

Hairy Heel Warts

Hairy heel warts, digital dermatitis and papillomatous digital dermatitis are all names for the same condition that has spread throughout the US in near epidemic proportion since it was reported in New York dairies in the late 1970's. (See Colorado Dairy News, November 1995) As part of the NAHMS Dairy '96 study, several questions concerning lameness, hoof care practices and hairy heel warts (HHW), in particular, were asked of dairy managers.

The dairies surveyed represent almost 80% of US dairy cows. From these responses the incidence and distribution of HHW in the U.S. was discerned and herd-level management factors, as they are associated with higher or lower incidence of HHW, were evaluated. The results are to be used in two ways: 1) to develop guidelines for modifications of herd-level management practices that seem to contribute to a high incidence of hairy heel warts; 2) to more accurately characterize the disease syndrome thus allowing the design of appropriate research studies on the cause, treatment, and prevention.

RESULTS

The incidence of clinical lameness of any cause in dairy cattle (on dairies of greater than 30 cows for the 12 months prior to Dairy '96 inventory) was 17.2% of cows and 6.8 % of bred heifers. The highest incidence was in the Northeast (21.2% cows;9.1% bred heifers) and lowest in the Southeast (8.6% cows; 2.8% cows).

Cows or bred heifers with clinical signs of HHW were reported in 47% of US dairy herds. The percentage varied by herd size, as 81.9% of herds with 200 or more cows reported having had cases compared to 40.5% of herds with fewer than 100 cows. Overall, almost 12% of cows and 4.2% of bred heifers were affected with HHW in the previous 12 month period. Within positive herds, one in five cows (18.9%) were affected. Although most cattle with HHW are lame (81.9% of cows; 85.9% bred heifers), cattle may have clinical signs of HHW without lameness.

- This study estimates that 57% of the cows reported as clinically lame have HHW.
- The problem was first noted in 1993 in almost 80% of the herds reporting cows affected.
- Incidence differences were noted by region with the Southwest having the highest incidence (72%) and the Southeast the lowest (30%).
- Cattle contract HHW throughout the year, but most new cases occur in December through February.
- Use of footbaths and regular hoof trimming, management practices instituted to prevent lameness, are more likely to be used at larger dairies.
- Hoof trimming equipment, a potential means to transmit disease, was not routinely washed or chemically disinfected between cows on almost 70% of operations that trimmed hooves.

** Only one-fourth of operations routinely washed hoof trimming equipment between cows with water.

** Less than one-fifth of operations routinely chemically disinfected this equipment between cows.

Herd Factors Associated with HHW

Several factors in addition to herd size (greater than 200 cows) and region (Northeast) were associated with increased incidence of HHW. In the table below, the management factors of interest are listed in the left column and a calculated odds ratio is listed in the middle column. The odds ratio is a calculation that indicates the relative risk of developing a disease. When the odds ratio is greater than one, the risk of disease is greater than average. The higher the number, the greater the risk.

- Management factors relating to cow hoof environment and biosecurity practices had the greatest influence on the incidence of HHW.
- Cow Hoof Environment: Any factor that predisposes cattle to poor hoof hygiene will increase susceptibility to hoof disease.
- Herds where lactating cows had daily access to dry lot outside areas only were at higher risk of HHW incidence (OR = 4.3) compared to herds where lactating cows had daily access to pastures only (OR = 1.0).
- Herds where the predominant flooring type where lactating cows walked was grooved concrete were at highest risk (OR = 2.7) compared to herds with textured concrete flooring (OR = 1.0).
- These factors are likely allowing cattle to be constantly exposed to moisture resulting in softer hooves, more easily worn and damaged.
- Biosecurity Practices: HHW is an infectious disease. As with any other infectious disease, practices must be instituted to avoid introduction or spread through the herd.
- Herds with greater than 25% of cows born off the dairy were at a much greater risk of HHW (OR = 7.9) than dairies in which cows are not introduced (OR = 1.0).
- Herds in which the hoof trimmer worked on other operations as well were 2.8 times more likely to have a high incidence of HHW.
- Herds where hoof trimming equipment was not washed between use on cows were 1.9 times more likely to have a high incidence.

These factors emphasize 1) the need to carefully screen cattle introduced into the herd for signs of HHW keeping in mind that not all cows with HHW will be lame. 2) Institute sanitation measures (ie disinfecting hoof trimming equipment between cows) to reduce the spread of HHW between cows and herds.