

Lameness: Part One Hairy Foot Warts

For many dairies, lameness ranks close to mastitis and infertility as a major cause of income loss. The effect on profit is three-fold: reduced production, increased costs of treatment and in some cases milk discard during treatment. In the next few issues we will discuss some of the causes of lameness in dairy cattle.

The overwhelming majority of dairy cow lameness is caused by diseases of the foot. Of the many different foot problems, one that has particularly attracted the attention of Western states dairymen over the last several years is foot warts, also known as strawberry heel, hairy foot warts, or digital dermatitis. First recognized in Italy in 1972, foot warts have caused serious economic loss throughout Europe and the British Isles. In the early 1980's several outbreaks of a similar disease occurred in New York and California. Affected skin of the foot had the appearance of warts, although a causative virus was not found.

Today herds throughout the Western United States are affected and several different types of foot lesions are recognized, that all appear to be the same disease. Although we've learned a lot about hairy foot warts, there's more we need to learn. The advanced stage of the disease is characterized by skin proliferation with hairy finger-like projections in the heel region. The early stages of the disease are more subtle, with moist, light grey-brown exudative areas and matted hair on the skin above the hoof, especially between the heels. When this lesion is cleaned, red swollen tissue is revealed. The odor is foul and the lesion is more painful than one would expect. In the early stages the disease may resemble foot rot or interdigital growths. Because these diseases can be so similar in appearance, consultation with your veterinarian is important to assure the most accurate and early diagnosis of the problem.

The cause is most likely a bacterial organism. Several bacteria known as spirochetes have been consistently identified with the lesions but the disease cannot be readily reproduced by introduction of these spirochetes alone. The rapid response to antibiotic treatment supports a bacterial cause. There is limited information about immunity to the disease and thus almost no likelihood of an effective vaccine being produced anytime soon. Younger animals in the herd appear to be most susceptible, indicating that immunity may develop in older animals. Cows in a heavily contaminated herd, however, may experience the disease more than once.

Factors that contribute to a high incidence of foot warts center around foot hygiene and steps which improve cleanliness will reduce foot lamenesses.

Adequately scrape walkways and avoid surfaces where slurry can accumulate. Lesions develop where manure becomes caked onto backs of heels and between digits.

Avoid continually wet conditions either due to environmental conditions (eg excessive rain or snow) or to management procedures (eg automatic teat sprayers which allow too much water to spray the hind legs and feet).

Provide sufficient bedding. Grass pastures or thickly bedded straw areas seem to brush the accumulated mud packing from the feet.

Provide routine footbaths, composed of 4% formalin (made by mixing 1 gallon of 37% formalin with 10 gallons of water) or 2.5% copper sulfate (made by adding 5 lbs of copper sulfate to 25 gallons of water), to clean, harden, and disinfect the feet at regular intervals.

Specific treatments for footwarts vary, but the most successful involve extra-label antibiotic application, so your veterinarian should be consulted, and attention paid to residue avoidance.

Herd outbreaks are most effectively controlled with medicated footbaths. Greater success is seen if the feet are first cleaned of accumulated debris by walking through a simple water foot bath or, better still, sprayed directly with water while in the parlor. The therapeutic footbath suggested contains oxytetracycline (6-8 g/liter).

Individual cows are best treated by thorough cleansing of the lesion, removal of proliferative tissue and application of a medicated foot bandage. Preliminary results from a study of footwart treatments by the University of California show a 93% recovery rate for cows treated with cotton balls soaked in either Lincomycin/Spectinomycin solution (LS 50 at 33.4 mg Lincomycin and 66.6 mg Spectinomycin/ml) or oxytetracycline solution (100 mg/ml in a propylene glycol base) placed under a duct tape bandage. Systemic ceftiofur (Naxcel) or topical formalin treatments resulted in about a 70% recovery rate.

Prevention of foot warts in a truly footwart free dairy should emphasize the introduction of uncontaminated replacement heifers. Isolation of newcomers to the herd should last a month, all feet should be carefully examined for any

suspicious lesions, and a prophylactic footbath regimen may be considered. As in any quarantine situation, personnel should be careful to disinfect boots and equipment prior to working with the resident herd.

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