

Multiple Reasons For Short Claws And Thin Soles

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As many of us work with larger herds, thin soles and short claws are becoming a more prevalent problem. Routinely I hear of hoof trimmers applying 30 to 40 blocks a day, and they often seem quite proud of that. In reality, applying many blocks means they are putting out fires. Let's look at why this problem occurs.

Research performed by the late E. Toussaint Raven indicated a normal hoof grows 5 millimeters (3/16 inch) per month, a non-negotiable fact. We all understand that the walking surface affects the rate of claw wear. Newly constructed facilities typically have more abrasive concrete. Many times the new concrete is blamed for the thin soles especially on fresh cows and heifers. However, it is rarely understood that several factors are at play in this situation.

Conditions That Cause Cows To Drag Their Feet

Heifers that are raised on dry lots or pasture are used to walking on a yielding surface. Their lamina needs a minimum of four weeks to six weeks to adjust to a non-yielding surface like concrete. If this adjustment is made during the pre- and post-calving period, the results will always be devastating. In addition, other circumstances are stressing these heifers during these critical times.

- Enzyme and hormone changes
- Growing a mammary system
- Udder edema
- Ration change
- Social change
- Extended periods of time standing in the holding area
- Becoming familiar with a milking parlor and the milking routine

All these factors contribute to an inflamed lamina, which is painful, so the animal alters how she walks. Affected animals rarely walk with a normal gait; they usually drag their feet.

When walking on a non-yielding surface, animals must compensate for the pain from the thrust of impact. Dragging their feet over new concrete wears the claws.

Depending on the distance these animals have to walk and the times milked per day, horn wear may exceed horn growth. It is not uncommon for producers to milk fresh heifers and cows four to six times a day to boost milk production. I question this practice, especially if every aspect of their environment and routine is not totally fine-tuned and micro-managed.

Hoof Wear Case Study

During a recent consulting job on a large dairy I saw firsthand the negative impact on hoof wear from long walking distances. Over 90 percent of all first-calf heifers fresh less than 100 days had short claws and thin soles. Production was 10 to 15 pounds below average production of comparable farms.

At this farm, all heifers were raised on concrete lots with sand-bedded freestalls. The first thing I could rule out was the adjustment to concrete. Second, heifers were kept in a separate pre- and post-fresh group so socially they had little or no adjustment.

The first day they were milked in the hospital parlor and then moved to the post-fresh group, about 250 animals including heifers fresh two to 40 days. The two-row barn had sand-bedded, head-to-head freestalls. Floors were grooved and the concrete surface provided excellent traction. The holding pen and return lanes were approximately 100 feet long with a three-percent slope. The breezeway and holding area had a textured surface, also with good traction.

Obviously, the transition and fresh-cow management protocol seemed appropriate, so why was there a problem with thin soles? After learning more details, it became clear there was a definitive problem with one element.

Fresh Heifers Walking 1.5 Miles A Day

As mentioned, they moved heifers the second day after calving to a fresh group, but this required being milked four times a day. The traveling distance from the pen exit to the start of the holding area was roughly 370 feet, which in eight trips totaled 3,000 feet per day. In addition, the pen size and traffic added another 3,000 feet a day. Though traffic in the pen was leisurely so claw wear in the pen was not as high as it was walking to and from the milking parlor. Milking lasted about 1.5 hours per pen and increased walking distance by an additional 1,000 feet. These heifers traveled about 7,000 feet or roughly 1.5 miles a day under somewhat-sloping conditions. The result was too much claw wear!

But this was only one part of the wear problem. First-calf heifers moved to a large pen typically will not volunteer to be the first animals entering the holding pen. Instead they will commonly be the last ones through the parlor for the first two to three weeks. After all, milking is not the most thrilling experience for them. When considering this, these heifers were standing in the holding pen for an average of 1.25 hours to 6 hours per day.

It is suggested with a four-times-per-day milking schedule, cows spend no more than 30 minutes in the holding pen per milking. The average on this farm exceeded the daily time allowance by more than three hours. As you can see in this time-budget example, these heifers were destined to become lame.

Dairy Cow's Daily Time Budget

- ✓ 4.5 hours Eating (9-14 meals/day)
- ✓ 12 hours Lying/Resting
- ✓ 3 hours Milking
- ✓ 2.5 hours Socializing In Alleys
- ✓ 2 hours Standing In Stall (including perching)



Dr. Nigel Cook 2003

Some producers want to get the most milk from their fresh cows and first-calf heifers. However, without considering what is best for the animal, they are breaking responsible dairy husbandry rules. This is why claws wear more than normal and lameness increases. In my experience, timely, proper hoof trimming, improving environmental conditions and changing management practices can nearly eliminate the need to apply blocks.

It is our responsibility as trimmers to help these animals. We have a responsibility to ask, "Why is this happening?" and determine a solution to the problem. I have visited too many farms where trimmers keep applying blocks month after month, and do not stop to assess the situation and suggest changes. In other words, they are dropping the ball and not providing a complete service to their customers.

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