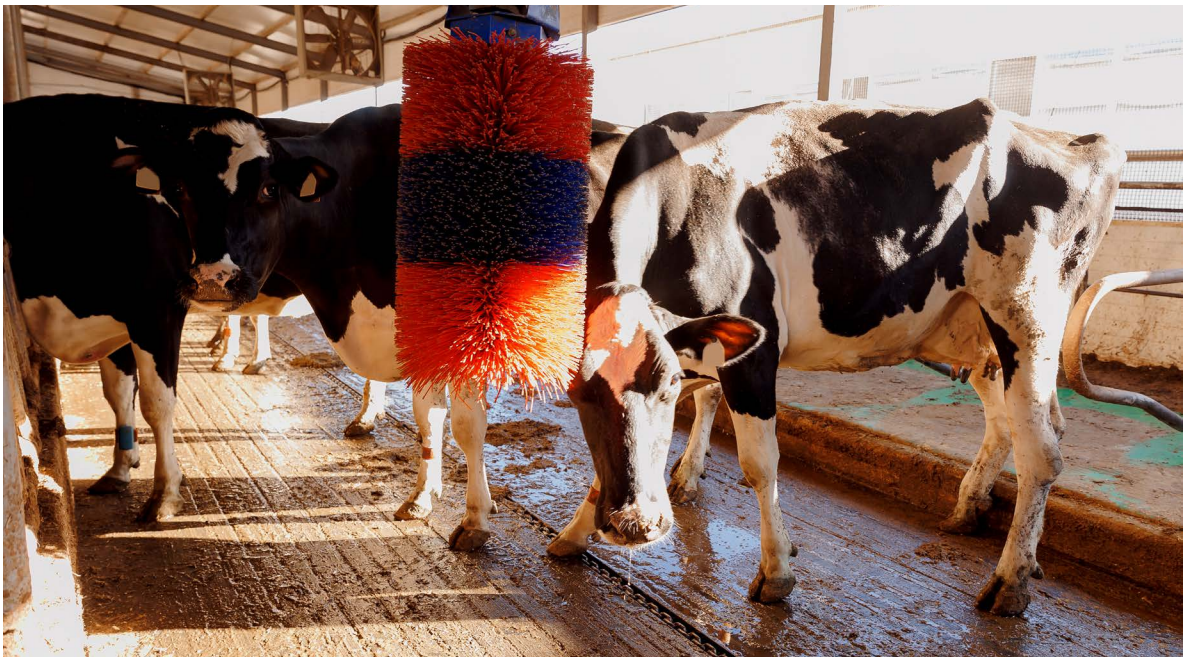
MISSISSIPPI STATE UNIVERSITY EXTENSION

Environmental Enrichment for Dairy Cattle: Hair Brushing



Introduction

In the ever-changing field of dairy farming, the main goals remain simple: boost productivity and ensure the well-being of our livestock. As what consumers prefer continually evolves, our understanding of the physiological and psychological needs of dairy cows deepens. An emerging concept, environmental enrichment, plays a crucial role in enhancing productivity and prioritizing welfare. One practice that has gained notable attention is using cow brushes. Regular brushing can substantially impact milk production and overall herd health. This publication explores the concept of environmental enrichment, focusing on the valuable practice of using cow brushes.

What Is Tactile Enrichment?

Environmental enrichment, including tactile enrichment, refers to modifying the environment to improve the physical, mental, and emotional well-being of animals. These changes can assist animals, manage stressors, ease frustration, and fulfill their natural behavioral needs. A key part of enrichment is allowing cows to engage in natural behaviors such as grooming, foraging, and socializing. For instance, when farmers place cow brushes in optimal areas on their farm, cows will engage in tactile grooming behaviors, which promotes physical health (Figure 1). Cow brushes have been shown to significantly increase grooming behaviors, including both self-grooming and social grooming among herd mates.

Benefits of Using Cow Brushes

Improved Herd Health

Being confined inside our house, sometimes with nothing to do, can be stressful and tedious. The same happens with confined cows. Cows are very curious animals; providing environmental enrichment allows them to better express this natural behavior. Introducing cow brushes allows cows to exercise and experience joy, improving their well-being and reducing stress. Many studies have shown improved health, including reduced lameness and cases of mastitis, in dairy cows that have access to brushes.

Although there is no direct link between brushing and reduced disease rates, using cow brushes can help ease stress, which directly impacts immune responses. Stress-induced immune system changes are known to greatly affect how often and how severe disease occurs in cattle of all ages. Therefore, adding cow brushes into indoor housing systems can play a vital role in promoting both the physical and overall well-being of dairy cows.

Increased Milk Yield

Healthy and comfortable cows are more likely to produce higher milk quantities. Research has shown a 3.5 percent increase in daily milk production among second lactation cows that use cow brushes. Additionally, other studies found a positive correlation between brush use and increased milk yield of 3.35 pounds. By promoting an environment focused on increased cow comfort, these brushes can indirectly contribute to increased animal productivity, highlighting the relationship between cow comfort and milk production efficiency. One theory is that cows become more active by walking to use the brush, leading them to visit the feed bunk more frequently. Another theory suggests that cow brushes increase overall blood circulation, which positively affects circulation to the mammary gland.

Extended Life of Equipment

Regular grooming with cow brushes not only benefits the animal, but also extends the lifespan of other equipment on the dairy farm. Cows naturally seek out ways to scratch themselves, often using structures such as metal gates, fences, and water troughs. By providing dedicated cow brushes, farmers prevent unnecessary wear and tear on these structures, reducing maintenance costs and ensuring the longevity of farm equipment.

Cost of Enrichment

While the idea of applying environmental enrichment practices, such as providing cow brushes, might raise concerns about costs, it's essential to consider the long-term benefits and cost-effectiveness of these investments. As of 2017, the average cost of mastitis was approximately $326 per case for primiparous (first-time birth or birthed one offspring) cows and $427 per case for multiparous (birthed multiple times) cows. Compared to the potential losses from decreased milk production and increased veterinary expenses, the initial investment in cow brushes is relatively modest.

Cow brushes range from homemade devices (costing up to $50) to more sophisticated commercial models (costing more than $1,000). The cost varies based on materials, durability, and design, with high-end brushes often featuring motion-sensor technology and rotating mechanisms that provide additional stimulation and increase usage. Moreover, consumer demand for products that support animal welfare—such as milk from "happy" cows—has grown. Many consumers, especially younger consumers, are increasingly drawn to products that reflect a commitment to improving the quality of life for farm animals, which can enhance a farm's marketability and long-term sustainability.

Pasture Applications

While cow brushes are typically associated with indoor or confined dairy systems, the benefits of tactile enrichment can also extend to pasture-based operations. Placing tactile enrichment devices near common congregation areas, such as water sources or shaded rest zones, can give cows in pasture environments the same health and welfare benefits. These devices offer tactile stimulation and grooming opportunities, promoting cleaner, healthier cows even in outdoor settings. Additionally, these brushes can help reduce the wear on natural elements like trees and fencing, which cows might otherwise use for scratching.

Conclusion

Implementing cow brushes in dairy farming operations provides benefits beyond cow comfort; it's a strategic decision with many benefits for producers. By investing in environmental enrichment techniques, producers can potentially optimize herd health, boost milk production, and enhance the longevity of their equipment. It's a win-win situation where both the well-being of the cows and the bottom line of the farm are significantly improved.

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