Fly season is in full swing and it is essential that insect control is emphasized since these pests can lead to disease and decreased growth rates in livestock.

According to my colleague Ralph Williams of Purdue University, insects can be problematic in both pasture and confinement settings. “Sometimes we forget that when we are irritated by mosquitoes, we can go inside,” says Dr. Williams. “Livestock are out there all the time, so insect pests are more than just a nuisance.”

Pastured cattle fight face flies (not in Texas) which transmit pink eye, and horn flies, biting flies that result in reduced weight gain and feed efficiency and economic loss.

In confined operations, stable flies are a source of direct irritation to cattle and cause up to $1 billion in loss annually.

When dealing with confined animals, it is important to reduce breeding sites for flies by focusing on manure removal and waste management. In pasture situations, insecticide ear tags are one of the best methods for fly control.

When dealing with any species of livestock, sanitation is the first step to controlling flies and other insects.

Reducing flies helps keep herds healthy

Controlling flies could mean happier, healthier and heavier livestock.

Horn flies are small flies that feed on blood of cattle and sometimes horses. Young animals are more susceptible to horn flies and large numbers of feeding flies can cause lower weights.

“Meaning weights of calves with an average of 200 or more horn flies during the summer are about 15 lbs less than those that are protected from horn flies,” Lee Townsend, extension entomologist with the University of Kentucky says.

Since horn flies spend most of their time on their host, they are easy targets for insecticide treatments such as dust bags and ear tags.

It is important for producers to know that some flies can develop resistance toward certain insecticides over the years. To prevent horn fly resistance, rotate annually the type of chemical being used, only treat cattle with more than 200 flies and remove ear tags after fly populations begin to decline in the fall.

Insect Updates

Insect control proves essential in livestock production

Every year around this time I discuss the blister beetle in my newsletter and for good reason. Due to the drought this year many are getting hay from out of the state and that puts cattle and horses in danger for blister beetle toxicity.

Blister beetles attack flowering alfalfa and soybean crops and this puts livestock at risk. Hay that contains blister beetle body parts can put cattle off their feed and kill horses.

The blister beetle males produce a cantharidin toxin inside their gut and share this with the female during mating. The toxin never leaves the body of the blister beetle even in death and when dried up.

Blister beetles are feared by horse owners because they can cause colic, diarrhea, bloody feces, body tremors, fever or death if ingested, but the toxin also causes problems if ingested by cattle.

A North Dakota State University publication says that the lethal dose of cantharidin is approximately 1 milligram per kilogram of horse body weight. This means that about 200 blister beetles could have levels of toxin sufficient to kill an adult horse.

In addition, an average of 5.0 mg of cantharidin has been found in striped blister beetles, which indicates that 30 to 50 adults could be potentially lethal. However, even a few beetles may cause colic in horses.

If concerned contact me.
Cattle across Texas are dying after drinking too much water. There are no hard numbers for this impact but reports are on the rise. Cattle being moved from withered pastures to new ones are taking in too much water too quickly and dying within minutes. This is known as water intoxication and it can occur in humans too. Too much water can throw off cell chemistry and lead to death.

On another note, USDA Secretary of Agriculture Tom Vilsack announced in early August that the Farm Service Agency (FSA) will modify Conservation Reserve Program (CRP) policies to provide additional help to those farmers and ranchers affected by the drought.

Policy changes:
- FSA is permitting farmers & ranchers to extend emergency grazing period from 9/31 to 10/31, without additional payment reduction
- FSA will allow producers to utilize harvested hay from expiring CRP acres

The group concluded that all CNS are minor pathogens but special attention should be given to the previously listed species because of their impact on somatic cell count.

**Mastitis-causing organisms matter**

Researchers in Belgium tested milk samples and found that Staph. chromogenes, Staph. simulans and Staph. xylosus induced an increase in somatic cell count that is comparable with that of Staph. aureus.

The group concluded that all CNS are minor pathogens but special attention should be given to the previously listed species because of their impact on somatic cell count.

**Water concerns / Drought assistance**

In keeping with tradition of mentioning cattle issues in addition to insect related topics, I wanted to highlight this article. I have referenced it so those interested in more information can look it up directly.


I felt this article had some good points that all cattle owners should take into consideration with dealing with their local veterinarian or when trying to gain a relationship with their local veterinarian.

As many of you know, it is becoming harder and harder to find rural veterinarians that are able and willing to come to the farm during an emergency. This article does a great job of discussing why that is and how one would go about establishing a successful relationship with their local veterinarian.

The key point mentioned is that everyone should establish an everyday working relationship with their veterinarian and set up regular visits, don’t just expect your veterinarian to drop everything for you after hours when they don’t even know who you are.
Human & Animal Disease & Health

**Blackleg may be a concern in drought conditions**

With the current drought conditions in Texas and other states dealing with it is a good idea for herd owners to be mindful of potential health problems from blackleg. As cattle graze on shorter and shorter forage, the chances of picking up soil-borne pathogens that cause blackleg will increase.

Blackleg is a disease caused by the infectious bacteria *Clostridium chauvoei* that affects cattle worldwide. Cattle can become exposed to blackleg from contact with bacterial endospores in the soil. Blackleg can occur in very young calves but it generally affects animals between six months and two years old. In rare incidents, losses are seen in adult cattle. Blackleg is known to affect calves in good condition and growing rapidly, the animal dies rapidly without any outward signs of illness. Some noted clinical signs include lameness, loss of appetite, fever and depression.

Animals will die quickly, within 12 to 48 hours, and treatment usually fails. If by chance an animal does survive, it will likely suffer from a permanent deformity.

It is impossible to prevent contact with the infectious agent; therefore vaccination is the only way to effectively control this disease. Calves should be vaccinated between 2 and 3 months of age. Calves should receive two doses of the vaccine during this period; the second dose being administered 3-6 weeks after the first dose.

**Q Fever rears its head in western states**

An outbreak of Q fever was recorded and being investigated in Montana in July. The investigation is part of a multi-state outbreak of illnesses in humans and animals associated with goats from Washington.

Three known premises in MT received positive goats from WA; two had confirmed Q fever illnesses in humans and animals.

Q fever is a zoonotic disease that is passed from animals to humans; it is caused by the bacteria *Coxiella burnetii* and is shed during birthing and in feaces, urine and milk. Humans become infected by breathing barnyard dust particles contaminated by the bacteria or by ingesting the bacteria.

Q fever can cause acute or chronic illness in humans. Most have no symptoms but they could exhibit headaches, fevers, muscle aches and a variety of mild flu-like symptoms. Some complications could lead to pneumonia and liver and heart problems. Those most vulnerable include pregnant women, the elderly and those with weakened immune systems.

It can cause stillbirths and abortions in sheep and goats but generally goes undetected. The bacteria are endemic in sheep and goat populations. Exposure to the bacteria is limited by disposal of birth products and aborted fetuses at facilities housing sheep and goats.

**Closely monitor medicated mineral intake**

Medicated minerals are available and frequently used to help prevent the blood-borne disease, anaplasmosis. It is essential that mineral is taken up by cattle consistently and appropriately in order to successfully prevent anaplasmosis.

It is important for cow-calf operators to monitor mineral consumption closely to be sure the label-recommended amounts are being consumed by the cattle.

The most commonly used medication for anaplasmosis is chlortetracycline (CTC) but this is also used to treat other infections at lower rates. It is imperative that the label rate for anaplasmosis is achieved in order to get proper prevention.

Mineral feeders and blocks should be placed in loafing areas, near water sources, in shady areas, or any other location that tends to be popular for the herd to congregate. One station for every 30 to 50 cows is recommended.

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**Tick Quarantine Removed**

The remaining portions of Starr and Hidalgo counties have been released from the temporary preventative quarantine zone.

“This shows that the collaborative efforts between the USDA-Veterinary Services Tick Force, TAHC, the Texas cattle industry and local land owners, are working successfully,” said Dr. Ellis. “TAHC and USDA will continue to work with local land owners to maintain effective surveillance efforts to help ensure this pest does not reoccur in the area.”
Redefining sustainability

Sustainability means different things to different people; activists have tried to convince some consumers it means returning to production systems like our grandparents day.

But as John Capper, PhD, animal scientist, puts it, less-intensive production can work for some producers but our greatest opportunities is to enhance sustainability to improve overall productivity per unit of land and other inputs.

In animal agriculture, sustainability is where improvements in productivity reduce the environmental “footprint” of each animal and the industry overall. The volume of beef that took 3,000 animal days to produce in 1977 only took 1,900 animal days in 2007, using less land, less water, less feed and producing less waste.

Capper also noted that carcasses from conventional cattle average 800 lbs in 453 days, natural cattle average 714 lbs in 464 days and grass-fed cattle average 615 lbs in 674 days. Based on this information shifting U.S. beef production to “natural” would require 14.4 million more animals and shifting entirely to grass-fed production would require 64.6 million more animals to produce the same volume of beef as conventional practices. Grass-fed will also need 131 million more acres of land, 468 billion additional gallons of water and produce 134 million extra tons of greenhouse gas emissions.

Younger consumers are highly interest in vegetarian burger options.

The importance of health-halo attributes such as all-natural, hormone-free, steroid-free and antibiotic-free has grown since 2009.

The most commonly offered cheese on burgers at limited-service restaurants is American, but Cheddar is by far the most popular in the full-service segment.

An interesting note about this article is that it mentions how people want to know where the meat is coming from but it also says burger consumption continues to be high due to quick-service value menus. It might be me but those statements seem to be an oxymoron.

Whatever the reason, burger consumption is high and probably will be for awhile.

A group of Illinois farm families are opening their doors to moms from the Chicago area.

In a new program called “Field Moms” launched by Illinois Farm Families, Chicago area moms are given the opportunity to see first-hand where their food comes from and have their questions answered by the farmers who grow it.

Surveys taken by moms showed that moms have a lot of questions about food; chemical use and hormones were two of the top issues.

It was also revealed in the surveys that moms have a high regard for farmers and value them but they aren’t sure farmers are always doing the right thing.

The farm tours will take place over a 12-month period and will include crop, dairy, beef and pork farms.

Moms will be encouraged to blog about their experiences and share with other moms what they have learned.

Merck’s animal health division, formerly known as Intervet/Schering-Plough Animal Health, announced their new name of Merck Animal Health on June 29, 2011.

“The name change reflects Merck’s commitment to animal health and its complementary role to the overall business,” said Raul Kohan, president of Merck Animal Health.

“We are unwavering in our commitment to veterinarians, producers, pet owners and society as a whole. We aim to generate additional value and sustained growth by continuing to provide integrated solutions with innovative animal health products and services to meet the evolving needs of our customers.”
Journal Reviews


Oils were extracted from various *Eucalyptus* by hydrodistillation. The chemical composition of these oils was determined to be cineole, pinene, terpineol, and cymene. The vapors from these essential oils and their major components were found to be toxic to horn fly adults. All oils were tested for a 50% knockdown rate.

The Impact. The addition of *Eucalyptus* oils in the fight against horn fly adults is a great way to start using more natural products to combat these flies and off-set any building resistance. At a 50% knockdown rate some control will occur but not at the same level as conventional insecticides.


Stable fly surveillance was conducted at four horse farms in Florida with the use of alsynite sticky traps. Three traps were placed on each side and adults were collected on a weekly basis. In addition, stable fly and house fly pupae were collected weekly from 3-5 different locations at each farm. Pupae were brought to the lab and observed for adult fly or parasitoid emergence.

Stable fly numbers varied throughout the year and by location but the high numbers were recorded during the spring.

The Impact. Despite the efforts of the authors, stable flies do not carry the porcine virus. Stable flies have still not been found to vector any pathogens or viruses despite their contact with animals.


The authors investigated the vector potential of stable flies in the transmission of porcine reproductive and respiratory syndrome virus under laboratory conditions.

Wild stable flies were collected near pig farms in North Carolina and tested for the virus, all tested positive. Lab reared stable flies were fed blood infected with the virus and none were able to transmit the virus.

The Impact. Despite the efforts of the authors, stable flies do not carry the porcine virus. Stable flies have still not been found to vector any pathogens or viruses despite their contact with animals.


The house fly activity on three large dairies in California was monitored during peak fly activity by using spot cards, fly tapes, bait traps, and Alsynite traps. Counts for all monitoring methods were significantly related with spot card counts and fly tape counts significantly related to bait trap counts 1-2 wks later.

The Impact. Spot cards are a useful way to monitor house flies for dairy IPM programs.


Seven hundred ninety tick specimens were submitted to the National Veterinary Services Laboratory for species identification. The ticks were identified as *R. microplus* and *R. annulatus* and were marked geographically in a system database.

The Impact. The submitted ticks were collected from 11 Texas counties and compared to their natural distribution with Mexico.


The aim of this study was to describe the genetics of amitraz resistance evolution and to obtain the independent genes number involved. One susceptible strain of ticks and two resistant strains were tested against amitraz on naïve-heifers. The susceptible strain was controlled 29-fold but the resistance strains showed lots of genetic interaction with recessive and dominate genes.

The Impact. Although the resistant strains were found to exhibit several genes that cause amitraz to not be effective, this does not mean native strains of ticks would react the same way.
**Veterinary Entomology**

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**Acaricidal effect of essential oils from Lippia graveolens (Lamiales: Verbenaceae), Rosmarinus officinalis (Lamiales: Lamiaceae), and Allium sativum (Liliales: Liliaceae) against Rhipicephalus (Boophilus) microplus (Acari: Ixodidae).**  

The acaricidal effects of essential oils extracted from Mexican oregano leaves, rosemary leaves, and garlic bulbs was evaluated against 10 day old tick larvae.

Oregano and garlic were found to have 90-100% mortality at all concentrations. The rosemary had very poor results at all concentrations.

**The Impact.** Results show potential for natural products to assist in controlling tick larvae.

**Molting success of Ixodes scapularis varies among individual blood meal hosts and species.**  

The authors researched the effect different host blood meals have on the molting success of Ixodes scapularis larvae.

It was found that larvae feeding on white-footed mice, veeries, and gray catbirds had higher molting success.

**The Impact.** The molting success of Ixodes larvae affects the likelihood and ability to acquire Lyme disease and carry it to a human host.

**Diversity, geographic distribution, and habitat specific variations of microbiota in natural populations of the chicken mite, Dermanyssus gallinae.**  

The chicken mite is an economically impacting parasite that is the vector of many pathogens.

The authors researched the array of bacteria found in association with Dermanyssus gallinae. By looking at the bacteria the authors planned to separate the various populations of chicken mites.

**The Impact.** The results provided a way to separate various populations of chicken mites by the bacteria associated with them.

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