

Special Interest Articles:

- *Bovicola bovis*
- Controlling cattle parasites
- Poor hay = poor performance
- 3 reasons to use antibiotics



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Insect Updates

Bovicola bovis, cattle biting louse

I was pleased to see the article "An Interview with *Bovicoli bovis*" on the Dairyherd Network this past month, I do wish they would have spelled the name correctly and maybe checked out a few facts but either way it is a start.

www.dairyherd.com/e-newsletters/dairy-daily/An-interview-with-iBovicoli-bovisi-132948588.html

The article is written in a non

formal way that makes reading about a chewing louse fun.

The importance of this article is to remind all cattle owners, dairy and beef that winter is the time of year that lice become an issue.

The best control for lice is to be proactive. If insecticidal control is being used regularly, then a louse infestation should not occur. If insecticides are not being used, inspection is key.

Many wait until the cows start itching and that is several months after the lice have arrived making treatment more costly and time consuming.

When a louse infestation is encountered all animals should be treated. Lice do not fly but they move about animals very well and are good at hiding.

All animals need to be treated at the same time and a repeat treatment is a MUST 7 days later to kill the newly hatched lice.

Controlling cattle parasites

When managing the cow herd into the fall and through the winter, the primary focus should be on health and nutrition. These two areas of management determine reproductive performance, the number one factor affecting profitability.

A factor that affects the nutritional status and requirements of the herd is internal and external parasite infestation. Parasites

increase an animal's nutritional requirements because they get their share right off the top. Negative effects of parasites magnifies during drought stress.

Although internal parasites rely on adequate pasture moisture to maintain development, some species, *Osterafia*, have the ability to arrest development until conditions are more favorable. Internal parasite

control is necessary even when conditions are dry and definitely when wet weather ensues.

The same is true for external parasites. Moisture is an important factor that drives tick, lice and fly development but all external parasites are able to keep thriving even in drought conditions.

Appropriate control programs should be implemented. Parasite control enhances nutritional status.

Locust! It's what's for dinner!

With the 'veggie is better' belief taking stride these days, some meat advocates are wondering what will replace all the needed protein found in meat. Even veggie activist don't seem to have the answer.

But one suggestion that is gaining attention is INSECTS. Some are beginning to take this substitution seriously and are using an ecological argument as leverage.

The push to consume farm raised insects (which are not much better than wild born in my eyes when we're talking consumption) is not taking on like some would hope. The overwhelming response from veggie lovers is NO, either because they are gross or because insects might be animals too.

Some companies try to jazz up the insects by covering them

with chocolate but if we're looking for a replacement and not a treat, increasing chocolate consumption is not the way to go.

I am fascinated with the insect world and love my work but when I take it home it's not what's for dinner!

As paraphrased by Dan Murphy, "Four legs good; six legs bad."

Cattle Care

Feeding poor hay results in poor performance



“You are what you eat and the same is true for cows and calves.”

Winter feeding is the most expensive part of cow-calf production but few producers plan or think about the winter feeding program until winter is here.

Winter feeding is more expensive since it comes from harvested hay and it will be more this year due to the drought.

Quantity and quality are both cost factors but feeding poor quality hay will result in poor cattle performance and eventually reduced returns.

It is recommended that forage be tested. Anything less than 8% crude protein is poor quality or if the total digestible nutrients are below 50%. Hay with poor quality requires supplemental feeding.

Feeding low cost hay leads to greater cost due to losses from inadequate nutrition.

The impacts of poor quality hay on cow performance:

- Loss of weight & body condition
- Reduced reproduction
- Lower calf survival rates

Sand is great for cows, but other challenges exist

Using sand in free-stall bases is the gold standard for dairies and enhances cow comfort. In addition it improves lying time, contributes to good udder health and clean cows, and improves cow footing.

There is only one reason to avoid sand, other than not available, and that is the difficulty it adds to manure handling and storage systems.

Sand is abrasive to handling equipment and tends to settle in

trenches, pipes, tanks and storages. Sand-laden manure needs to be managed daily by hauling or long-term concrete storages that operate as skim-and-haul.

“Rule number one: Don’t allow manure that contains sand or grit to enter places where, if it separates and settles, it could not be removed easily.”

There are three primary reasons to separate sand.

1. To remove most of the sand

from the manure stream with no intention of using the removed sand for bedding. Just enough sand is removed to reduce downstream problems.

2. To reclaim sand clean enough for reuse as free-stall bedding and take advantage of cost savings.

3. To create a “sand-free” manure stream for further treatment as well as reclaim sand for free-stall bedding.

Large round bale storage

Large round bales reduce labor requirement, however, storage losses are generally much higher than small rectangular bales, particularly when stored outdoors.

There are a number of ways to minimize large round bale loss stored outside.

Dense large round bale: tighten the outer layer of bale. If the bale is not tight

enough, microbes are going to use oxygen to break down the bale using moisture and nutrients.

Covers: round bales stored outside and covered with either plastic or canvas generally reduce deterioration compared to unprotected bales.

Well-drained site: selecting a good storage site is important in reducing bale

loss with little cost involvement. The storage site should not be shaded and should be open to circulate air, which will enhance drying conditions.

Orientation of bale stack: it’s recommended to stack large round bales in rows, buff end-to-end, with three feet between rows, and orient in a north/south direction.

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Human & Animal Disease & Health

3 reasons we use antibiotics in livestock

1. Antibiotics used in food animals approved as safe and effective by the Food and Drug Administration – the same agency that approves human medications.

2. Antibiotics in food animals

are used according to their labeled directions, or may be used off label (except for in-feed medications) only under the direct supervision of a veterinarian.

3. Animals must be healthy to

enter the food chain. Prudent and judicious use of FDA-approved antibiotics allows producers and veterinarians to address infectious disease challenges in food animals and provide healthy animal-derived food products.



A new way to vaccinate cattle

Scientists have developed a technique using a harmless parasite, which lives in cows but has no effect on their health, to carry medicines into the animals' bloodstream.

The manipulated parasite (created by researchers inserting key genetic material from a vaccine into the parasite's DNA) is

intended to be injected into cattle, where it thrives in the bloodstreams and slowly releases small amounts of the vaccine.

This type of treatment could offer long-term protection against common conditions such as foot-and-mouth disease or bovine tuberculosis, as well

as a range of other diseases.

Scientists also hope to adapt this method to carry medicines as well as vaccines in order to deliver drug treatments against common cattle diseases.

It is hoped that this approach will help to control or eradicate major cattle diseases.

Are you gambling with your herd's health?

If you've ever dealt with a clinical outbreak of *Salmonella*, you'll never forget how devastating the disease can be. But did you know that your herd could be carrying *Salmonella* even if the cows don't show clinical signs?

***Salmonella* doesn't discriminate**

No herd is immune to *Salmonella*. If you think you don't have to worry because you've never had a clinical case of *Salmonellosis* on your operation, you're wrong.

Salmonella does tend to be more prevalent in herds with 500 cows or

more (61%), but smaller herds are still at risk. 41.5% of herds with less than 500 cows tested positive for *Salmonella*.

Research shows that organic operations are just as susceptible to *Salmonella*.

There are more than 2,200 different serotypes of *Salmonella*. "Even your 'garden variety' types can cause disease in humans and animals," explains David Wolfgang, extension veterinarian.

Salmonella spreads easily. The source of infection is usually feces from infected animals but it can be difficult to tell which cows are shedding.

Salmonella presence on a farm is of concern to workers and to the public.

Salmonella can cause reduced milk yield, weight loss, poor reproduction, abortion and an increase in metabolic disease.

There are many ways to limit animals' exposure to *Salmonella* and keep cows healthy and productive.

Rabies compendium available

The National Association of State Public Health Veterinarians, Inc. has made available the [Compendium of Animal Rabies Prevention and Control](#), 2011.

This report provides recommendations for public health officials, veterinarians, animal control officials, and other parties engaged in rabies prevention and control activities and should serve as the basis for standardizing procedures among jurisdictions. The

updated guidelines include the national case definition for animal rabies and clarify the role of the CDC rabies laboratory in providing confirmatory testing of suspect animals.

There is a potential of rabies in cattle and horses. Clinical signs of rabies in cattle include:

- Sudden change in behavior
- Progressive paralysis
- Ataxia

- Abrupt cessation of lactation in dairy animals
- Hypersensitivity/alertness
- Abnormal bellowing
- Paralysis of the throat
- Drooling
- Head extension
- Bloat
- Choking behavior

Faulty vaccine likely source of FMD outbreak in Paraguay

The foot-and-mouth case in Paraguay this past September is believed to be caused by a flawed vaccine that was intended to protect livestock from the disease.

The FMD case led to the termination of over 1000 cattle and significant economic losses.

Laboratory tests have pointed to "human error" and "negligence" in the vaccine used.

Special Topics of Interest

Fences lost in wildfires – apply for assistance

The Texas and Southwestern Cattle Raisers Association (TSCRA) wants to remind ranchers whose fences were lost

or damaged in the wildfires to apply for the U.S. Department of Agriculture's (USDA) Emergency Conservation

Program (ECP) funding at their local Farm Service Agency office.

Income tax relief for weather-related sales of livestock

This [article](#) written by OSU extension talks about an IRS election to assist in deferring taxes for large number of cattle being sold this past year due to the drought. The article is written for Oklahoma but surely is true for Texas as well.

It is suggested that anyone that sold livestock because of unfavorable weather conditions take this article to their tax preparer.

How to make the Election

The election to defer the payment of tax on the gain by purchasing replacement livestock is made by not

reporting the deferred gain on the tax return and by attaching a statement to the tax return showing all the details of the involuntary conversion, including: Evidence of drought, amount of gain realized, number of livestock sold and number of livestock that would normally be sold

Spreading of manure

Surface applied manure should be incorporated the same day as applying. Immediate incorporation retains the most nitrogen, reduces odor and reduces the risk of runoff. This of course is more pertinent during the warmer weather than during the cool winter months.

A light rain is good and helps incorporate surface applied manure. A big fast rain is not so good because it increases the risk of runoff. Always choose the least risky fields to apply manure too.

Manure can be injected and this reduces odor and nitrogen losses to the air.

If there is a chance for the ground to freeze, apply the manure in fields with the very least risk of runoff, no areas with slopes leading to water. Leaving any field rough tilled or with heavy residue this fall will provide greater safety for winter applications. And cover crops would be an excellent addition too.

Texas cattle producers consider feeding whole cotton plants

Texas beef producers are exploring the use of whole cotton plants as a protein source for cattle due to extreme drought conditions.

A Texas AgriLife Research nutritionist and a Texas AgriLife Extension forage specialist in College Station were both asked to test the nutrition value of cotton plant samples.

The preliminary results were quite

interesting.

“Although a non-traditional feedstuff for cattle, the presence of the cotton seed with its high fat content and cellulose (lint) provides for a fairly high quality feedstuff,” said Dr. Tyron Wickersham. “The fat content is quite a bit higher than would normally be fed to beef cattle and some scouring may occur, but the animals do well with the cotton diet.”

Wickersham suggests the cotton could be used as a source of supplemental energy.

Meanwhile, Dr. Gaylon Morgan, AgriLife Extension state cotton specialist, notes most cotton defoliation or desiccation products prohibit grazing or feeding to livestock for at least 30 – 45 days. So be sure to read the product label for minimal restrictions.

Fast-food dining most popular among middle incomes

A new national study of eating out and income shows that fast-food dining becomes more common as earnings increase from low to middle incomes, weakening the popular notion that fast food should be blamed for higher rates of obesity among the poor.

“There is a correlation between obesity and lower income, but it cannot be solely attributed to restaurant choice,” said J. Paul Leigh, professor of public health sciences at UC Davis. “Fast-food dining is most popular among the middle class, who are less likely to be

obese.”

It was also found that as income rose, so did the visits to full-service restaurants with a full range of food choices.

The fast-food industry attracts the middle class by locating restaurants right off freeways in middle-income areas and by offering products that appeal to a large proportion of Americans.

“Low prices, convenience and free toys target the middle class – especially

budget-conscious, hurried parents – very well,” said Leigh.

Additional correlations:

- Men were more likely than women to go to both fast-food and full-service restaurants.
- People with more education were more likely to go to full-service restaurants.
- People who worked more hours were more likely to go to both
- Smokers were more likely to go to fast-food rather than full-service

Journal Reviews

Impact of house fly salivary gland hypertrophy virus (MdSGHV) on a heterologous host, *Stomoxys calcitrans*. 2011. Geden et al. J Med Entomol. 48: 1128-1135

House fly salivary gland hypertrophy virus (MdSGHV) was injected into stable fly males and females in the laboratory for examination.

MdSGHV increased the mortality of both male and female stable flies and

decreased the fecundity rate of females from an average of 50 eggs produced per day to 2 eggs produced per day.

Although the stable flies did not develop symptoms of salivary gland hypertrophy, titers were found in the bodies of the

flies.

The Impact. Work is still being conducted on MdSGHV, but these results provide positive reinforcement that it will be effective on stable flies as well as house flies in reducing survival and egg production.

Retention of *Campylobacter* (Campylobacterales: Campylobacteraceae) in the house fly (Diptera: Muscidae). 2011. Skovgard et al. J Med Entomol. 48: 1202-1209.

The house fly has been implemented to carry several different pathogens on their bodies and mouthparts. *Campylobacter* was applied to house flies in the laboratory and assays were taken at various intervals to see the extent at which the bacteria could be transmitted.

The inoculated flies were housed at varying temperatures to observe the effects on the bacteria. *Campylobacter* was detected on the mouthparts of all flies 24 hr post inoculation when reared at 15°C but declined significantly as the temperature increased. Retention time

for the bacteria fell dramatically with increased temperatures.

The Impact. Although house flies are capable of carrying *Campylobacter* on their mouthparts, transmission decreases significantly in warm temperatures and after 24 hrs, making them short distance carriers.

The impact of overgrazing on dung beetle diversity in the Italian Maritime Alps. 2011. Negro et al. Environ Entomol. 104: 1081-1092.

Dung beetles in alpine habitats are valuable ecological contributors that little are known about in the terms of their direct or indirect relationships with pastoral activities.

This study aimed to assess whether dung beetle diversity was influenced by

different intensities of cattle grazing.

With the use of pitfall traps, it was determined that evenness and diversity were significantly higher at the ungrazed than at the overgrazed site due to even distribution.

The data showed that only one species

of beetle chose overgrazed pastures and all the other species selected the ungrazed sites.

The Impact. To conserve local dung beetle assemblages, especially in protected areas, cattle overgrazing should be avoided.

High *Trypanosoma cruzi* (Kinetoplastida: Trypanosomatidae) prevalence in *Triatoma sanguisuga* (Hemiptera: Reduviidae) in Southeastern Louisiana. 2011. Cesa et al. J Med Entomol. 48: 1091-1094.

A human case of autochthonous Chagas parasite infection was reported in a rural part of New Orleans, LA in June 2006, making this the sixth known human case.

The authors started collecting for *Triatoma sanguisuga* (kissing bug)

insects at this location from May 2007 until November 2007. *T. sanguisuga* is the vector of *Trypanosoma cruzi*, which causes Chagas disease, in humans.

During the time period, 298 adult kissing bugs were collected dead and alive and 60.4% tested positive for

Trypanosoma cruzi.

The Impact. The identification of so many vector carrying insects in a single location is never good, especially when carrying a disease that was not typically found to be transmitted in the United States.

Molecular detection of *Bartonella* species in ticks from Peru. 2011. Billetter et al. J Med Entomol. 48: 1257-1260.

The DNA of ticks in Peru were tested for the presence of *Bartonella* species.

Bartonella species lead to very detrimental diseases such as Carrion's disease and Trench fever. Humans are the reservoir host for both of these disease vectors that are

known to be transmitted by sand flies and the human body louse.

Out of 103 ticks only four ticks were found to carry *Bartonella*. Although this is a small number, this is the first reported detection of *Bartonella* in ticks from Peru.

The Impact. The tested ticks are in Peru and the diseases implied do not occur in the US but knowing that ticks can also vector such detrimental diseases is enlightening and frightening at the same time.

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Merry Christmas to all!



Ivermectin acts a posteclosion nymphicide by reducing blood feeding of human head lice (Anoplura: Pediculidae) that hatched from treated eggs. 2011. Strycharz et al. J Med Entomol. 48: 1174-1182.

Ivermectin was applied to human head lice eggs in two different formulations. The eggs did not suffer any loss due to the applications but newly emerged nymphs fed less than untreated eggs.

All the treated lice died within 48 hours of hatching.

Although ivermectin did not have an effect on the eggs it did in-turn affect the ensuing nymphs.

The Impact. To date there are no labeled products that cause mortality to the eggs of lice but this data gives hope that treating the eggs could kill the hatching nymphs within a 48 hour period.

New survival record of Southern cattle tick in subfreezing temperatures. 2011. Racelis and Davey. Southwestern Entomol. 36: 383 -385.

The authors looked into the ability of southern cattle ticks surviving at subfreezing temperatures.

The southern cattle tick is known to only occur in warm, tropical and subtropical locations. It is also known to transmit the Piroplasmosis

that causes cattle fever.

APHIS and USDA are currently working to prevent this tick from spreading throughout Texas where it has entered past the set quarantine zone.

Field hatched eggs were

taken into the laboratory and held at subfreezing temperatures for several days. A single tick was found to survive for 20 days.

The Impact. Although only one tick survived, this still means it is possible for this tick species to adjust to cooler temperatures and survive.

Livestock/veterinary website

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