ZINPRO®

ADVANCING PERFORMANCE TOGETHER

CLAW LESION IDENTIFICATION
IN DAIRY CATTLE

DAIRY CLAW LESION
IDENTIFICATON

ZINPRO®

NON-INFECTIOUS

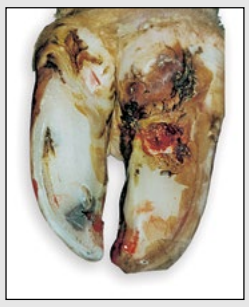
WHITE LINE LESION (W)

Also called: White Line Separation, White Line Disease

Zones Affected: 1, 2, 3

Common signs:

- In mild cases, a void occurs in the junction between the sole and the wall
- In severe cases, abscesses form, generally at the heel-sole-wall juncture (zone 3)



SOLE ULCER (U)

Also called: Pododermatitis Circumscripta, Rusterholz Disease

Zone Affected: 4

Common signs:

- Raw sore (horn erosive defect) occurring at sole-heel junction on inner side of outside hind claw
- Often occurs in both outside hind claws (when present)

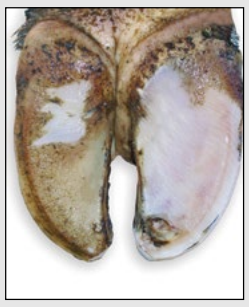
SOLE HEMORRHAGE (H)

Also called: Sole Bruising

Zones Affected: 4, 5, 6

Common signs:

- Slight to significant red (or blue) coloration of the sole
- Not to be confused with natural black pigmentation of claw horn



TOE ULCER (T)

Also called: Toe Necrosis, Apicalis Necrotica

Zone Affected: 1

Common signs:

- Black mark, blood stain and/or rupture in white line or sole at the toe
- Caused by rotation of pedal bone within the claw pressing down on the sole or thin soles

CORKSCREW CLAW (C)

Zone Affected: 7

Common signs:

- Rapid irregular growth of the claw with rotation
- Sole displaced inward and rear
- Causes difficulty walking

HORIZONTAL FISSURE OR HARDSHIP GROOVE (G)

Also called: Horizontal Wall Fissure, Fissura Ungulae Transversalis

Zones Affected: 7, 8

Common signs:

- Claw wall parallel to the hair-line cracks and eventually breaks off
- Caused by nutritional or metabolic stress

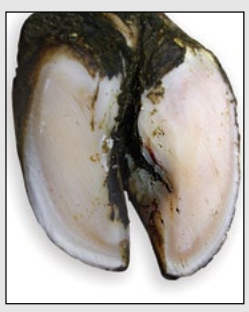
VERTICAL FISSURE (V)

Also called: Sandcrack, Fissura Ungulae Longitudinalis

Zones Affected: 7, 8

Common signs:

- Vertical split in front or side of claw
- Occurs primarily on outside front claws
- Often the most painful cause of lameness



AXIAL FISSURE (X)

Also called: Axial Wall Fissure

Zones Affected: 11,12

Common signs:

- Deep groove on interior surface of claw wall parallel to front claw surface
- Bleeding may indicate lesion presence
- Mild to severe lameness

INTERDIGITAL HYPERPLASIA (K)

Also called: Corn, Interdigital Fibroma, Interdigital Growth

Zone Affected: 0

Common signs:

- Rapid growth of skin and/or tissue between the digits, forming a firm mass
- Secondary infection likely with severe (large) lesion

THIN SOLE (Z)

Zones Affected: 4, 5

Common signs:

- Sole is thin and flexible when pressure is applied
- Caused by insufficient length of toe, excessive wear or over trimming
- Minimum claw length of 3 inches (7.5 cm) does not apply to heifers or animals that weigh less than 900 lb (400 kg)

INFECTIOUS

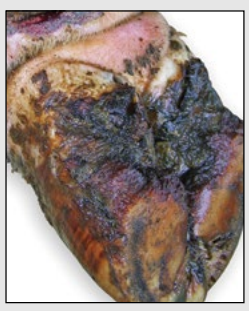
DIGITAL DERMATITIS (D)

Also called: Hairy Heel Warts, Mortellaro Disease

Zones Affected: 9, 10

Common signs:

- Raw, bright-red or black circular growth above the heel bulbs, with edges forming a white opaque ring or hard, thin, hairy, wart-like growths or sores
- Affected cattle are reluctant to walk or are lame

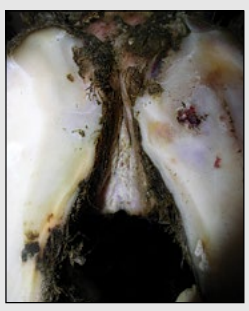


HEEL EROSION (E)

Zone Affected: 6

Common signs:

- Severe erosion of heel in irregular pit-like depressions or “v” shaped grooves causing lameness
- Instability of the claw due to lost or damaged horn resulting in uneven weight bearing
- Heel becomes sore as erosion progresses



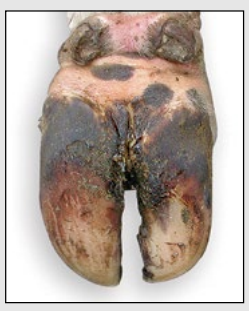
INTERDIGITAL DERMATITIS (I)

Also called: Stable Foot Rot, Scald

Zones Affected: 0, 10

Common signs:

- Discharge and destruction of skin between the claws
- Bulb horn clefts leading to contusion of the corium and ulceration



FOOT ROT, FOUL OR PHLEGMON (F)

Also called: Interdigital Phlegmon, Interdigital Necrobacillosis

Zone Affected: 9

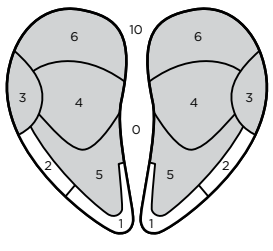
Common signs:

- Swelling of the entire foot (equally) including the dew claws
- Separation of digits, infection produces a noticeable foul odor
- Animals will likely have a fever

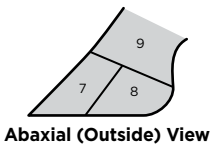
LESION ABBREVIATIONS

C	=	Corkscrew Claw
D	=	Digital Dermatitis
E	=	Heel Erosion
F	=	Foot Rot, Foul or Phlegmon
G	=	Horizontal Fissure or Hardship Groove
H	=	Sole Hemorrhage
I	=	Interdigital Dermatitis
K	=	Interdigital Hyperplasia
T	=	Toe Ulcer
U	=	Sole Ulcer
V	=	Vertical Fissure
W	=	White Line Leion
X	=	Axial Fissure
Z	=	Thin Sole

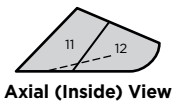
CLAW ZONES



Bottom View



Abaxial (Outside) View



Axial (Inside) View

For more information: contact your Zinpro representative or visit **zinpro.com/dairy**

FirstStep®

This poster was co-developed by Zinpro Corporation and The International Lameness Committee.

Photos courtesy of: R. Acuña, C. Bergsten, S. Berry, K. Burgi, L. DeVecchis, A. Gonzalez, P. Greenough, J. Kofler, J. Malmo, R. Pijl, J. Shearer, F. Sutton

ESTABLISHING PROCESSES TO REDUCE LAMENESS

By recording lesions and where they occur, producers can implement a more targeted treatment plan and track over time which lesions are most prevalent in their cattle.

Identify
Proper treatment is determined by the type of lesions found

Record
To develop the proper corrective action plan for decreasing prevalence

Zoning
Helps determine the root cause and prevention methods

Non-Infectious Lesion Risk Factors

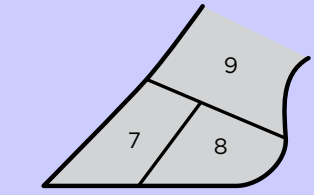
- Lack of hoof trimming, infrequent hoof trimming or improper hoof trimming
- More than three hours per day spent standing in the holding area, stall area and/or excessive time locked in headlocks
- Poorly designed stalls creating discomfort
- Insufficient lying time
- Limited access to feed due to overstocking or insufficient feed bunk space
- Flooring conducive to excess horn wear
- Nutritional factors, such as feeding excessive amounts of rumen fermentable carbohydrates, lack of effective fiber, excessive amounts of protein, TMR sorting, inconsistent feeding times and inadequate trace mineral status
- Post-calving metabolic disorders such as milk fever and ketosis
- Heat stress, resulting in lower rumen pH and cows spending more time standing
- Abrupt transition (nutrition and environment) from dry to lactation period

Infectious Lesion Risk Factors

- Wet conditions
- Poor foot hygiene
- Presence of infected animals in the herd
- Poor footbath management

Regardless of whether the lesion is non-infectious or infectious in nature, one major factor contributing to lameness reduction success is the **prompt and effective treatment of all lesions as early as possible.**

CLAW ZONES



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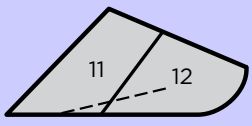
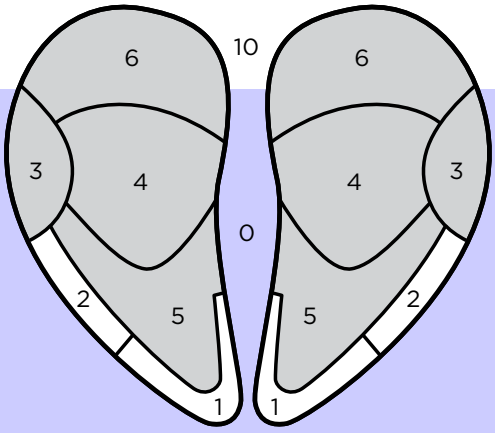


Axial (Inside) View



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