

NAVAN VETERINARY SERVICES JUNE 2014 NEWSLETTER

As often is the case, the topic for the newsletter arises from cases we have seen on farm. This month is no different. Last week, in a span of two days, I have had three dairy producers ask me after a herd health visit why so many of their calves were so badly infected with ringworm this year?

We have all seen the typical ringworm lesion.....several circular hairless greyish-white crusty spots, sometimes coalescing to form a large area, usually starts around the eyes and neck. Several of the calves examined last week had large regions of their bodies covered in hardened crusty areas especially along the back and sides in addition to the head and neck.

Ringworm in cattle is caused by a family of fungi called Dermatophytes, specifically the fungus Trichophyton verrucosum. The term ringworm is a misnomer, as there is no parasite involved. The circular red lesion seen on people (yes it is transmissible to us) is thought to be where the name originated.

Why so bad this year? Ringworm fungus, like most fungi grow exceptionally well in damp, warm environments. The fungus has a difficult time penetrating and infecting healthy intact skin. Any situation that disrupts the integrity of skin will help the ringworm fungus get a "foothold" to begin infection. The environment plays a large role (as it does in many infection outbreaks). We usually see the worst cases of ringworm start in the winter. Overcrowding calves in group pens, less than ideal ventilation, resulting in high moisture levels that puts animals at risk for infection. Add on top of this an exceptional long wet spring and the perfect storm situation is set up.

Nutrition also plays an important role. Essential elements like zinc and selenium are crucial for both skin health and immune system function. Zinc is important in all cell growth and proliferation including wound healing. Zinc deficiency has a negative effect on an important part of the T-Cell activity of the immune system. Selenium deficiency also affects T-Cell antibody response. When investigating ringworm problems, always ensure proper vitamin and mineral levels in calf rations.

Although the condition is self-limiting (that is, given enough time, the calves will usually develop an immune response and defeat the infection), the condition can really set the calves back as it can take months for the worst cases to heal. Treatment options unfortunately are limited. Because the fungus penetrates the skin and deep along the hair shaft, topical products usually have poor results. Topical antifungals will not penetrate deep enough to kill the fungus, but may help to kill surface fungi. Topical diluted 1:1 – 1:4 concentrations of household bleach will help to disinfect the surface fungus, but again it will not reach the deeper areas.

There is some research from Turkey 2012 that explored the use of injectable Ivermectin for this condition. Although Ivermectins are usually reserved for treating parasitic infections, the results were promising in that most calves in the treated group healed much quicker than an untreated group. The thought was that Ivermectin stimulates the immune system that helps speed up the healing.

The best way to manage ringworm is prevention. Sunlight, good ventilation, proper nutrition, avoid overcrowding, and minimizing stress will all aid. It is very rare to see hutch calves with ringworm.

If you are going to treat, wear gloves and be diligent about washing afterwards as the fungus is more than willing to infect you, especially through scratches or scrapes on your skin.