

Nutrition and Hoof Health

Short Guide

11/09/05

Hoof Health: a multi-factor problem: the nutrition program is only as good as cow environment and hoof care

- we can take steps to optimize nutrition but can go only as far as environment and hoof care will allow, or as far as the most limiting nutritional factor will allow.

Nutritional Events and Factors that Affect Hoof Health

- 1) Nutrition: nutrients, digestion, absorption, metabolism
- 2) Nutrients: requirements, supply/intake, balances/imbbalances, availability
- 3) Digestion: rates, extent, fermentation products, bacteria
- 4) Absorption: rates, interactions, immune/inflammatory reactions
- 5) Metabolism: efficiency, imbalances, loads, secondary responses
- 6) Practical: ADF, NDF, % forage, particle size, NSC, buffering, water

Hoof Factors

Hoof growth: rates, stressors, nutrient requirements

Hoof disease: circulatory effects, inhibitory substances, inflammatory effects

Lameness: locomotion scoring, prevention

Management Factors

Feeding management: feed availability, mixing, control of variation, SOP's, monitoring

Environment: feed, water, rest, crowding, free movement, traction, timetable

Body condition, cleanliness

Problem solving

Questions:

What type of hoof problems or lesions?

Timeframe: how long to develop?

When? (Stage of lactation, fresh cows, dry cows, heifers?)

What percent of cows?

Fat test depression?

Forage changes?

Facility changes?

People changes?

Look at:

- Cows: locomotion, body condition, stall use
- Environment: stalls, cleanliness, floors
- Ration: mix, particle size, ad lib feeding, water
- Routines: (or lack of)
- Forages: quality, and particle size
- Hoof care program

Ranking: Is it primarily:

- A nutritional problem?
- A feeding management problem?
- An environmental problem?
- A hoof care problem?
- A people problem?

Approach:

Work with herd manager, hoof trimmer and veterinarian
Monitor locomotion score and new cases of lameness
Management change to address 1st limiting problem: example mixer wagon SOP
Takes 2-6 months to see significant changes, depending on problem
Fine tune later