

Maintenance Hoof Trimming: Why, When and How

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WHY

Dairy cows can only produce to their potential if they are healthy and comfortable. Comfortable, healthy cows eat large amounts of feed, produce high quantities of quality milk and reproduce efficiently. Unfortunately, lameness in dairy herds is on the rise and it affects the entire profitability of the cow.

- There is a high correlation between low production and cows that are not capable of walking comfortably to the feedbunk or out into the lush pastures to eat.
- Also, lame cows spend more time lying down and often in soiled areas so they are generally dirtier, which makes their udders more susceptible to mastitis from the opportunistic pathogens in dairy environments.
- When it comes to reproduction, cows that are lame will not show heats or many times stop reproductive cycling.

Trim Regularly For Healthy Hooves

With today's dairy producers stressing cows more by pushing them to produce large amounts of milk in housing conditions that their feet were not originally designed to endure, it is paramount to maintain cows' hooves in the best possible condition to keep them healthy so the cows can remain productive.

Being raised on a dairy farm in the Swiss foothills where maintenance hoof trimming has been practiced for over 40 years taught me to appreciate what healthy hooves meant to a small dairy operation. The environment of today's dairy cows reminds me of all the walking our cows had to do in the rugged terrain, except that 90 percent of the time our cows had the luxury of walking on a yielding surface, grass. Plus, we trimmed all cows two or more times per year.

As a result of this focus on maintaining hoof health, every year my father sold over 30 percent of our replacements and few cows went

to slaughter. This is not the case for many herds today.

Hoof disorders cause about 90 percent of the lameness in dairy cattle and are related to problems with health, comfort and environment. Whenever we have to treat lameness we are six weeks to 10 weeks too late with our prevention. This is because cows seldom become lame immediately after they encounter stress or an insult to the hoof. It usually takes six weeks to 10 weeks after the insult for the lameness to emerge. To prevent lameness from occurring we need to implement a maintenance hoof-trimming program.

Maintenance hoof trimming significantly reduces lameness by preventing disease from developing! Maintenance trimming accomplishes this by correcting toe length and toe angle and keeping the balance and weight distribution between the claws the best possible all the time. This will make the claws function properly and alleviate mechanical insults caused by overgrowth, imbalance, incorrect angle and long toes.

An Investment, Not An Expense

Recently we have seen costs of hoof diseases range from \$100 to \$600 per lameness episode. With cull cows at \$375 and dairy replacements between \$1,400 and \$1,800, it does not take a mathematician to see the enormous profit losses when lameness forces culling. Dairy herds are experiencing 35 to 45 percent cull rates, and the average age per cow is less than 3.5 years.

Maintenance hoof trimming can help this situation, but many dairy producers consider hoof care an expense rather than an investment. Ironically, producers seldom question a 5-cent to 10-cent investment for a feed additive that promises to reduce hoof diseases or other problems. Some of these additives are effective and deserve a place in

the ration, but it often takes three to eight months for results and they alone cannot improve hoof health. Maintenance trimming costs about as much as these feed additives, less than 9 cents per cow per day, based on 2.5 trims per cow per year that cost \$30 per cow per year. It also offers more immediate results and is a necessary, long-term solution.

Case Study: Functional Trimming Reduces Lameness

In 1995 I gained more understanding and knowledge by attending a hoof care course in The Netherlands. I learned functional hoof trimming according to the late Dr. E. Toussaint Raven's years of research. When I returned home I started applying functional trimming and encouraging my clients to manage hoof care by preventing lameness rather than treating problems as they developed.

A client ten years ago was milking 120 cows in a facility built in the early 1980s. Until 1995, the hoof care program included trimming all the dry cows and treating lame cows. In 1994 we applied 45 claw blocks to treat hoof problems. There were too many problems, but nobody seemed to have an answer for how we could reduce lameness. This client, like many dairy producers, accepted a high incidence of lameness and felt this was the price he had to pay for modern dairy production.

On this dairy we had much catching up to do. Because I started using a trimming method that yields consistent results and we implemented a more preventative hoof-care approach, we only applied 15 claw blocks in 1995. Then we started trimming all first-calf heifers six weeks to three weeks before calving and almost eliminated lameness in the first lactation. By 1996 the dairy herd grew to 150 cows using its replacement heifers and I applied only nine claw blocks. Production increased from 65 pounds per cow average in 1995 to 74 pounds in 1996.

This client spent over \$5,000 on hoof care on 120 cows in 1994, which is over \$40 per cow. By 1998 the herd grew to over 200 cows using its replacements and milk production per cow increased to 77 pounds. During 1998 I used nine claw blocks and hoof care cost

\$6,000 for the year. That brought the hoof care investment to less than \$30 per cow per year. Also, this operation accomplished this success despite the many cow comfort and environmental handicaps from an outdated facility design.

While working with 35 dairy producers in south central Wisconsin for the last 10 years as a hoof care provider and consultant, I have expanded my understanding of hoof maintenance and shared it with them. Several of my clients have expanded their herds without buying replacements and others have excess replacement heifers to sell. And since we implemented regular hoof-maintenance programs these producers are culling cows using different criteria than previously. Now all of us are benefiting from quality hoof-maintenance programs.

WHEN

There might be different opinions on the best timing for maintenance trimming. When we look at the dairy cow's life and lactation, we recognize periods of increased stress and changes, which is when the corium is most susceptible to insults. Whenever a cow or heifer will experience a big change she needs her claws to have the best possible balance, toe angle and weight distribution.

The ideal time to start trimming a lactating animal is six weeks to three weeks before calving. This will guarantee the best possible hoof condition during the cow's greatest stress period. However, this is even more important for first-calf heifers! They also need their hooves trimmed before they calve and enter the milking herd.

When Rear Lateral Claw Is Imbalanced

Over 85 percent of all lameness occurs in the rear lateral claw. If proper balance and weight distribution are not obtained and the rear lateral claw exceeds the medial claw by 1 cm or 3/8 inch, it experiences insults and becomes diseased, especially if the following stress factors exist:

1. Long walking distances
2. Introducing cows to non-yielding walking surfaces for the first time

3. Excessive standing time (cows should lie down 11 hours to 14 hours per day)
4. Poor freestall design or maintenance
5. Poor floor conditions (slippery or too abrasive concrete)
6. Socializing and pecking-order stresses especially with first-calf heifers and fresh cows
7. Inadequate transition at calving time
8. Calving and all its metabolic changes
9. Sudden ration changes
10. Poor feedbunk management
11. Other feed management

As a result, the next trim should follow whenever the rear lateral claw exceeds the medial claw by 3/8 inch or 1 cm, which depends on housing and management. Cows generally need the second trim between 4 and 5 months after the prepartum trim or around 80 days to 130 days into lactation. Many times if cows are not pregnant by the 120-day trim, after trimming they show better heats and their conception rates improve.

Special Cases To Monitor

With today's cows experiencing extended lactations, trimming should occur every 120 days to 150 days. Problem cows, such as those that have permanent hoof damage from previous lameness episodes, and older cows, need special attention. I recommend trimming the rear feet of these high-maintenance cows every 60 to 90 days. Also keep an eye on growing heifers. If their conditions require hoof trimming they must be included in the hoof maintenance program!

HOW

Functional hoof trimming's objective is to make the cow walk more comfortably and ensure she is not lame when you are finished because that discourages dairy producers from using a maintenance program. Milk production should increase after a maintenance trim because it improves the cow's mobility and it

reduces pain by restoring a correct shape and balance to the claws. Cows will spend more time eating at the feedbunk after a maintenance trim. This means there must be a sufficient amount of horn left to protect the corium and keep it healthy.

If the condition of the hoof requires you to remove large amounts of horn or change the claw angle greatly it is a therapeutic trim, which may result in some tenderness for 10 days to 14 days because of the severe adjustment to the deep flexor tendon and the extensor tendon. In this case scheduled maintenance has failed since it occurred too late to prevent a severe adjustment. However, I have found cows that receive regular maintenance trims but become lame have less severe complications and recover more quickly than cows that are not part of a maintenance program. Remember, if lameness develops dairy producers and hoof-care specialists must deal with it immediately!

Everyone Must Commit

It takes a big commitment from the dairy producer and the hoof-care specialist to keep useful records and follow schedules strictly to sustain a maintenance-trimming program and prevent it from becoming a therapeutic one. Plus all other management areas must get the same intense attention as hoof care.

The management chain is only as strong as its weakest link. The most successful dairy managers do not have any weak management areas. A realistic lameness goal is having less than two lame cows per 100 cows per month, excluding digital dermatitis and interdigital phlegmon.

I follow Dr. E. Toussaint Raven's five-step functional hoof trimming procedure because it provides guidelines to follow and consistently produces results. Cows love it! Healthy hooves make happy cows, which leads to higher profits, and that yields happy dairy producers!

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