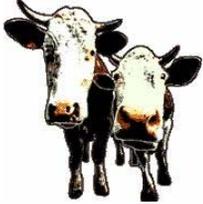




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Local Fodder

March 2006

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STABLE FLIES AND MARCH RAINS

*Written by: Alec C. Gerry, Ph.D.
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April showers may bring May flowers, but March showers bring stable flies!

Recent research conducted by Brad Mullens (Veterinary Entomologist, UC Riverside) and Nyles Peterson (Director and Dairy Advisor, UC Cooperative Extension, San Bernardino) found that high springtime stable fly numbers on California dairies could be predicted by rainfall during the month of March. It was found that if significant rainfall (0.5 inch or more) occurred during the month of March, stable fly numbers would be higher from mid-May through mid-June (peak stable fly abundance period). For each 0.4 inches of March rain, biting stable fly numbers were raised by an average of about one fly per leg. Earlier winter rainfall did not have a statistical relationship with larger stable fly numbers in May and June.

What does this mean for California dairymen? High stable fly attack rates on cattle are known to reduce animal

weight gain and may also have a negative affect on milk yield. Cattle react vigorously to the presence of excessive stable flies, and their protective behaviors (bunching, stamping, head throws) may impact feeding and resting, resulting in a shift of energy away from meat and milk production. The ability to predict a bad stable fly year will provide dairy operators with an opportunity to increase control measures for stable flies a month or more before stable fly numbers actually peak.

Significant March rains presumably increase stable fly numbers by wetting outside decaying manure and vegetation habitats that stable flies need for immature development. These development sites are typically widespread on a dairy and may require some effort for control. Common development sites include the old manure that accumulates within a dry pen (especially the manure beneath fence lines and watering stations), spilled feed, silage, and composting manure or green waste. The old, undisturbed manure under fence lines etc. is thought to be especially important as a stable fly habitat when wetted by late rains. In general, very dry winters overall are probably good news in terms of fewer stable flies, but the later rains are critical.

In the event of significant March (or probably late February) rains, efforts to reduce stable fly numbers should begin as soon as rains are no longer predicted (no later than mid-April). Efforts to control stable fly should include: 1) Check and repair all leaking watering stations and mister systems; 2) remove old manure that has accumulated beneath fence lines, watering stations, feeding areas, and other structures in or adjacent to cattle pens; 3) scrape pens to remove old manure; 3) old manure removed from pens and other structures may be composted (now that seasonal rains have ended) or placed

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into a mound in the center of the pen to which the animals have access – disturbance by the animals will help to prevent fly development; 5) remove all vegetation from the perimeter of cattle pens, flush systems, and feed lanes; 6) thoroughly clean all feed lanes and flush lanes of feed, manure, and soil; 7) replace all animal bedding used in calf pens and free stalls (use only wood shavings in free stalls during spring and summer months to reduce fly production) - removed animal bedding should be composted or moved off site into a landfill; 8) check silage and haylage for runoff and weeping – remove wet silage from base of pile every other week and use for feed or compost; 9) check open Ag-bags for the presence of fly larvae – remove silage or haylage from open end of bag each week to prevent fly development in this material.

The sanitation efforts listed above are the best means to reduce stable fly numbers on an individual dairy. Once stable flies have completed immature development and have emerged as adult flies, control options are quite limited. Traps such as the Olsen biting fly trap (<http://www.olsonproducts.com/index2.html>) may help reduce localized adult stable fly numbers, but the very large numbers on commercial dairies in late spring probably exceed the ability of such traps to control them on a farm-wide scale, especially in a wet year. Application of insecticides (principally pyrethroids such as permethrin) applied directly to an animal may provide some relief, but studies have not shown these insecticides to be particularly effective at reducing fly numbers on treated animals.

Reference: Mullens, B. A. and N. G. Peterson. 2005. Relationship between rainfall and stable fly (Diptera: Muscidae) abundance on California dairies. *J. Med. Entomol.* 42(4): 705-708.

TREATMENT OF CALF SCOURS

*Reprinted from the February 2006 issue of California Cattlemen's Association Magazine
Written by John Maas, DVM, MS*

What causes calf scours? As new calves arrive, so does the threat of the common condition known as "calf scours" or neonatal calf diarrhea. Infectious agents such as viruses and bacteria cause this condition. These agents have the common property of causing a **net loss** of water and electrolytes from the calf's body via the gut. This causes potentially life-threatening dehydration and electrolyte imbalances that can easily result in death. The main infectious organisms that can cause diarrhea in beef calves are:

- ◆ Rota virus
- ◆ Corona virus
- ◆ *Cryptosporidium parvum*
- ◆ *E. coli* (K99 enterotoxigenic form)

The first 3 on the list usually cause diarrhea at 7 to 21 days of age, while the common *E. coli* strains cause diarrhea within the first few days of life. The diarrhea is the result of a combination of factors including: (1) dose (number) of organisms the calf is exposed to, (2) calf immunity (colostrum), and (3) stress on the calf. The number of organisms in the calf's environment is a result of sanitation or the lack of sanitation, i.e., mud, manure, and other cattle. The immunity of the calf is dependent on the quality and quantity of colostrum that the calf received from the cow. Calves that do not receive adequate colostrum are much more susceptible to disease and are at much greater risk of dying from the resulting diarrhea that occurs. Stressful conditions (low milk production by underfed cows, bad weather, crowding) further increase the risk of diarrhea in young calves. The balance of all these factors determine if disease occurs and the severity of disease.

When should I treat the calf? Calves running around the pasture with their tails in the air, bucking and kicking with yellow or white watery manure may not need treatment. The main indications for treatment are (1) general disposition, (2) appetite, (3) dehydration, and (4) body temperature. If the calf is weak, depressed, or reluctant to move these are all indications that something is wrong. If the calf is not eating, the cow's udder will be distended and this is sign of trouble also. Dehydration can be evaluated easily by pulling up the skin on the side of the neck or shoulder. In a normal calf, the skin snaps back into position quickly. In a dehydrated calf, the skin remains "tented" for a period of time—the longer it remains "tented" the worse the dehydration. Also, as dehydration worsens, the eyeballs sink back away from the eyelids—this is a bad sign and fluids are indicated immediately. Normal body temperature (measured with a rectal thermometer) is 100.5° F to 102.5 ° F. Body temperatures less than 100 ° F and greater than 102.5 ° F is a sign of problems and treatment should be started promptly.

What are the recommended treatments? The main treatment for diarrhea is fluid therapy. Secondary treatments are antibiotics and nursing care. Because the main problem in scouring calves is loss of body fluid and electrolytes, the primary treatment must be aimed at restoring the water balance. The calves are thirsty, but they are too sick to drink. Therefore, the first line of treatment is **oral electrolyte solutions**. There are a number of excellent commercial products on the market for treatment of calf scours. All of these products contain glucose or a

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similar material, sodium chloride (table salt), and other electrolytes. The glucose and sodium allow the animal to absorb the water they need from their digestive tract.

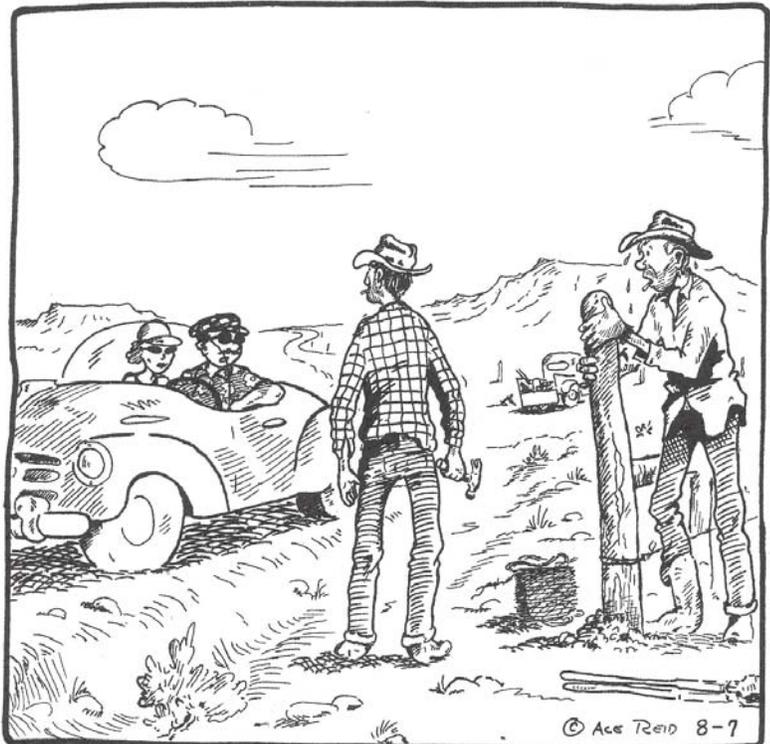
Giving straight water does not work. Usually 2 liters (just over 2 quarts) of the oral fluid solution is given 1 to 3 times per day to the sick calf. Consult with your veterinarian regarding appropriate products to use for calf scours on your operation. Do not rely on advice from anyone other than your veterinarian for choosing oral electrolyte preparations. **Always follow the label mixing instructions**—do not add too much powder to the solution as this may kill the calf and unnecessarily adds to the cost of treatment. Antibiotics are often given to scouring calves even though antibiotics do not kill most of the calf scours agents. Due to damage in the gut of scouring calves, bacteria will “leak” into the blood stream of these calves and cause further problems. Antibiotics are of value for this reason. Again, consult with your veterinarian regarding the correct choice of antibiotics to give. Many of the antibiotics are not labeled for calf scours and thus require a prescription from your veterinarian and an extended withdrawal time. Avoid the use of injectable gentamicin or kanamycin. Tissue residues from these drugs can persist for more than a year and this can cause problems in the packing plant. Long acting tetracyclines can cause some kidney damage in dehydrated calves and should be avoided. Baytril® is not labeled for scouring calves and cannot be used for conditions other than pneumonia. In addition to fluids and antibiotics, nursing care may be essential for the calves to recover. Shelter from the wind, heat lamps, etc can be very helpful. However, this requires a clean facility as you want to always avoid a contaminated environment and the spread of the other germs that can cause calf scours or pneumonia. Additionally, the problem of separating the cow and calf has to be solved. **When treating sick calves, always treat them after you have attended to all the normal calves.** This will decrease the spread of germs from the sick calves to the younger healthy calves. Also, keep all your treatment equipment clean—including your hands and clothes, as you can easily transmit these agents.

What can I do to help prevent calf scours? The quality and amount of colostrum produced by the cow or heifer is very important to prevention and the CCA column from December 2005 can be reviewed. Also, vaccination of the cow herd about 90 days before the calving season with the Rota, Corona, E. coli K99 vaccines can be very helpful. Keeping the cattle, their feed, and environment as clean as possible is always helpful. Making sure the trace mineral supplementation program is adequate can also be a critical aspect in the prevention of calf scours.

When do I need additional help? If your treatment methods are not working, contact your veterinarian immediately for additional help. If more than 5% of your calves are scouring and require treatment, you need help. If death loss is greater than 2% due to calf scours contact your veterinarian. Many advances have made the diagnosis of these conditions. Your veterinarian can submit refrigerated (not frozen) stool samples to the University of California's Veterinary Diagnostic Laboratory and receive answers in as little as a few days. Freshly dead calves can also be examined to determine the cause of the diarrhea and to aid in determining those factors needed for prevention and treatment in your herd.

CATTLE HEALTH MEETING IN WINTERS

Mark your calendars for the morning of April 13 when there will be an important meeting for beef cattle producers in Winters. The meeting will focus on an update of the California John's Disease Control Program. You should not miss this meeting as there is always useful information on disease control and health management in these programs. The meeting will be held at Cody's Deli from 8:30—11:30 AM, followed by lunch. This is a free meeting and lunch offered by Berryessa Veterinary Services and Pfizer Animal Health. For more information contact Berryessa Veterinary Services at (530) 795-6090.



Hey, could you fellows tell us where we might see real cowboys?

2006 Niche Meat Marketing Conference
March 21-22
Chico State Farm – Chico, CA

Cost: \$70 per person if Registration Postmarked by March 11th. \$80 per person after March 11th

Registration includes: Parking, Lunches, and Handouts

Keynote Speaker: David Pratt, CEO Ranch Management Consultants

“The Secrets to Profit and How They Relate to Niche Marketing”

Topics to be covered on March 21:

- Keynote Speech
- Understanding the Economics of Niche Marketing
- Gross Margin Analysis
- Pricing Different Cuts of the Carcass
- Processing Overview
- Processor Panel
- Economics of Building a Processing Plant
- Group Discussion

Topics to Be Covered on March 22:

- Opportunities in Niche Organic Meats
- Steps to Becoming Certified
- Animal Health Organic Requirements
- Finding Organic Seed and Feed Dealers
- Organic Processing
- Organic Cost Study
- Grass Finishing
- Forage Flow for the Year
- Dealing with Forage Gaps
- Impact of Different Types of Feed on Lipid Profiles

For more information, contact Roger Ingram at 530-889-7385 or email at rsingram@ucdavis.edu

2006 Niche Markets for Meat Products Conference Pre-Registration Form

Please enclose a check to UC-Regents with the registration form. Mail completed form and check to:
Roger Ingram, Niche Markets Conference, 11477 E, Ave, Auburn, CA 95603.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____ email _____

March 21-22 - \$70 per person (\$80 if postmarked after March 11th) _____

Total Amount Enclosed _____

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Commercial companies are mentioned in this publication solely for the purpose of providing specific information. Mention of a company does not constitute a guarantee or warranty of its products or an endorsement over products of other companies not mentioned.

CALENDAR OF EVENTS

California Niche Marketing for Meat Products Conference
Location: CSU Chico

For more info, see schedule in this newsletter or online at <http://ceplacet.ucdavis.edu/>

April 13

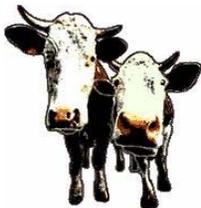
Cattle Health Meeting—John's Disease Update
Location: Cody's Deli, Winters, CA

For more info, contact Beryessa Veterinary Services, 530-795-6090

March 21-22



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