



Best Practices in Blocking the Feet of Cattle

Presented by:

Victor Daniel Proprietor of Vic's Custom Clips Inc. est 1984

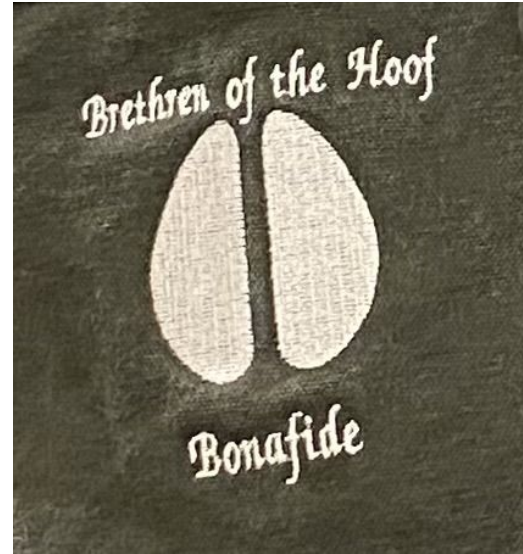
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Proud Member



"We save soles"



Served as an expert advisor on claw health in the Working Group on Functional Traits as Expert for the International Committee of Animal Recording (ICAR) 2014-2015

Business Profile

Vic's Custom Clips Inc. est. 1984

**Done over 320,000 inspection trims in over 100
dairy herds served in Ontario, Canada**

**Completed training courses on Functional Trimming, Bovine Digital Dermatitis
Lesion Scoring and Lesion identification.**

**Written several published articles on feet and legs for dairy cattle, (Canadian
Holstein, Progressive Dairymen, Ontario Dairy Farmer**

Active in teaching, conference presentations and research

Teaching hoof care in cattle since 2015

visit www.vicshooftrimmingcourse.ca



I have developed and presented research worthy of the 16th Symposium and 8th Conference for Lameness in Ruminants 2011 cited as a reference in the Journal of Dairy Science 2015 “The Effect of digital dermatitis on hoof conformation” – A. Gomez et al, J. Dairy Sci. 98:927-936” as well as co-authored and research presented in 2022 at the International Lameness in Ruminants Conference.



J. Dairy Sci. 103

<https://doi.org/10.3168/jds.2019-17755>

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Symposium review: Multiple-trait single-step genomic evaluation for hoof health*

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The cleftabet – evaluation of interdigital cleft conformation



Nynne Capion, University of Copenhagen
Victor Daniel, Vic's Custom Clips, Ontario, Canada

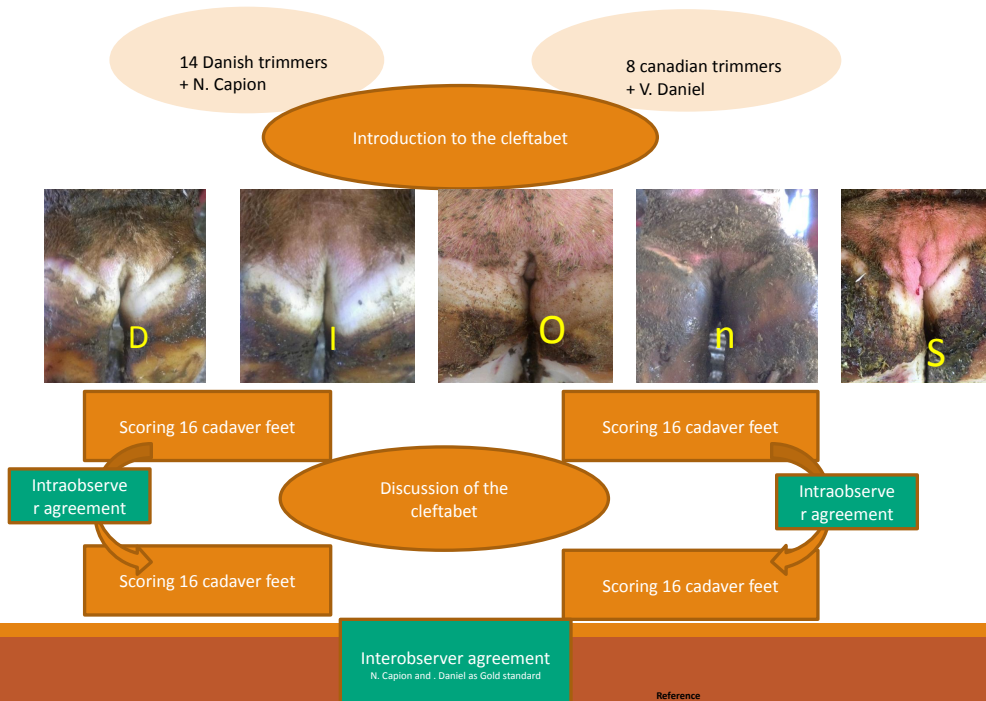
Objectives

Narrow interdigital clefts have a higher risk of BDD¹.

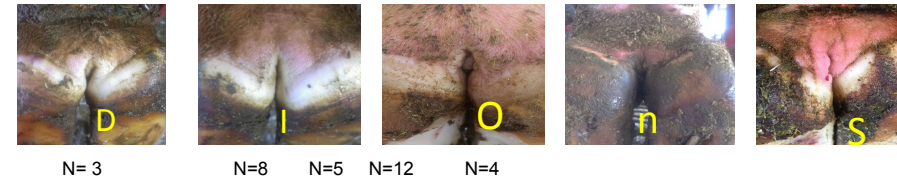
Interdigital clefts may be wider upon weight bearing compared to lifted legs¹.

The objective of this study was to evaluate agreement between observers scoring interdigital cleft conformation.

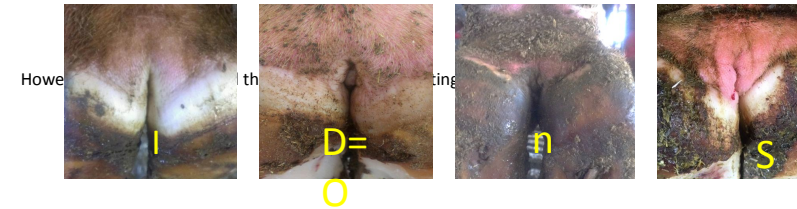
Materials and methods



Results



The interobserver agreement was moderate with weighted $\kappa = 0.43$.



Reference

1. Daniel V. 2011. Digital dermatitis and inter-digital dermatitis infection risks increase as inter-digital cleft space in Holsteins decrease. Proceedings from the Lameness in Ruminants - International Symposium and Conference, New Zealand

This presentation is sponsored by



CHEM SELECT

Featuring quality hoof care products
I use, including foot wraps.



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And
yes I
know a
couple



A short message about Hoof Tite Wrap

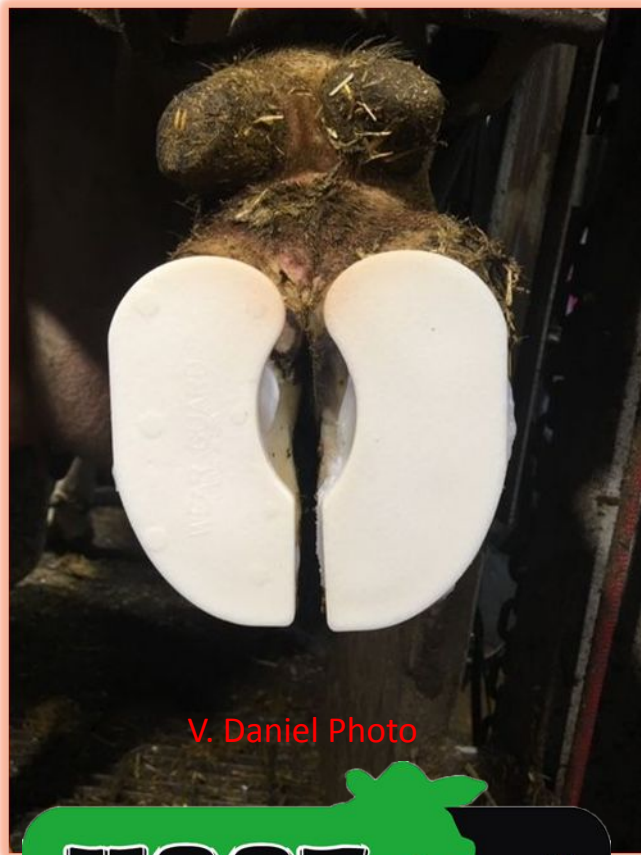


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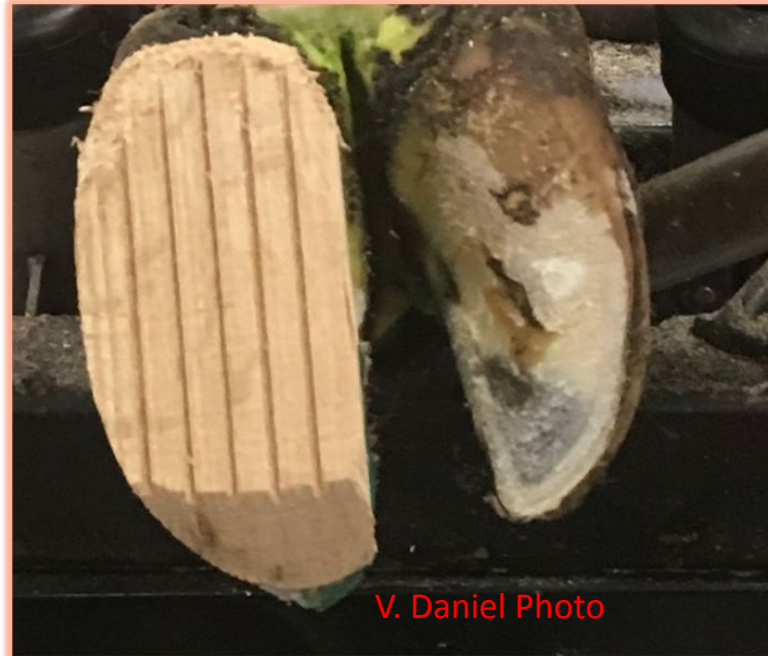


So what is a block?

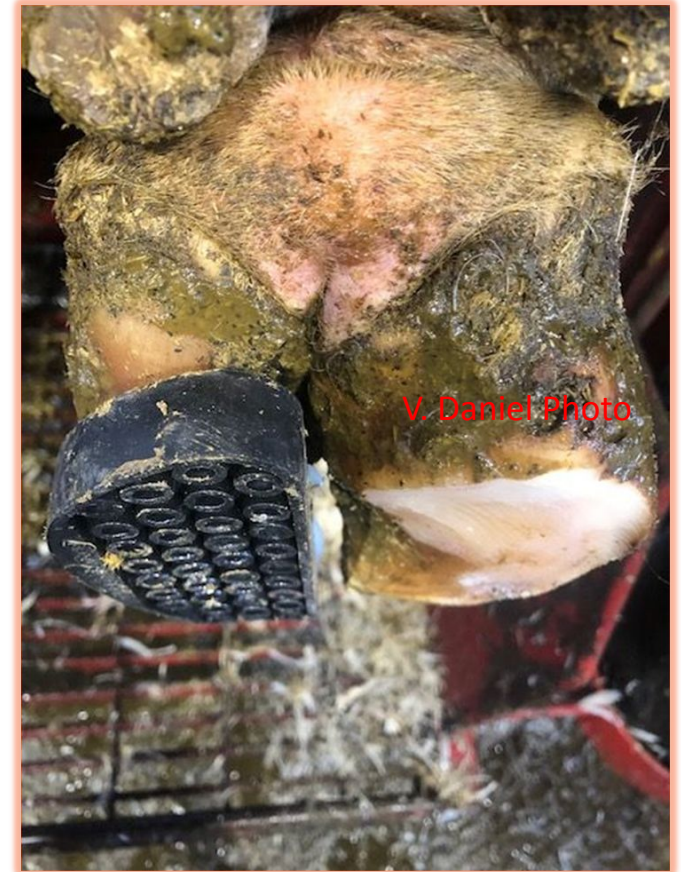
It is simply material shaped similar to the toe shape of cattle.
It can be made from wood, rubber, or various types of plastic.



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So what does it do?

IT ELEVATES A HEALTHY TOE OR CLAW OF CATTLE'S FOOT

GIVING RELIEF TO THE OPPOSITE TOE OR CLAW THAT IS IN PAIN OR DURESS



One block is normal but sometime putting two blocks together is needed



Why use a block?

Animals in pain cannot function normally,

Lameness is the term used for pain associated with the leg structure or foot

All lame animals cost a farm money due to physical deterioration, such as:

Weight Loss

Milk Loss

Reduced Fertility



Blocks & Double blocks help regain better animal mobility

The stress claw on the right leg due to lesion severity is double blocked and well elevated.



Looking at the foot on the left leg has had a $\frac{3}{4}$ inch or 19 mm. deep, single wooden block applied to resolve a less severe issue. Despite that optimal height you can see that the stress claw is still almost touching the ground.

Learning to interpret block selection and technique takes practice.



Speaking of Time

Understand the lame cow is on the clock

Present day welfare assessments and audits require prompt treatment of lame cows.

Since lameness is a daily occurrence and a prominent welfare issue herds must have the capability to treat lameness promptly (within 24-48 hours)

Perspectives on the Treatment of Claw Lesions in Cattle – J.K. Shearer
–Veterinary and Research Reports 2015:6 273-292



Treat as soon as possible



The Treatment(s) of Lesions is based on the relief of pain

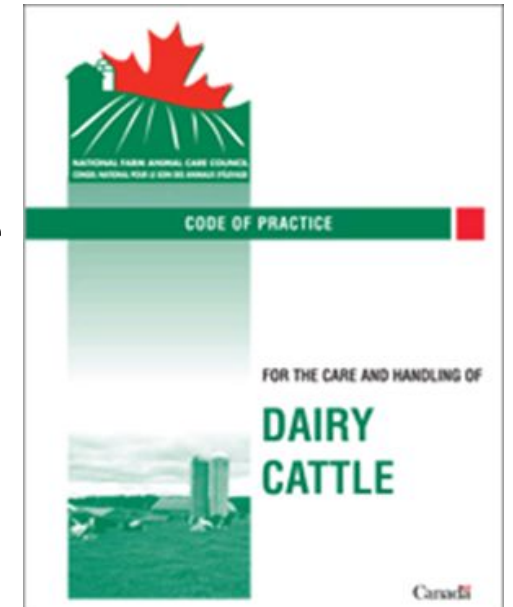
“Lame cows must be diagnosed early and either be treated, culled or euthanized”

Source: Code of Practice for the care and handling of Dairy Cattle

2009 – March 31 2024

National Farm Animal Council – Agriculture and Agri-Food Canada

Blocks improve animal welfare and animal confidence in its ability to get up, move, and lay down.



Applying a block is constitutes Pain Mitigation of Cattle

Blocking as a concept goes back as far as the time of the Roman Empire. This demi solea is a block made of bronze protecting a poultice.



Image source Dr. Paul Greenough Canada



A properly applied block can

Give improved animal mobility and confidence in under 20 minutes.

Promotes faster healing of the lesion in question.



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21 days with a block now removed

*Property of: Vic's Hoof Trimming Course Est. 2015
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Getting Started

Blocks return profitability back to the farm They can provide an amazing ROI (return on investment)



HOW MUCH?

This Much

Every dollar invested can return up to \$20.00 (CDN)

No early intervention of small ulcer or common bruise can develop into a severe ulcer

Costing the farm

\$400.00

Per animal or foot cost of blocking

Block **\$2.00** tip **\$2.00** Glue **\$6.00** time to get animal **\$15.00** total cost **\$ 25.00**

Farm regains

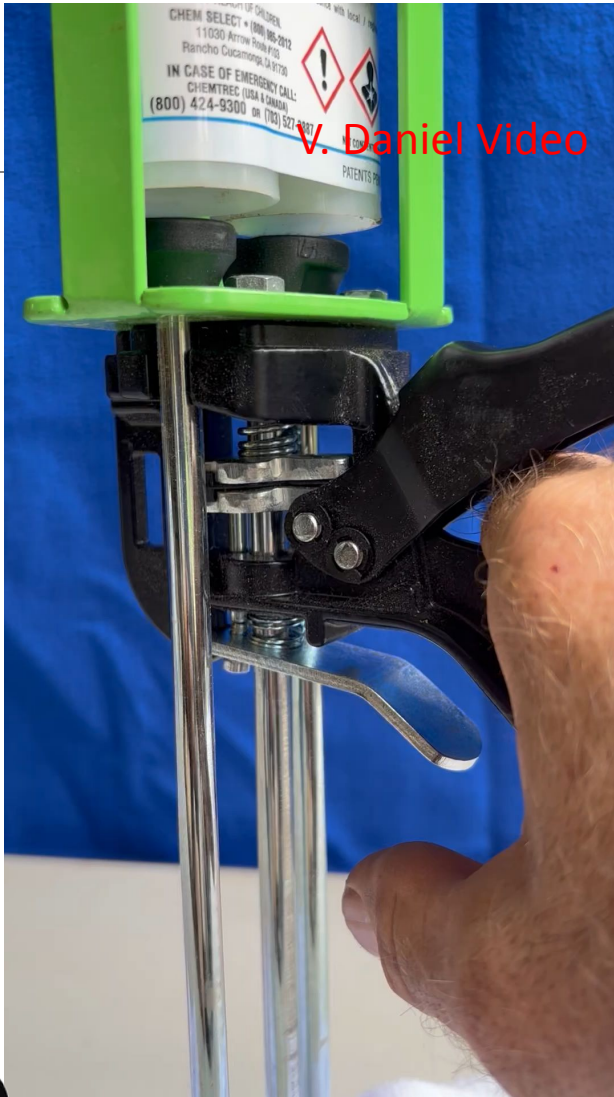
\$350.00



1. Getting Started



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When done gluing the block leave the used tip on. It will keep the air from entering the tube.

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How Hot?



Why do we pressurize a new glue tube?

How to build a glue pile

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Applying glue on a block and onto the toe.

Keep it smooth and tip into the glue

Lightly press on the claw and allow the glue to spread out creating approx. 8 mm thickness.

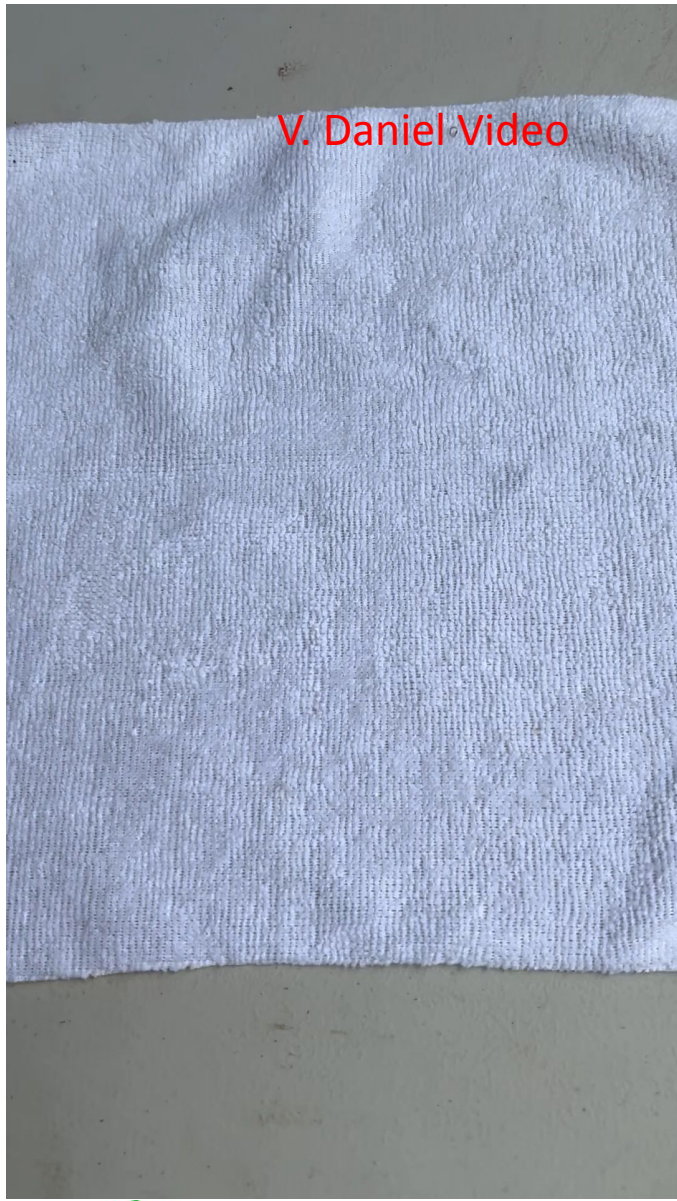
Hold for 10 seconds or so for the glue to set so you can let go.

However, cure time is 3 minutes, so Get yourself a timer and use it.



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Use a timer ,, but...



How thick should glue be?

Storing your blocks

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So,, How many blocks can a tube of glue put on?

Depending on size of blocks the range is 4-6

The average is 5.



Block Logic

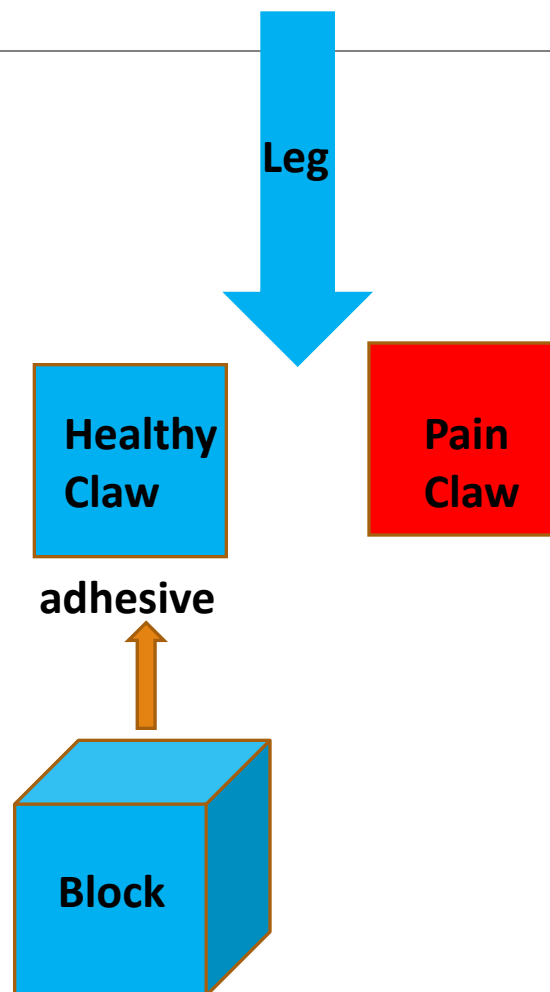
You don't just slap a block on: You need to think about it

1. Which claw do I put it on?
2. What type of block and size do I use?
3. How do I prepare a claw to block?
4. What type of surface issues should be thought of? **le. Slatted floor vs. grooved.**
5. What type of adhesive will work best in my barn?
6. Where do I place it correctly?
7. Can I forget about a block once its on?



Block Logic

1. Which Claw do I put it on?



2. If the block fits , Wear it

**Blocks come in a variety of styles
And sizes,**

**It is very important to have the
right fit**

Wood blocks allow custom fitting



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3. How do I prepare a toe to receive a block?

Clean the sole and outer walls to remove debris from the horn and trim the claw to level as much as possible.

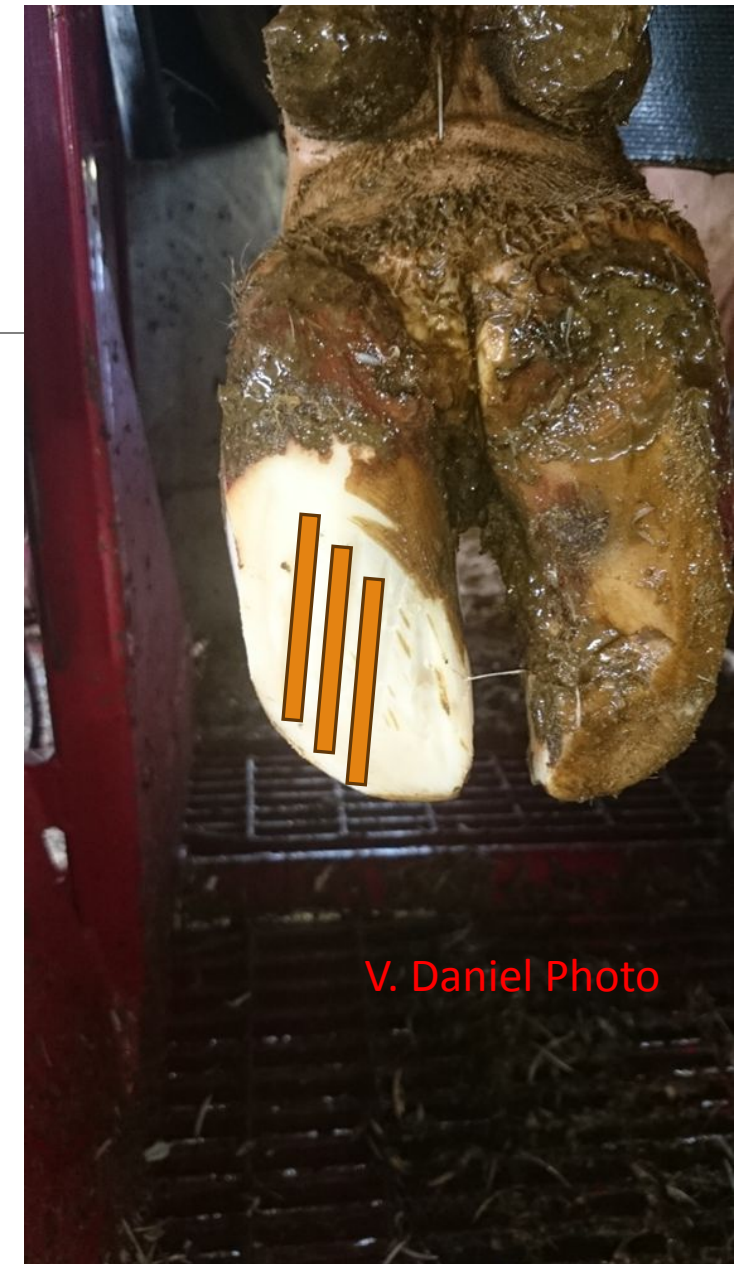
Striate grooves with a hoof knife in the sole

Dry the sole and outer walls of the capsule

Apply glue to block and gently press onto the sole allowing approx. 5-8 mm of glue (3/16 to 1/4 inch) between the sole and block



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4. What type of surface should I think of?



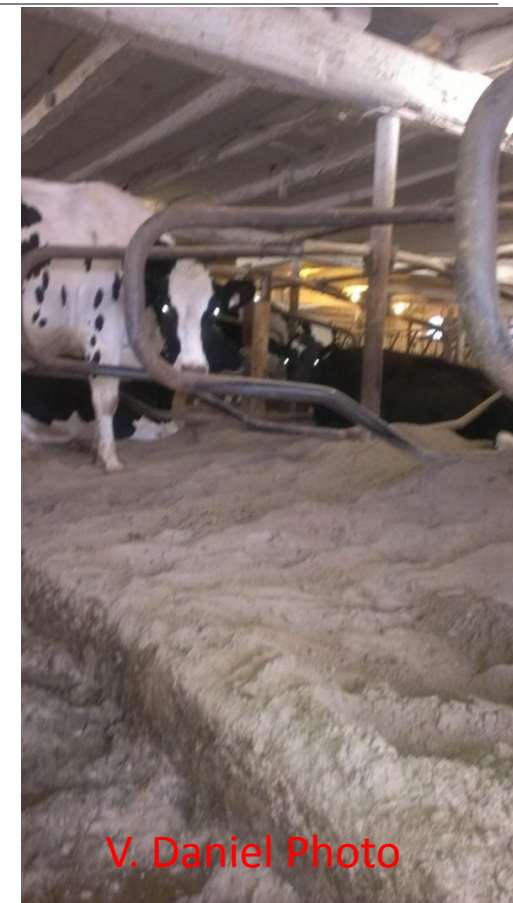
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Slats = shear force



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**Pasture = solid adhesive to sole
so no stone can lodge in gap.
Rubber, Hardwood, Plastic Blocks
Round the block edges**



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Sand = high wear rate

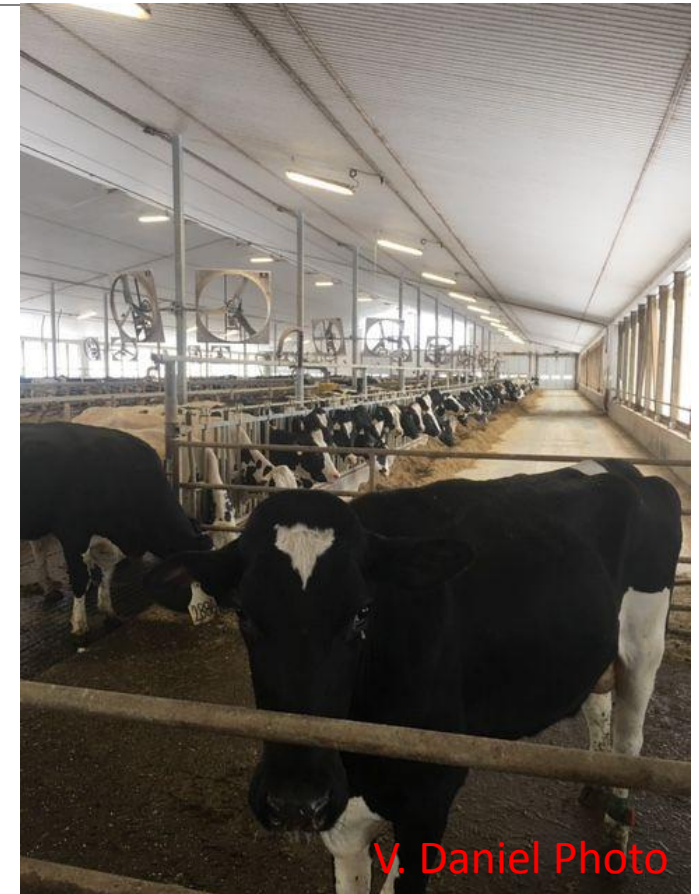
Block Loss Risk Factors aside from poor preparation or application



Scraper Chain Gutter



Slatted floors

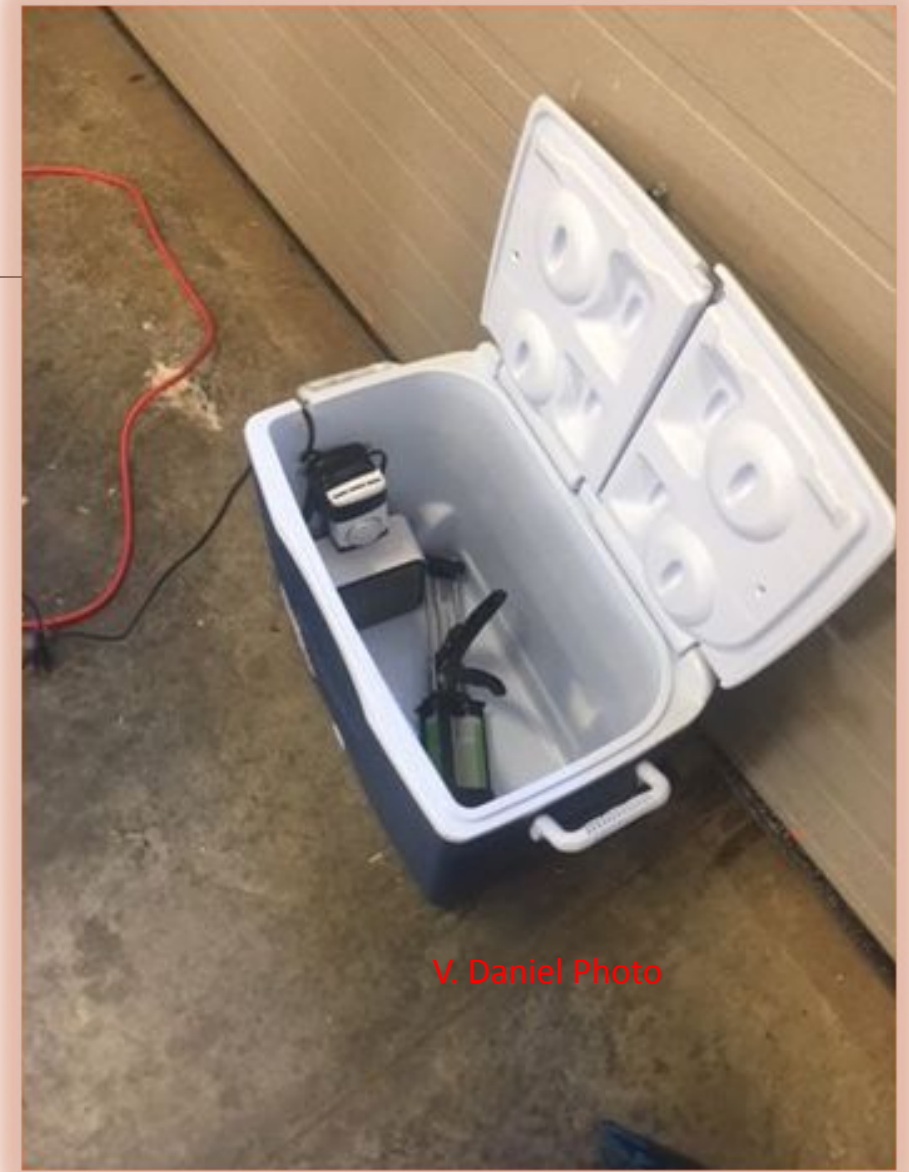


Other cow steps on Block

5 What type of Adhesive? The Hot/ Cool box Protect your work performance

Glue	Temp. Range	Set time	Cure Time
Bovi Bond	23-26 C	15 sec	3 min.
Hoof Tite Summer	20-23 C 68-74 F	15 sec	3 min.
Hoof Tite Cold	5-15 C 41-59 F	20 sec	3 min.
Mini Moo Gloop	18-21 C	10 sec	2 min
Hoof It Powder	15-24 C	30 -45 sec	3-5 min

**Set time decreases relative to temperature increases,
Some glues need ice pack on extremely hot days.**



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6. Where do I place it Correctly?

Always avoid putting a block in front of the heel



Image source Dr. Paul Greenough Canada

Blocks that are under the heel are at a high risk of causing an ulcer.

Also the animal is not comfortable standing or walking, negating the purpose of a block.

Trajectory of heel to surface contact on an incorrect block placement



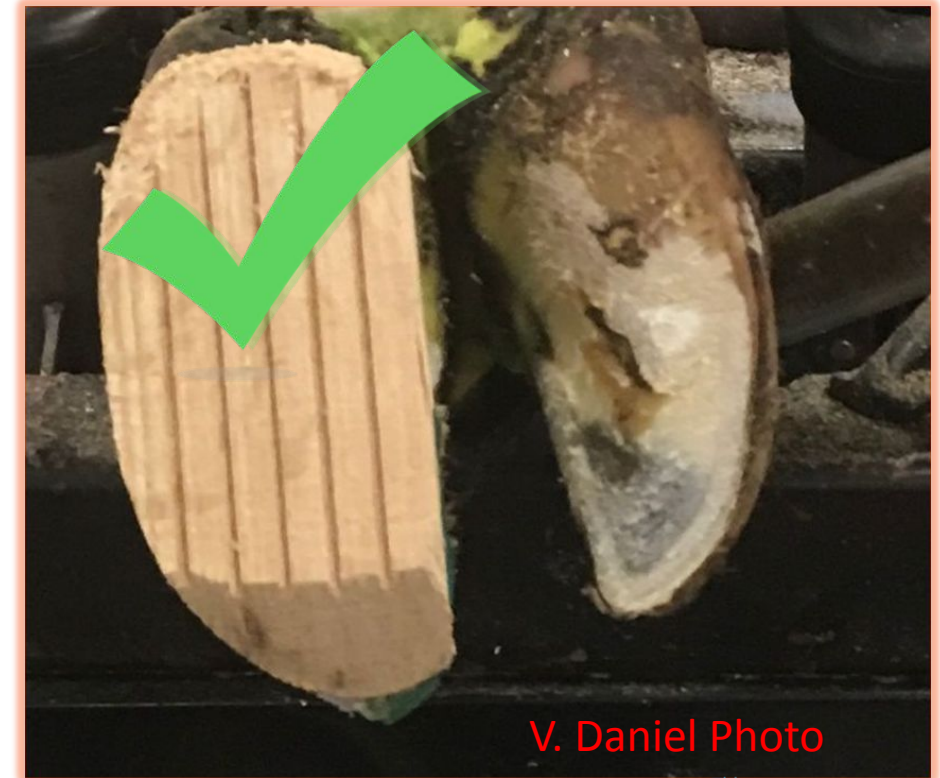
mechanical
damage every step
the foot takes

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The block must sit past the heel of the claw approx. ½ inch or 1.5cm.



After the glue has set; cut angle of approx. 45 degrees at the toe of the block. This is called a break over point.



This artificial break over point allows the blocked claw to lift off the surface easier.

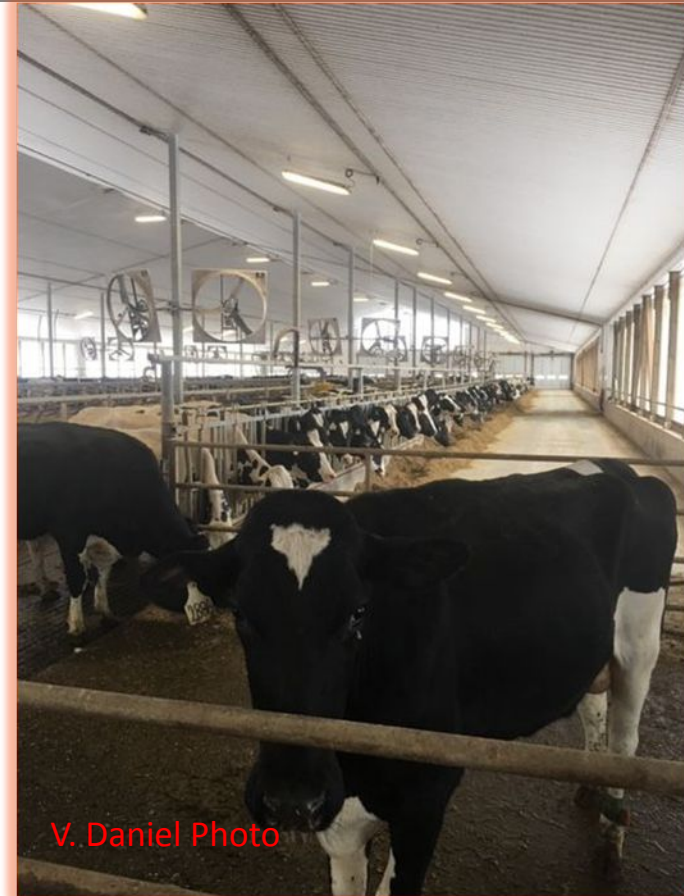
This Photo by U.S. Hoof Author is licensed under CC BY-SA

It should also be fixed flat to the sole surface of the claw with approx. 5 – 7 mm of adhesive.



Creating a Break Over Point on a block

5/8 inch (15mm.)
deep block



and preventing other cows stepping on block side



A block should line up with the axial or inner wall preferably with a line pointing away from the centre.

Blocks can shift over time and rotate to centre cutting into the opposite heel bulb or lesion.

Cut the corner of the block out.



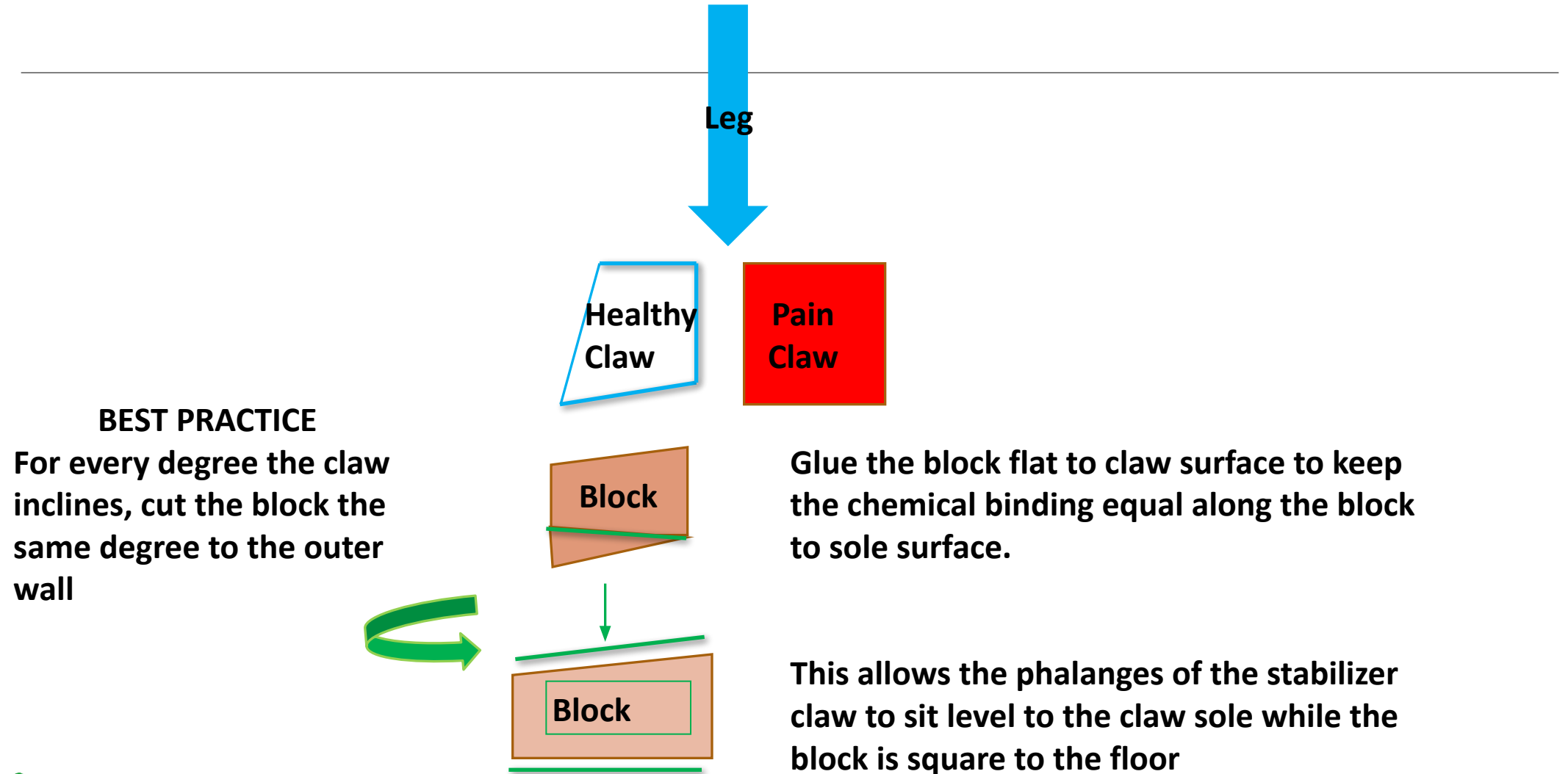
You can achieve this easier if you use a glue tip or small piece of dowelling to keep the claws apart.

This gives you a better alignment and keeps you from gluing the claws together.



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However, claws with inclining soles to centre need adaptation



If you don't, the square set of the block will force the phalanges to rotate out of alignment, causing discomfort or pain at best. Injury at worst case.

No Support
UNSTABLE

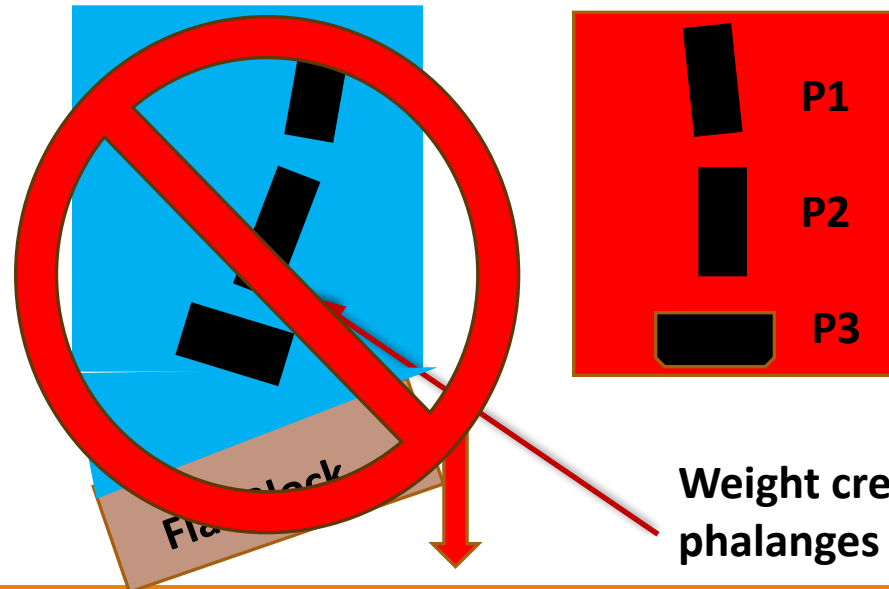
Leg Bone



Healthy Claw

Pain Claw

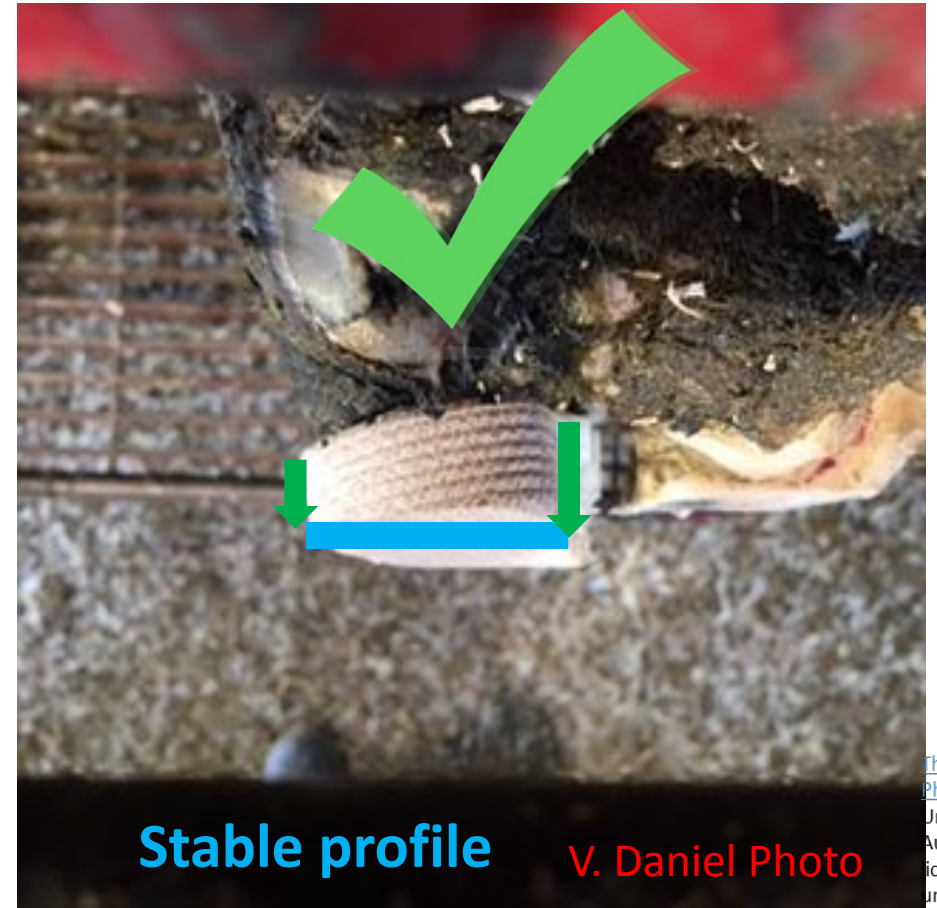
The abaxial or outer wall edge of the block hits the surface first. As the animal's weight compresses the foot to the surface, the phalanges are forced out of normal alignment.



Weight creates torque forcing the phalanges to twist outward

Actual case application

The Axial side of the block is the same height; the abaxial side is reduced



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7. Can I forget about a block once its on?

NO

 **Rechecks are vital investments** 

Over time, the healing process of lesions need review and blocks can cause issues if left on too long.

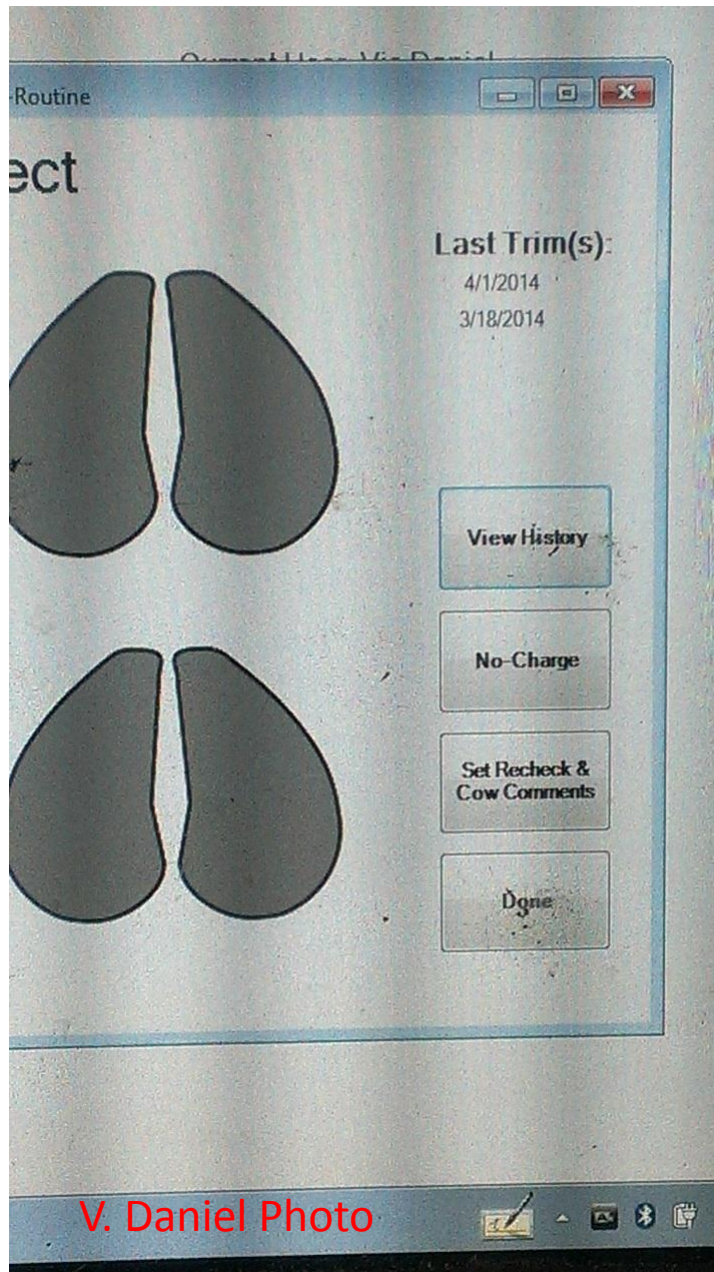
Video on block placed just under the heel and applied 90 days prior to inspection.



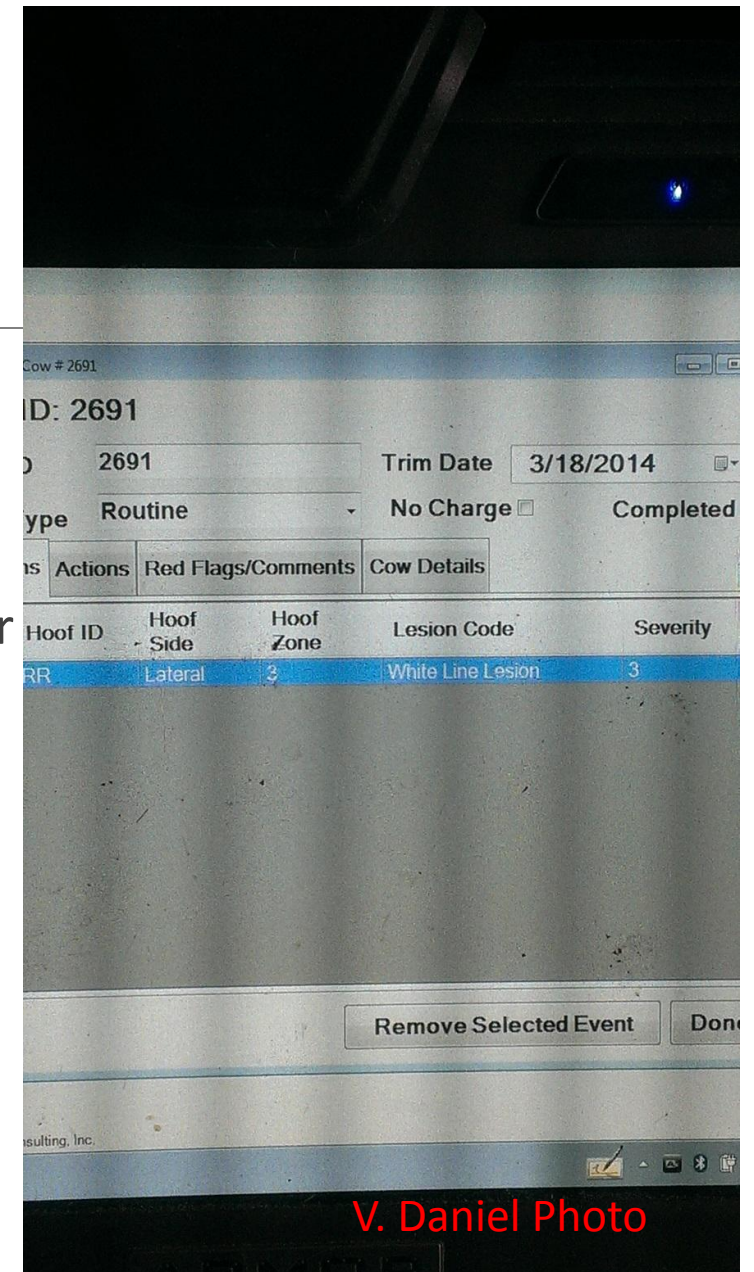
Two Faults created a problem

1. Incorrect placement of the block. The back edge of the block is under the heel
2. There was no recheck follow up at day 14 or 28 post application
3. An ulcer has developed under the block





Records Prove Return on Investment
This animal was recorded 2 weeks prior
with a white line lesion 3 (severe)
Scheduled for a 2 week inspection.



Healing Rates

This foot had a white line lesion severity 3; 14 days prior and was blocked.

Block is still on.

Animal gait is improved.



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Recheck Date

**Setting a recheck date is imperative.
This white line lesion has been reduced to a
severity 2. Further debriding was necessary**



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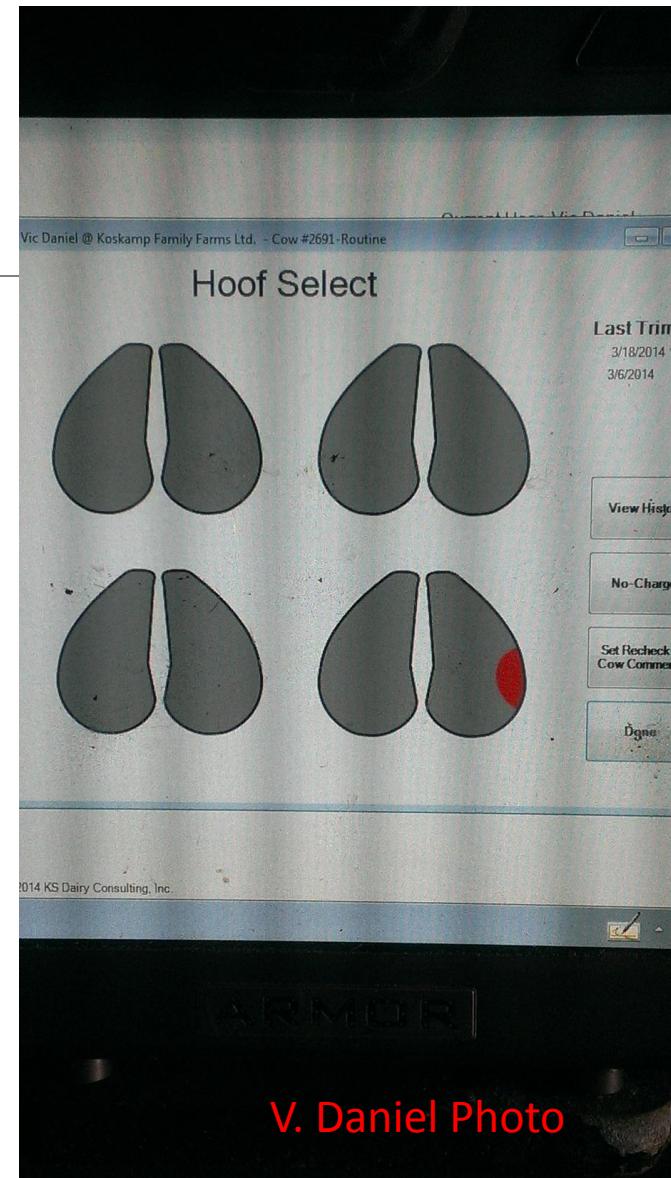


Photo source Vic Daniel Canada

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Update Your Record

Record the date, condition and a new recheck date.



Last recheck day

28 days from the initial treatment and the wound is fully healed.

Remove block using a grinder wheel or hoof pliers.



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Healing rate profile

**Sole Ulcer in zone 4 at
21 days post treatment**



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Resetting the block depth on a recheck date

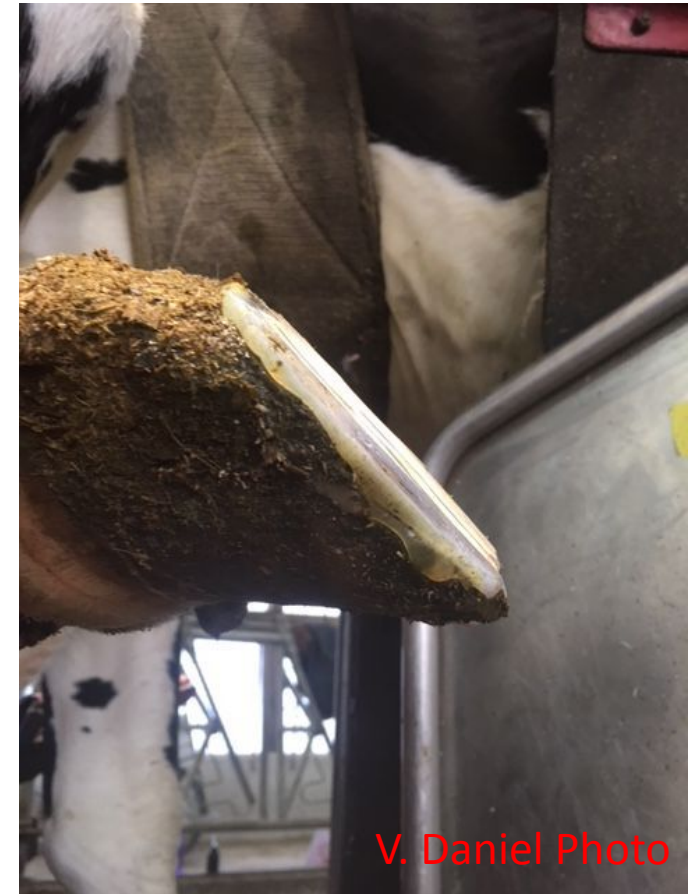


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Why?

If the claw healing is still in a thin state or with load or weight bearing, cutting the block back still helps the healing process.

The block has worked but the healing area could use some help.



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Side view Left front foot

This reduces time stress on the blocked claw.

Remember the rear feet typically have the block on inner or medial claw which is not anatomically meant to be the dominant weight bearing claw.



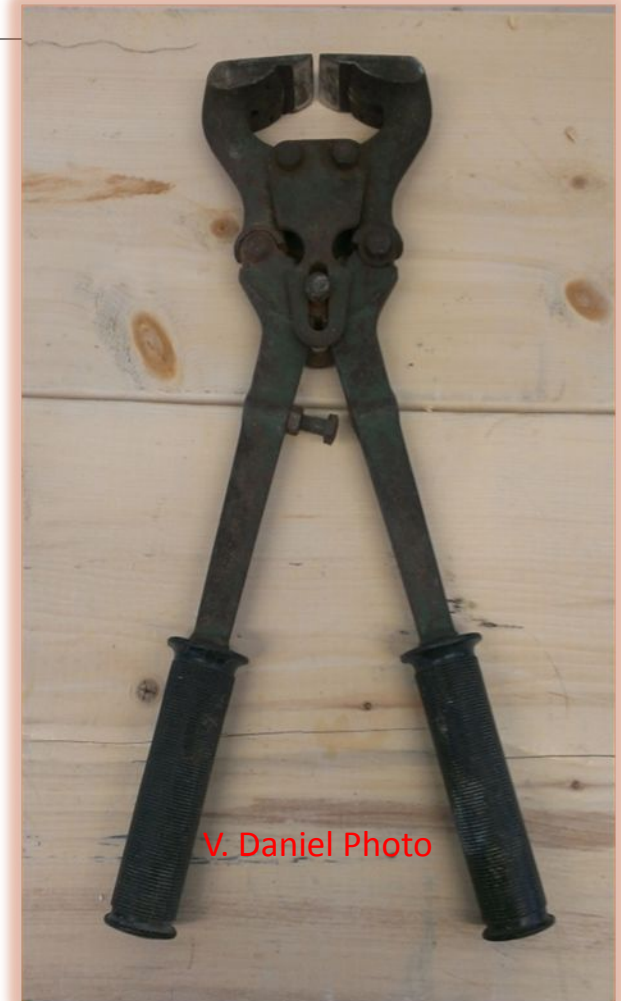
V. Daniel Photo

How do I remove a block?



You can use a cutting disc on a power grinder

Or a pair of hoof nippers or pliers and twist the block off



Summation

Correct use of blocks is a highly recommended practice to learn

Blocks offer a high return on investment. For every dollar invested in glue, block and time you can get up to \$20.00 return

Blocks improve animal welfare and animal confidence in its ability to get up, move, and lay down.

Next: a few case studies on blocking



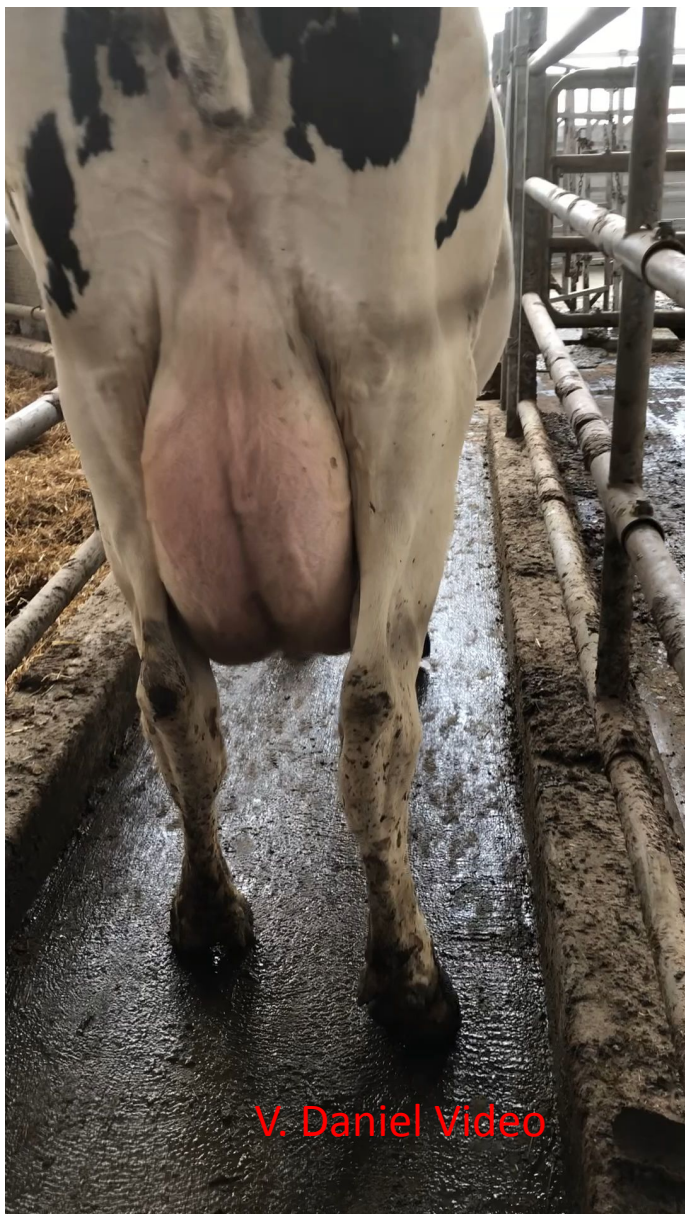
Case Study 1

Using a Support Block

In cases where there is no way to level both claws to comfort, you can use a rubber block to give a heavy or over burdened claw a rest , ie. older mature cows

NO Lesions are present.





7 Year old Holstein Cow – Free Stall Sand Barn Bedding

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**Clean the sole to be free of dirt
and loose horn**

**Use your knife to cut small
grooves in the sole if possible**

**Remove moisture from the sole
Heat gun**

Torch

Brake Fluid Cleaner spray

Etc.



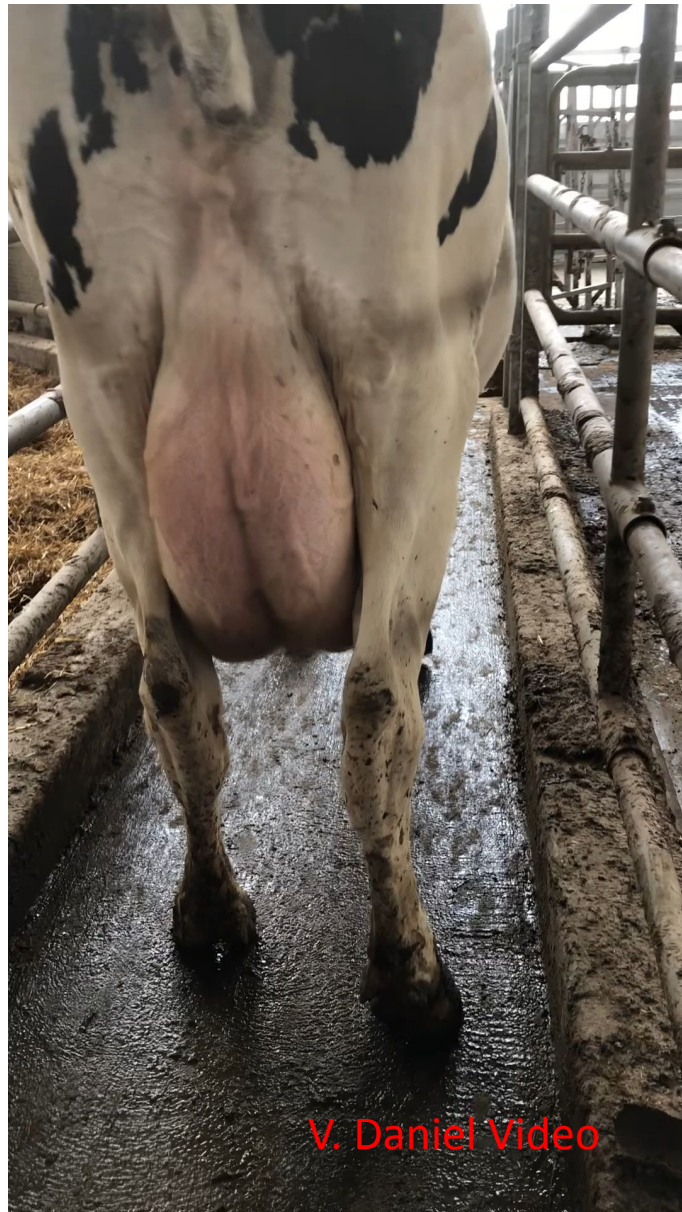
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Before

**No support
block**

Slow Gait

**Careful use
of the right
rear leg**



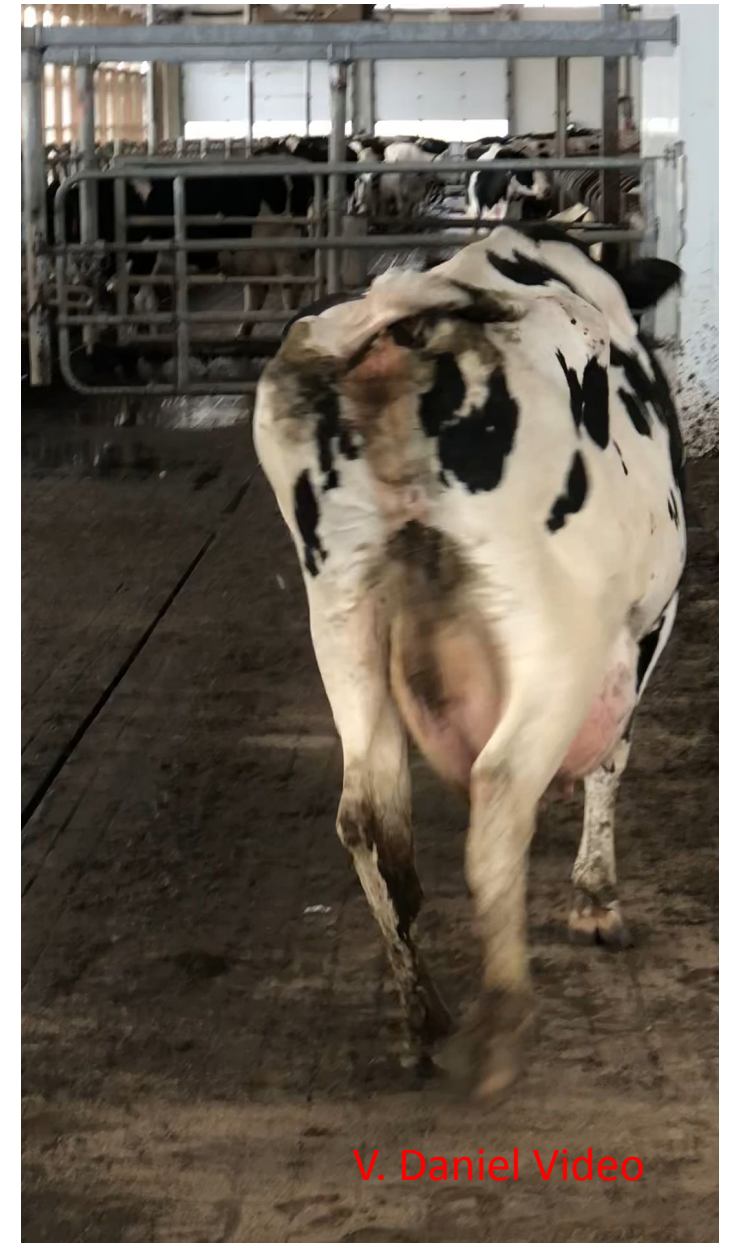
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After

**with a rubber
support block**

Faster Gait

**Confident use
of the right
rear leg**



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1 kg. or 2.2 lbs milk per day increase for 30 days

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Case study 2 Be a Hero or Heroine save a life client # 61 animal # 1150 1st calver



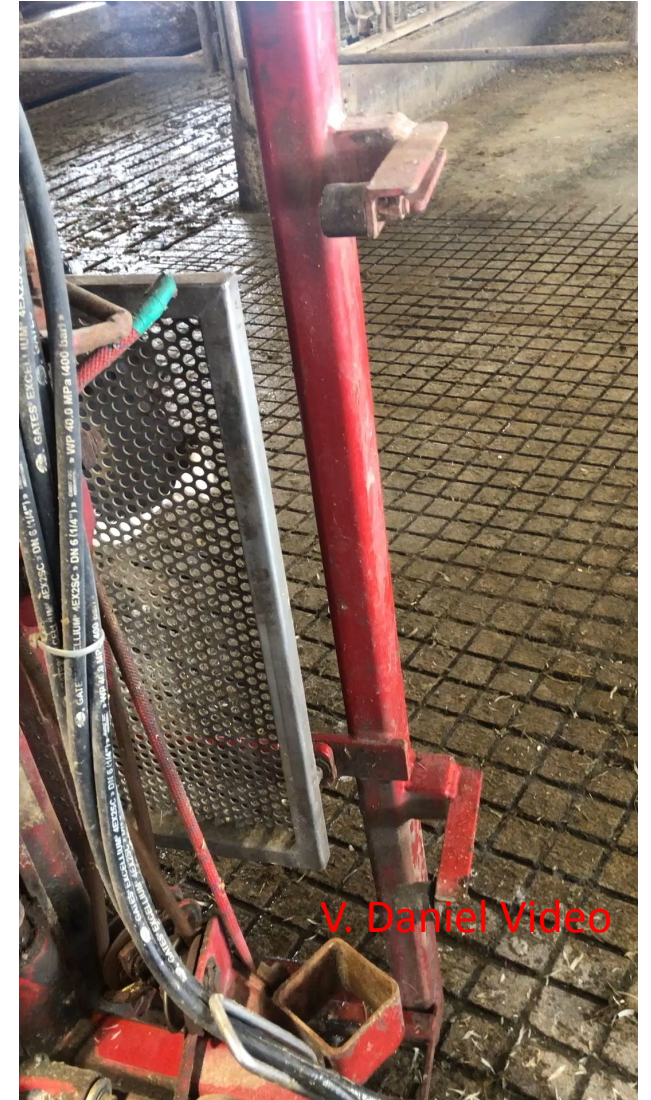
Client 61 photo

**Feb. 13 2020 Claw
got caught in a slat in
the free stall barn**



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Lost block, put back Feb 18th



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Recheck May 27th 2020



May 27 Cranial or
Front view of the toe



Bottom view May 27 recheck



Block needs to be reset

May 27 2020 recheck
90 days after accident



April 15 2021



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V. Daniel Photo

June 17 2021 pre inspection



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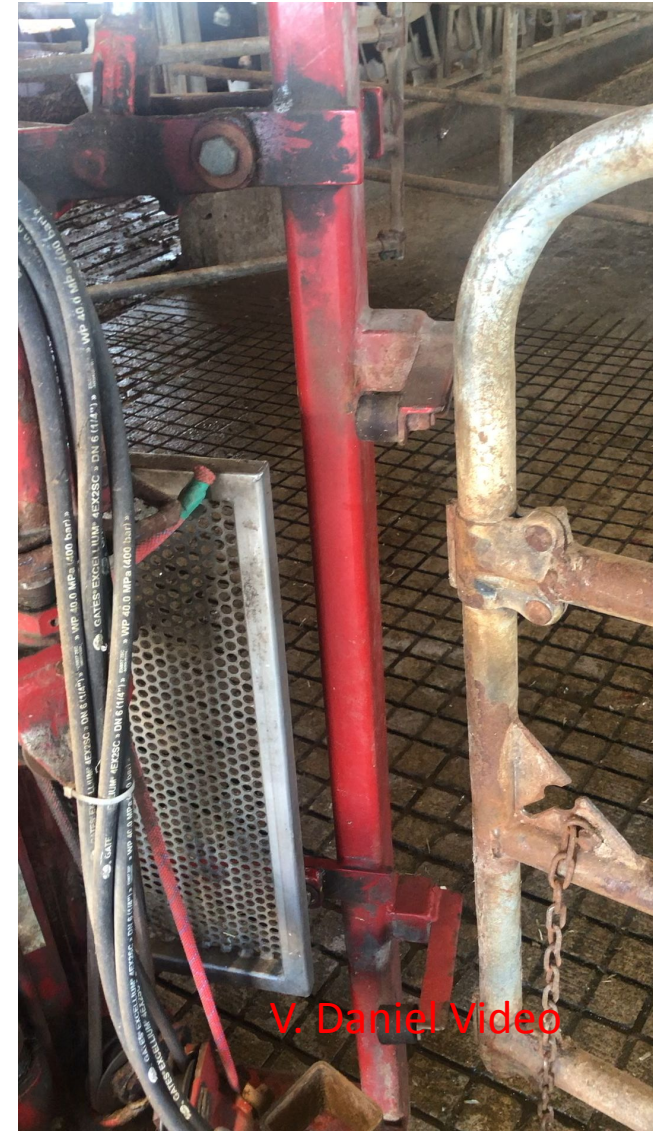
NO BLOCK

She's Solid

Done

**1.5 lactations
extra**

June 17 2021 post inspection



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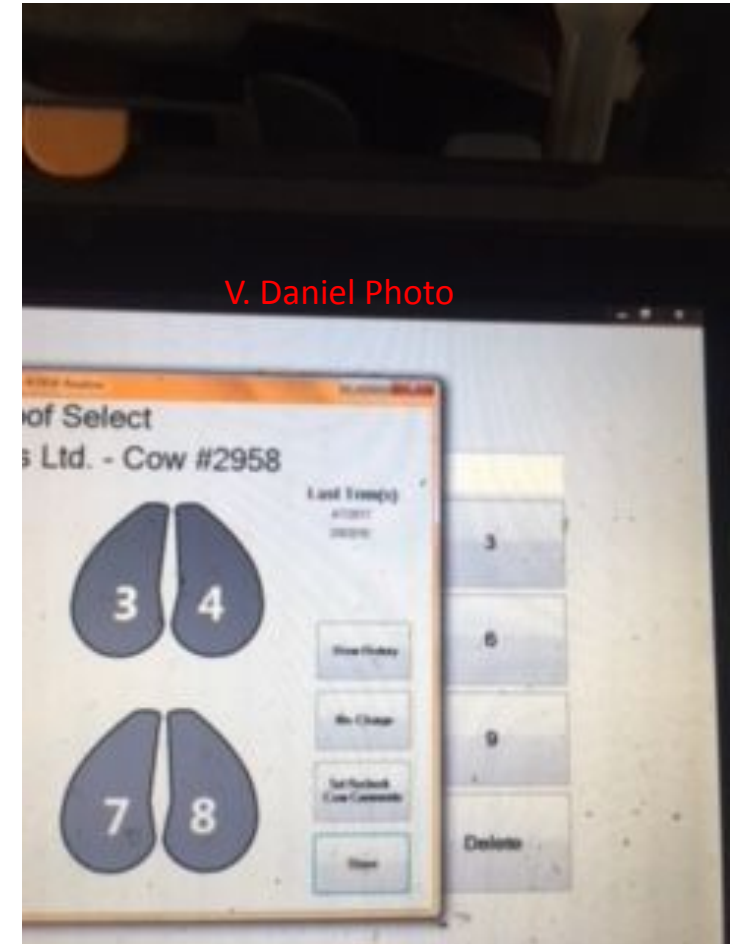
Case Study 3 Early Intervention by famers saves profits
Client 68 farm case study



400 cow free stall herd on diamond grooved floors.

The trimmer has not seen this cow for 12 months, Farmer trims dry offs, trimmer inspects fresh cow group bi weekly.

Next slides show farm effort and resulting progress to a severe white line abscess.



Cow had white line abscess

Foot was blocked..doesn't look professional "wtf is this crap" (quote by a so called professional trimmer)

But, it was the farm that identified lame cow and put cow in chute.



Silver Star Award for conscientious animal care



Examination Process

Farm personnel has partially trimmed away side (abaxial) wall; as you can see the block doesn't give much lift to the pain claw to allow for optimal healing process.



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Further debriding of the wound area is needed to allow cornification to further the healing process.

Dirt impedes healing connectivity which is why rechecks on time pay.



You can see that healing has started but has slowed or stopped due to lack of air and sub standard debriding of the lesion.



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**More hemorrhaging
or bruising is exposed
as the debriding
process continues.**

**This is due to the
block not relieving
enough weight off the
affected claw.**



The under run fissure is now exposed showing that manure and debris is slowing the healing process.



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The same with the side wall, however there is no serum, or effluent from the original abscess.



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The extra sole removal gives the original block a chance to work better.



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Debriding is nearing completion



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V. Daniel Photo

**Now the decision
process financially is;**

**Can the existing block
still help promote
healing?**



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As you can see the block on the stabilizer claw is nearly level to the stress claw

When the cow drops her leg and is in full weight bearing the outer stress claw will still touch the floor



Plantar or rear view of the back foot examining claw levels



A block needs to help keep an injured claw at least 1.5 cm (1/2") away from the surface the foot lands on.



Best practice for the money is to remove the old block and use a newer block that is set further back on the heel (approx. ½")



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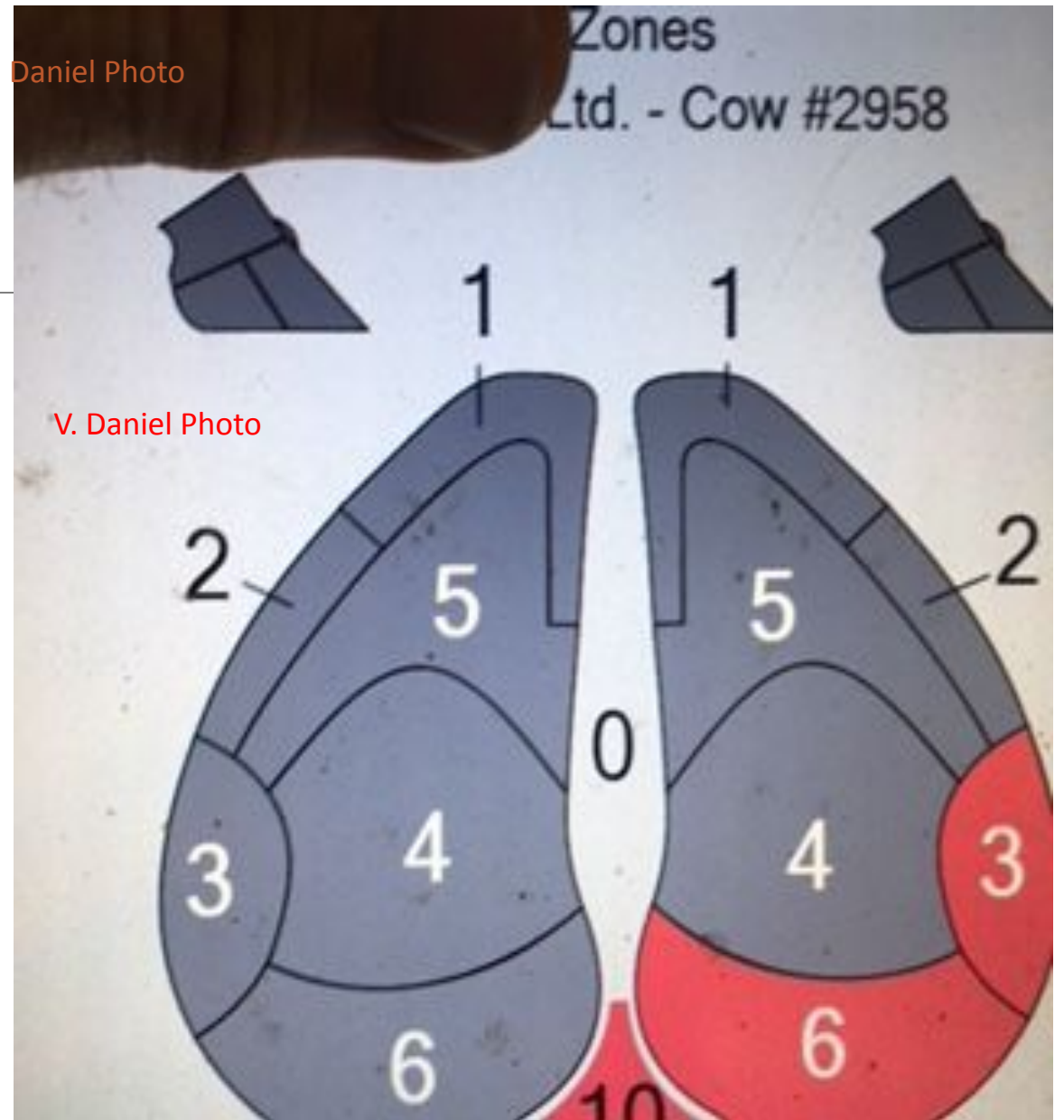
Now you can see a more significant space generated by the proper block depth for the pain claw to heal quicker.



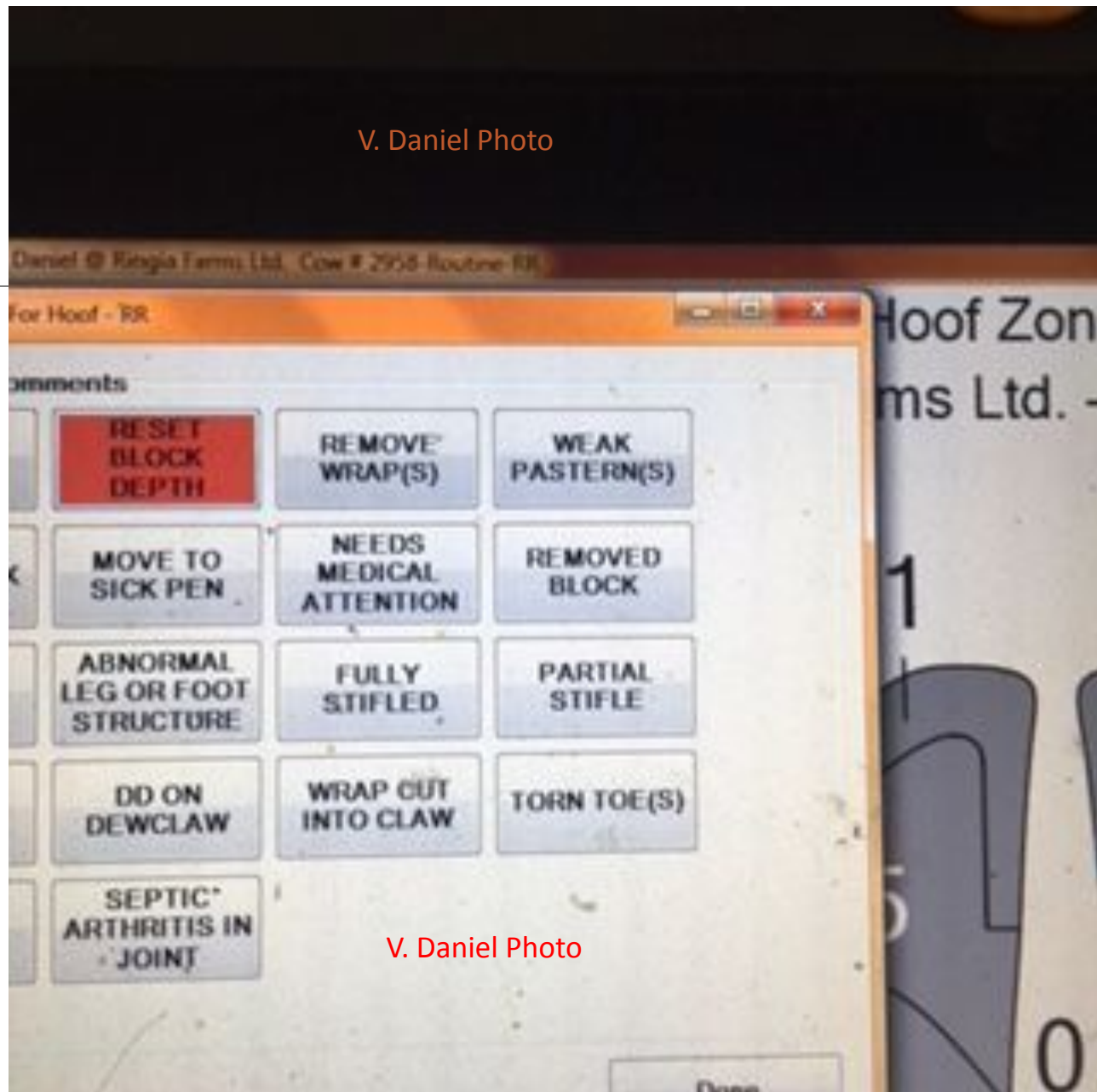
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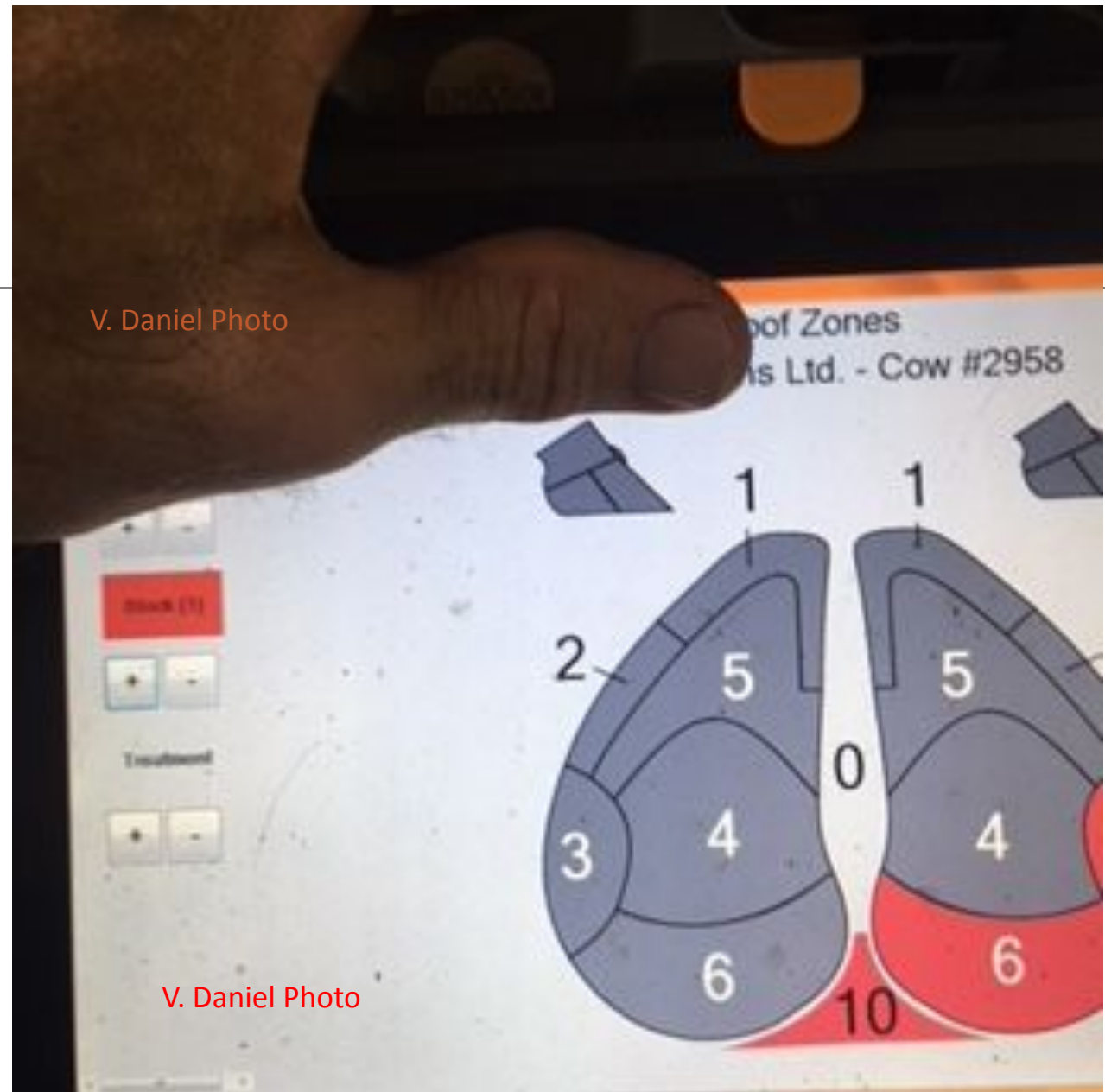
The hoof health is recorded again with the date.



A comment is noted that the original block was still on upon inspection.



Current treatment is recorded



History can now be reviewed at any time

D:2958

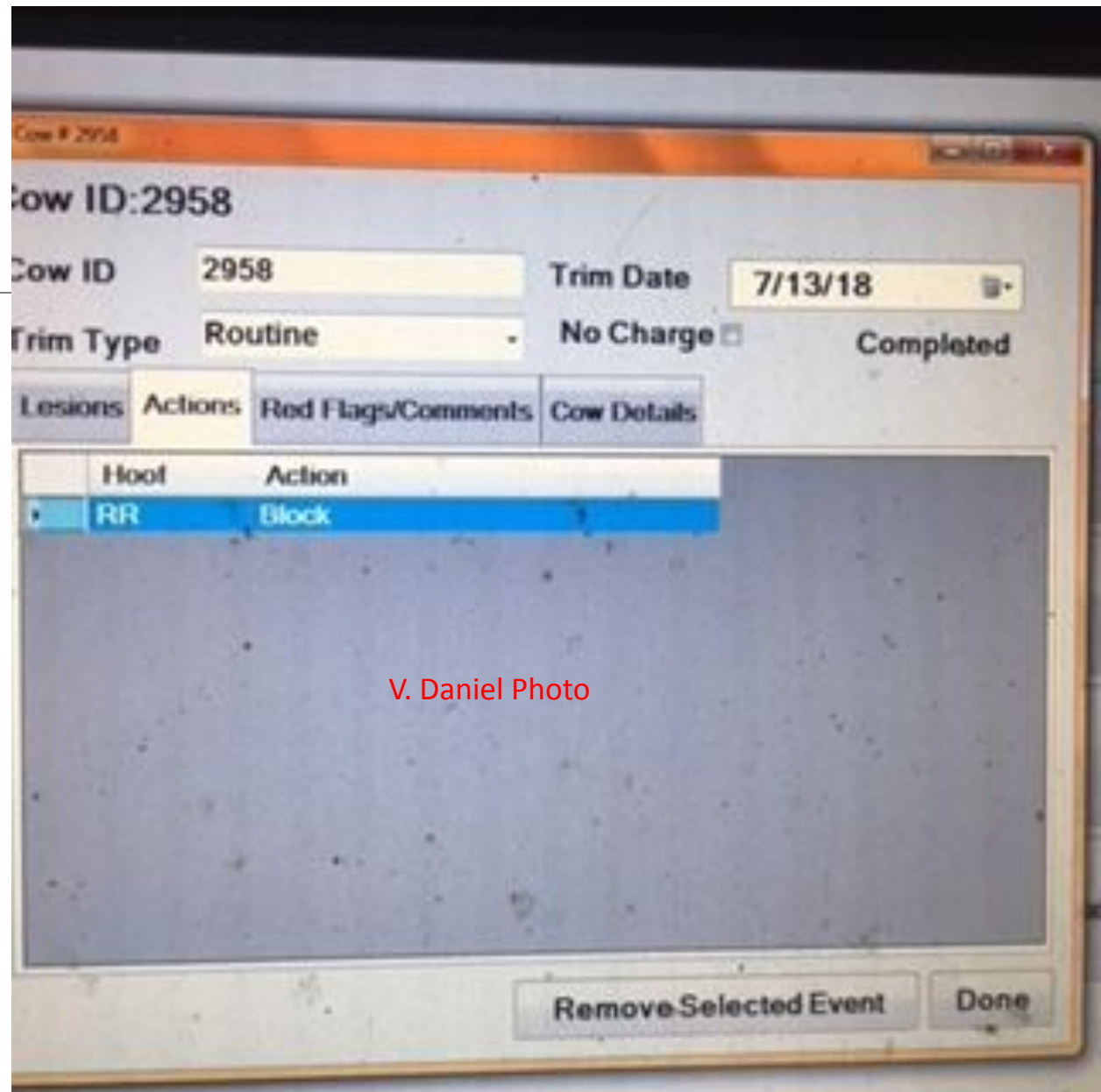
D 2958 Trim Date 7/13/18

Type Routine No Charge Completed

ns Actions Red Flags/Comments Cow Details

Hoof ID	Hoof Side	Hoof Zone	Lesion Code	Severity
RR	Lateral	3	White Line Lesion	1
RR	Lateral	3	Thin Sole	1
RR	Lateral	6	Sole Hemorrhage	1
RR		10	Digital Dermatitis	M4

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Including treatment(s) used

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However, misery loves company
(same cow left rear foot)

This happens because over time the animal, by shifting weight bearing away from the right pain foot has overloaded the stress or lateral claw on the left foot causing another biomechanical injury in the form of an ulcer.

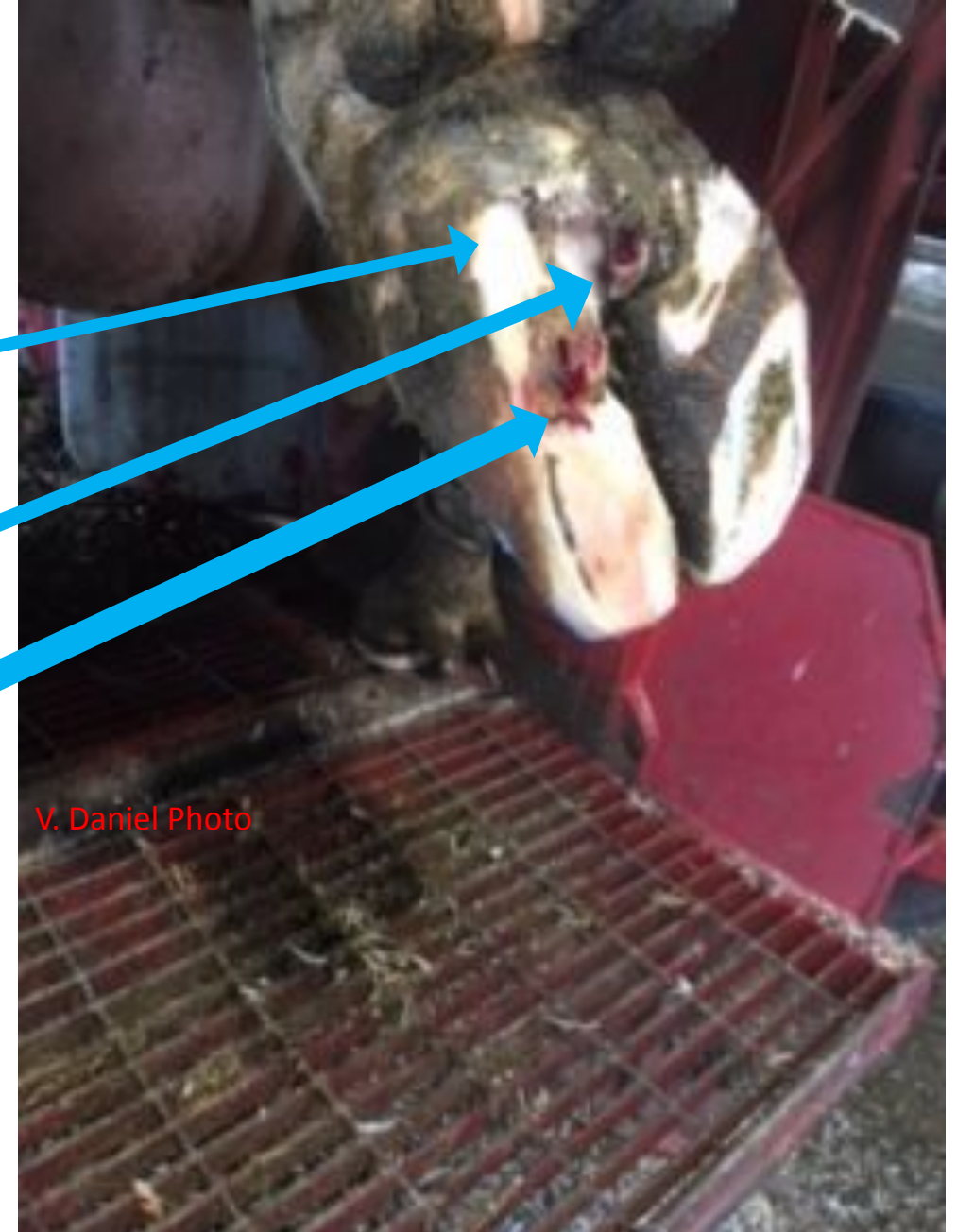


Identify the lesions

Heel Erosion

Digital Dermatitis M4.1

Sole Ulcer



The financial moral of the story is :

**If you lift one foot
Take the time and lift the other foot.**

**Getting two birds with one stone is effective
time and money management**



Gold Star Award for conscientious animal care



V. Daniel Photo

You are the change
“Make it happen”
Thanks for coming

