CLAW LESION IDENTIFICATION IN DAIRY CATTLE
**DAIRY CLAW LESION IDENTIFICATION**

**INFECTIONOUS**

**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-side-wall juncture (zone 3).

**SOLE ULCER (U)**
- Also called: Hairy Heel Warts, Mortellaro Disease
- Zones Affected: 7, 8
- Common signs:
  - Raw, bright-red or black circular ring or hard, thin, hairy, wart-like edges forming a white opaque growth above the heel bulbs, with edges forming a white opaque ring or hard, thin, hairy, wart-like growths or zones.
  - Affected cattle are reluctant to walk or are lame.

**SOLE HEMORRHAGE (H)**
- Also called: Stable Foot Rot, Scald
- Zones Affected: 4, 5, 6
- Common signs:
  - Separation of digits, infection.
  - Swelling of the entire foot (equally), including the dew claws.
  - Causes difficulty walking.

**HEEL EROSION (E)**
- Also called: Toe Necrosis, Apicalis Necrotica
- Zones Affected: 1
- Common signs:
  - Black mark, blood stain and/or black pigmentation of claw horn.
  - 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 Necroses, Apicalis Necrotica
- Zones 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)**
- Also called: Corkscrew Claw
- Zones Affected: 9, 10
- Common signs:
  - Bulb horn clefts leading to contusion, separation of digits, infection, production of a noticeable foul odor.

**SOLE ULTRASOUND**
- Also called: Sole Ultrasound
- Zones Affected: 11, 12
- Common signs:
  - Swelling of the entire foot (equally), including the dew claws.
  - Separation of digits, infection produces a noticeable foul odor.

**DIGITAL DERMATITIS (D)**
- Also called: Hairy Heel Warts, Mortellaro Disease
- Zones Affected: 9, 10
- Common signs:
  - Caused by nutritional or metabolic stress.

**VERTICAL FISSURE (V)**
- Also called: Axial Wall Fissure
- Zones Affected: 7, 8
- Common signs:
  - Deep groove on interior surface of claw wall parallel to front claw surface.

**INTERDIGITAL DERMATITIS (I)**
- Also called: Digital Dermatitis
- Zones Affected: 0, 10
- Common signs:
  - Discharge and destruction of skin between the claws.

**HYPERPLASIA (K)**
- Also called: Interdigital Phlegmon, Interdigital Necrobacillosis
- Zones Affected: 9
- Common signs:
  - Swelling of the entire foot (equally), including the dew claws.

**AXIAL FISSURE (X)**
- Also called: Axial Wall Fissure
- Zones Affected: 11, 12
- Common signs:
  - Rapid growth of skin and/or tissue between the digits, forming a firm mass.

**THIN SOLE (Z)**
- Zones Affected: 4, 5
- Common signs:
  - Sole is thin and flexible when pressure is applied.

**INTERDIGITAL NECTROBACILLOSIS (P)**
- Also called: Interdigital Phlegmon, Interdigital Necrobacillosis
- Zones Affected: 9
- Common signs:
  - Secondary infection likely with severe (large) lesion.

**INFECTIONOUS CLAW ZONES**

**NON-INFECTIONOUS**

**WHITE LINE LESION (W)**
- Also called: White Line Separation, White Line Disease
- Zones Affected: 1, 2, 3
- Common signs:
  - Raw, bright-red or black circular ring or hard, thin, hairy, wart-like edges forming a white opaque growth above the heel bulbs, with edges forming a white opaque ring or hard, thin, hairy, wart-like growths or zones.

**SOCIAL LAMINAR DISEASE**
- Also called: Social Laminar Disease
- Zones Affected: 1, 2, 3
- Common signs:
  - Caused by insufficient length of toe, excessive wear or over trimming.

**FOOT ROT, FOUL OR PHILEGMON (F)**
- Also called: Interdigital Phlegmon, Interdigital Necrobacillosis
- Zones Affected: 9
- Common signs:
  - Swelling of the entire foot (equally).

**INTERDIGITAL NECTROBACILLOSIS (P)**
- Also called: Interdigital Phlegmon, Interdigital Necrobacillosis
- Zones Affected: 9
- Common signs:
  - Secondary infection likely with severe (large) lesion.

**CLAW ZONES**

**LESION ABBREVIATIONS**

<table>
<thead>
<tr>
<th>C</th>
<th>Corkscrew Claw</th>
<th>K</th>
<th>Intercal Digital Hyperplasia</th>
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<tbody>
<tr>
<td>D</td>
<td>Digital Dermatitis</td>
<td>T</td>
<td>Toe Ulcer</td>
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<tr>
<td>E</td>
<td>Heel Erosion</td>
<td>U</td>
<td>Sole Ulcer</td>
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<tr>
<td>F</td>
<td>Foot Rot, Foul</td>
<td>V</td>
<td>Vertical Fissure</td>
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<td>G</td>
<td>Horizontal Fissure or H</td>
<td>White Line Lesion</td>
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<tr>
<td>H</td>
<td>Sole Hemorrhage</td>
<td>X</td>
<td>Axial Fissure</td>
</tr>
<tr>
<td>I</td>
<td>Intercal Digital Dermatitis</td>
<td>Z</td>
<td>Thin Sole</td>
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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.

**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**

Abaxial (Outside) View

Axial (Inside) View

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