

Dermatophilosis Dermatitis in Dairy Cows

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Dermatophilosis dermatitis is a superficial skin infection often seen in dairy cows where wash pens or misters are used. The two recent issues of “Lab Notes” from the California Animal Health and Food Safety Laboratory System have reported on several dairies with dermatophilosis. These reports indicated that recently fresh heifers were mainly affected. The cause is the bacteria, *Dermatophilus congolensis*. Pustules on the skin are the first signs of the disease. The condition is sometimes referred to as “rain scald” as it often looks like raindrops have just fallen on the skin. These pustules often come together to form a large crusty layer. Although the exact source of the organisms is unknown, many believe that it exists in a quiescent form in the skin without clinical signs of disease.

As with many disease conditions, several factors are probably necessary for the clinical Dermatophilosis to appear. To initiate the disease, it necessary to have skin damage and moisture. In the absence of either skin damage or moisture, the disease will not appear even in the presence of large numbers of *Dermatophilus* bacteria. Skin irritation or damage associated with this condition are fly or tick bites, prickly vegetation or softening of the skin due to constant application of moisture. The skin lesions usually develop at the site of the irritation and moisture. Some of these outbreaks have been associated with deficiencies in zinc.

When a crust-forming, skin diseases appears in dairy cattle, dermatophilosis should be the first diagnostic consideration. Infections may occur in a single animal or involve a large percentage of the herd. The condition is initially seen as pustules that are often over-looked. However, the pustules quickly come to together to form large oval crusts as the longer hairs become stuck together in the scab. These large crusty scabs are easily seen. Thick, creamy pus can be found under active crusts. When the scabs or crusts are removed, the underlying skin is usually hollowed out and often bleeds. Most animals do not appear to have itching sensation, however, the lesions are painful when the scab is manipulated. The most common locations of the lesions in cattle are rump, topline, udder and teats as well as the belly.

Cattle with lesions over 50% of their body may become seriously ill with the possibility of death. Dermatophilosis can lead to economic consequences of lost production, premature culling and added treatment expenses. The outbreaks reported in “Lab Notes” indicated that the affected cows had weight loss and decreased milk production. A review of past cases seen by the California Animal Health and Food Safety Laboratory System suggests that recently arrived heifers from pasture or other locations seem to be at higher risk than other animals to develop the lesions.

This disease is a zoonosis. This means that humans can contract the disease from the cattle. Dairy workers who are treating the cases of dermatophilosis should wear gloves and protective coveralls to prevent becoming infected. The painful lesions in human may last for up to two months.

Dermatophilus is a contagious disease. The crusts containing the bacteria may be a route of spread from one animal to another. As the crusts fall off they also contaminate the environment. The organisms are resistant to drying and heat so they remain viable in the environment for months. Non-biting flies can also carry the bacteria from one animal to another.

Diagnosis of dermatophilosis can be presumptively made on the basis of clinical signs and lesions. The diagnosis can be confirmed by submission of scabs or crust to the veterinary diagnostic laboratory. Early scab lesions should be sampled for best results. The California Animal Health and Food Safety Laboratory System records also indicate the need for an accurate, confirmed diagnosis, as the treatment for this condition is specific. In many instances inappropriate treatments may yield no improvement, lead to excessive treatment costs and result in an extended milk or slaughter withdrawal time.

On a herd basis, the initial step in clinical management of the disease is to remove the source of skin damage and to reduce the amount of water exposure. During the fly season, it may mean to increase attempts to control biting flies. The location of the lesions may suggest other sources of skin damage. Or it may indicate a need to examine the sprinkler system in the wash pen, as the sprinklers may need adjustment to control the amount of water being applied to the cows. There may be no problem with amount of water being applied; the sprinklers may be just putting too much water in the wrong places. During hot weather, the misters over the feed bunk may need adjustment to prevent continual exposure. In any event to halt an outbreak of Dermatophilosis, it will be necessary to keep the cows drier. Other contributing factors such as zinc levels in the diet should be checked.

For individual cows with severe infections, the crust should be removed and topical treatments applied. In some cases, systemic treatment may be necessary by injection of antibiotics such as long-acting tetracyclines or penicillin. Your local veterinarian should be consulted for treatment suggestions and prevention of milk or meat residues.