00 to \$700,000.00 / year.

"USDA pesticide testing costing \$8 million a year; canceled."

Malathion Uses Terminated

Citation: Vol. 73, Num. 196 Pg. 58952 – 58954.

In accordance with section 6(f)(1) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, EPA is issuing a notice of receipt of a request by the technical registrant to voluntarily amend their registrations to terminate uses of certain products containing the pesticide malathion.

The request would terminate malathion use in or on commercial storages/warehouses premises (excluding stored grain facilities such as silos), commercial transportation facilities-feed/food-empty, commercial transportation facilities-nonfeed/nonfood, commercial/institutional/industrial premises/equipment (outdoor), dairies/cheese processing plant equipment (food contact), eating establishments,

food processing plants (excluding stored grain facilities such as silos), golf course turf, greenhouse-empty, indoor hard surfaces, indoor premises, residential dust formulations, residential lawns (broadcast), residential pressurized can formulations, and sewage systems. The request would not terminate the last malathion products registered for use in the US.

<http://www.epa.gov/fedrgstr/EPA-PEST/2008/October/Day-08/p23387.htm>

Carbaryl: Notice of Requests to Voluntarily Cancel or to Terminate Uses of Certain Pesticide Registrations

Citation: Vol. 73, Num. 200 Pg. 61121 – 61123.

In accordance with section 6(f)(1) of FIFRA, as amended, EPA is issuing a notice of receipt of requests from Loveland Products, Inc., Value Garden Supply, and Helena Chemical Company to voluntarily amend their registrations

to terminate uses of certain application methods for carbaryl products.

The requests would terminate carbaryl use in or on wheat, millet, and fresh/succulent beans and peas (crops subgroup 6B).

These requests would also terminate the use of

drench or dip treatments of seedlings or seed pieces, dust formulations in agricultural crops, granular applications in leafy vegetables (except brassica), direct applications (except for flea collars) to domestic animals (including dogs, cats, and other pets), and all indoor applications.

“The requests would not terminate the last carbaryl products registered for use in the US.”

Human & Animal Disease & Health

West Nile Virus Reported in Texas

Texas reported 24 cases of West Nile Virus this year; 16 West Nile Neuro – invasive Disease and 8 West Nile Fever cases.

In September, two cases were reported, one in Brazos County and one in Travis County. Both were

74 year old females and both were diagnosed with WNVD. Unfortunately the Brazos County case was fatal, the first fatality of the year attributed to WNV in Texas.

With the increasing rise of home foreclosures, the

cases of WNV are likely to go up. Many homes are being left and the swimming pools, Jacuzzis and ornamental ponds are going to West Nile Virus carrying mosquitoes

Reports of Eastern Equine Encephalitis in Texas

Texas has joined at least 5 other states this year in reporting cases of Eastern Equine Encephalitis infection in horses.

A horse from Houston County and Denton County tested positive for the disease. EEE is transmittable to humans and has been reported this

year in horses in Georgia, Florida, Maine, Tennessee, and New Hampshire and Ontario, Canada.

Dr. Andy Schwartz, the state epidemiologist for the Texas Animal Health Commission (TAHC) suggests that “measures should be taken to protect

humans against exposure to the dangerous pests.”

Dr. Schwartz also states that “vaccinating against mosquito – borne diseases has to be a part of routine equine health care; don’t stop, just because case numbers drop.”

Journal Reviews

Evaluation of different insecticides and fabric types for development of treated targets for stable fly (Diptera: Muscidae) control. Hogsette, Nalli, and Foil. *J Econ Entomol.* 101: 1034-1038.

Stable flies are serious pests of pastured cattle and range cattle in the United States; leading to difficulties in management.

A pesticide – impregnated cloth target is being developed as a management tool.

So far it has been shown that stable flies exposed for 30 seconds to trigger (Trigger – Royal Box, 65% polyester and 35% cotton) cloth targets are susceptible to death within 20 minutes.

Cloth targets were treated with 0.1% λ – cyhalothrin or 0.1% ζ – cyperethin.

Data supports the concept that treated targets can be developed for integration into stable fly control progress.

Insecticide resistance in the horn fly: alternative control strategies. Oyarzun, Quiroz, and Birkett. *Med Vet Entomol.* 22: 188-202.

Horn fly insecticide resistance throughout the world in combination with public pressure for insecticide – free food and the prohibitive cost of developing new classes of compounds, has

lead to alternative control method thinking.

Alternate control strategies consist of breeding horn fly resistant cattle, using biological control insects

such as dung beetles and parasitoids, or administering vaccines to cattle that provide defenses against horn fly feeding.

Differential response to diazinon and coumaphos in a strain of *Boophilus microplus* (Acari: Ixodidae) collected in Mexico. Miller, Li, Tijerina, Davey, and George. *J Med Entomol.* 45: 905-911.

Boophilus microplus (cattle fever tick) collected from Nuevo Leon, Mexico was found to be highly resistant to diazinon but not highly resistant to coumaphos. Mono-oxygenases and/or

esterases were involved in coumaphos resistance. This strain has an Acetyl cholinesterase (AChE) that was insensitive to active coumaphos, coroxon;

taking 24 minutes to reach 50% reduction in AChE activity.

Diazinon exposure took six times longer to reach 60% inhibition of AChE.

Immature house fly (*Musca domestica*) control in breeding sites with a new *Brevibacillus laterosporus* formulation. Ruin, Satta, and Floris. *Environ Entomol.* 37: 505-509

A bacterial formulation of *Brevibacillus laterosporus* exhibited toxicity against house fly larvae in laboratory assays, leading to 100% mortality.

When applied to natural breeding substrates, adult emergence was reduced by 57.8%. Formulations applied in the cow pen of a dairy farm reduced immature fly

development by 30%; thus providing promising integrated pest management with this bacterial preparation.

Seasonal prevalence and transmission of salivary gland hypertrophy virus of house flies (Diptera: Muscidae). Geden, Lietzes, and Boucias. *J Med Entomol.* 45: 42-51.

A survey of house flies on 4 Florida dairy farms demonstrated the presence of flies with acute symptoms of infection with salivary gland hypertrophy virus on all farms. Salivary gland hypertrophy virus is a nonoccluded, enveloped, rod-shaped double-stranded DNA virus that causes fly species to display grossly enlarged salivary glands in both sexes.

The virus effects fly reproductive fitness of males and females. Young infected females do not mate or develop eggs; females that are infected later in life deposit current batch of eggs, but no others.

Infected male flies are less avid and less successful in attempts to mate and transfer sperm than the control males. Disease incidence showed a strong positive correlation with fly density.

Infections were more common in flies collected in feed barns, especially those feeding on brewers grains.

Virus not found to be transferred to larvae or present in reared adults. Healthy flies became infected after feeding on solid food (powdered milk, egg and sugar) contaminated by infected flies or after they were held in cages previously housed by infected flies.

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Development of black soldier fly (Diptera: Stratiomyidae) larvae fed dairy matter. Myers, Tomberlin, Lambert, and Kattes. *Environ Entomol.* 37: 11-15.

Black soldier flies, *Hermetia illucens* L., are common colonizers of animal wastes. Larvae developing on dairy manure were able to

complete development, emerge as adults, mate, and oviposit. As well as reduce manure dry matter mass, available P and N.

These results show the black soldier fly being used to reduce wastes and associated nutrients in confined bovine facilities.

Ability of 4-poster passive topical treatment devices for deer to sustain low population levels of *Ixodes scapularis* (Acari: Ixodidae) after integrated tick management in a residential landscape. Schulze et al. *J Med Entomol.* 45: 899-904

The presence of baited 4-poster passive topical treatment devices effectively lowered the number of *Ixodes scapularis* larvae and adults found on deer and

small mammals during the first 2 years of study.

Upon removal of the bait, the tick population among deer remained suppressed but the tick

population rebounded on small mammals. Results showed to not be as effective without the bait which is economically unfeasible to maintain.

Temperature and humidity effects on off-host survival of the Northern Fowl Mite (Acari: Macronyssidae) and the Chicken Body Louse (Phthiraptera: Menoponidae). Chen and Mullens. *J Econ Entomol.* 101: 637-646.

Generally speaking, mites and lice do not fare well without a host; but increasing the temperature and relative humidity expedites death.

Both ectoparasite species were significantly affected by increased temperature, while the Northern Fowl Mite was significantly affected by increased humidity.

Mite protonymphs and louse third instars survived longer on average than the respective adult stages.

Something of Interest

California Proposition 2 passed.

“Bottom Line: There is a strong and growing movement among many people not directly involved in farming that would significantly alter the way cattle, hogs, and poultry are raised. These people may have

some good points but much of their agenda is seriously misguided and could cripple the ability of both the average farmer as well as factory farms to operate profitably. The net result will be fewer people involved in

agriculture, a scarcer food supply in an era of growing world starvation, and higher prices at the local supermarket.”

CattleNetwork.com

What to look for in next month's issue – February 28, 2009

- Internal Parasites
- Preparing Cattle for Spring against ectoparasites
- Pesticide Recommendations for beef & dairy cattle
- Insects of Interest
- Disease & Health