

A close-up photograph of several horse hooves on a dark, textured floor. The hooves are light brown and appear to be in the process of being trimmed or are in a state of being recently trimmed. The background is blurred, showing other horses and possibly a stable or arena setting.


Functional trimming

How do we trim in Denmark

Sofie Bjørn Skovsgaard

- 31 years old, living in the western part of Denmark
- A farm with 400 cows
- Master degree in Animal Science
- Thesis – quality of the hoof registrations
- Examined hoof trimmer, 4 years
- Own consulting company



A close-up photograph of a horse's lower legs and hooves. The horse is standing on a dark, textured surface, possibly asphalt or a similar material. The hooves are light brown and appear to be in good condition. The background is blurred, showing other horses and what looks like a stable or arena setting with blue and yellow elements.

**What is your background?
What do you know about trimming ?**

The program:

Monday/Emsapäev

- 0930-1000 Coffee and welcome
- 1000-1300 Sofie presentation and theory
- 1300-1330 Light lunch
- 1330-1500 Problems cows
- 1500-1530 Coffee break
- 1530-1630 Problems cows
- 1630-1700 Follow up and final questions

Tuesday/Teisipäev

- 0930-1000 Coffee and start up
- 1000-1100 Hoof check in DK, can your farm pass?
- 1100-1300 Standard hoof trimming
- 1300-1330 Light lunch
- 1330-1430 Standard hoof trimming and last follow up

Presentation and theory:

- White lines atlas - new way?
- Routine trim - how much and how little?
- Typical problems during trimming
- Assessment and treatment
- *Practical experience exchange*

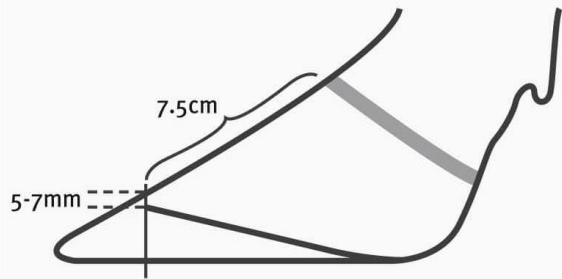


Trimming techniques

- There are many different trimming techniques and methods that have been developed by hoof trimmers/veterinarians/scientists all over the world.
- All the techniques have been developed based on being able to provide the **best conditions for the cow's hooves and at the same time minimize the risk of developing hoof disorders.**

5 step trimming proces

FUNCTIONAL TRIMMING



1

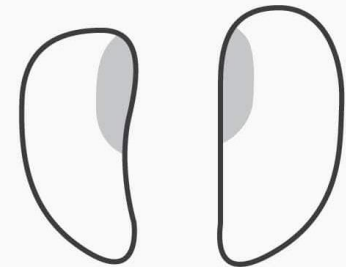
Make the inner claw 7.5cm long.
Leave 5-7mm thickness in the tip.
Spare the heel.

2

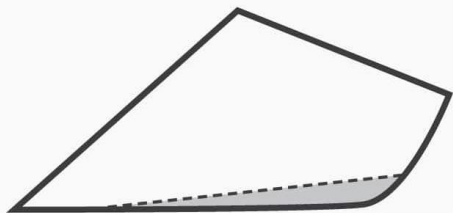
Make the outer claw equally long,
and make the bearing surface at
the same level as the inner claw
(if possible).

3

Make a slope (scallop out) in
the sole.

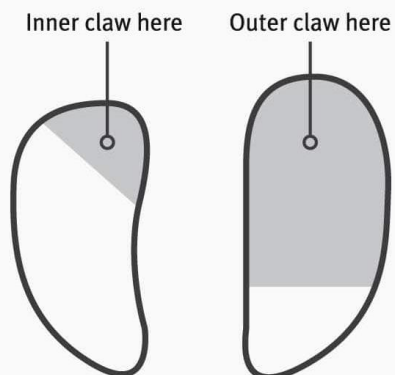


CURATIVE TRIMMING



4

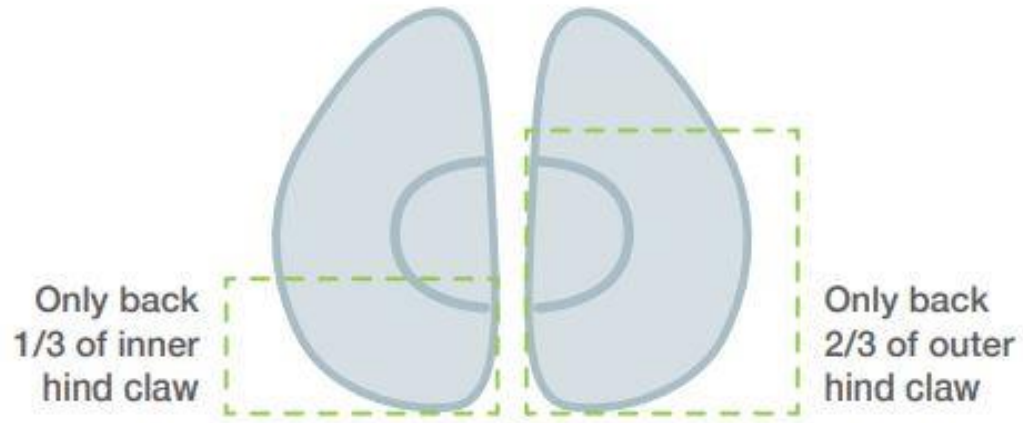
If the outer claw is damaged, make
this claw lower towards the heel, so
that the weight is transferred partly
to the sound claw.



5

Remove loose horn and trim down
hard ridges.

5 step trimming proces



Danish trimming methode

There are several principles that apply to the Danish method:

- The toe axis must be straight
- Toe angle 45-52°
- Equal height of the heel
- Sole thickness 8-10 mm
- Relief of sole crushing point (modeling)

Always start trimming the biggest hoof, to ensure that too much of the small hoof is not cut.

Achieve 50/50% weight distribution on both hoofs on all legs.

Danish trimming methode



Danish trimming methode

Correct angle: 45-52 °



Correct



Too much angle



Too straight

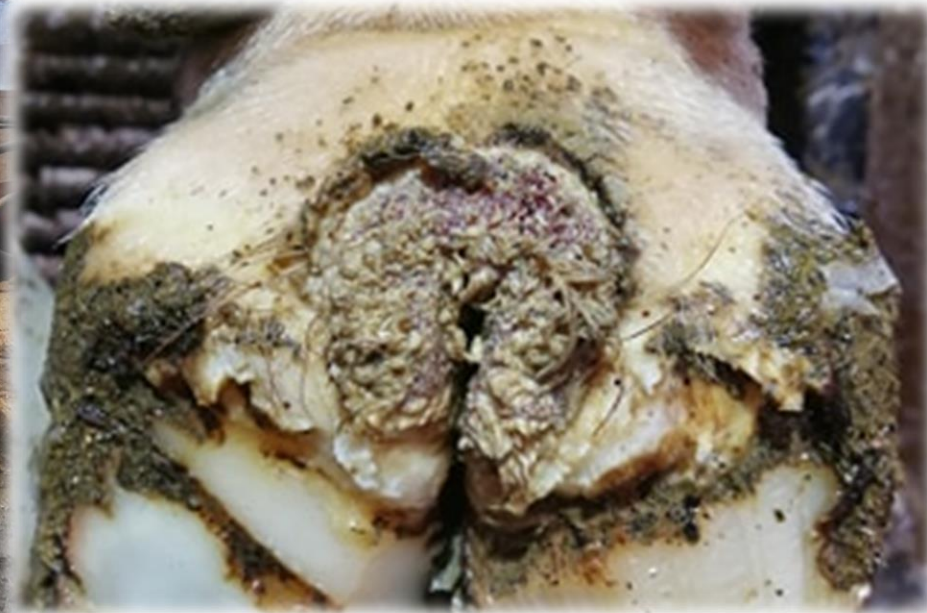
Danish trimming methode – high heels



Danish trimming methode – high heels

Away from the surface

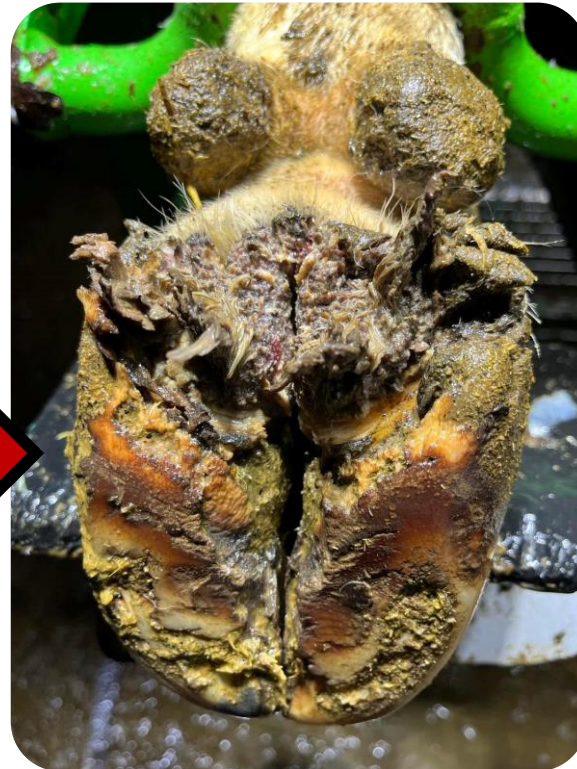
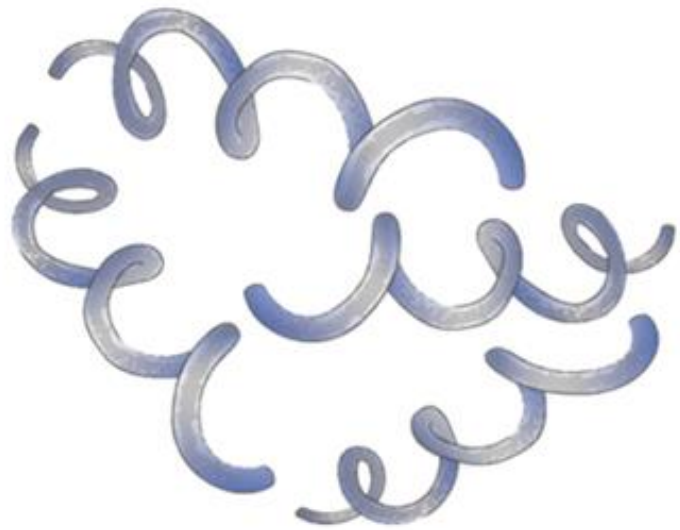
- Wet environment
- Ammonia



Danish trimming methode – high heels

Breaks down the healthy skin cells !!

healthy skin cells are resistant to treponema bacteria that cause digital dermatitis



Danish trimming methode – high heels

Height of the horn, gives a more natural wear on the sole

Less need for hoof trimming!



White lines atlas

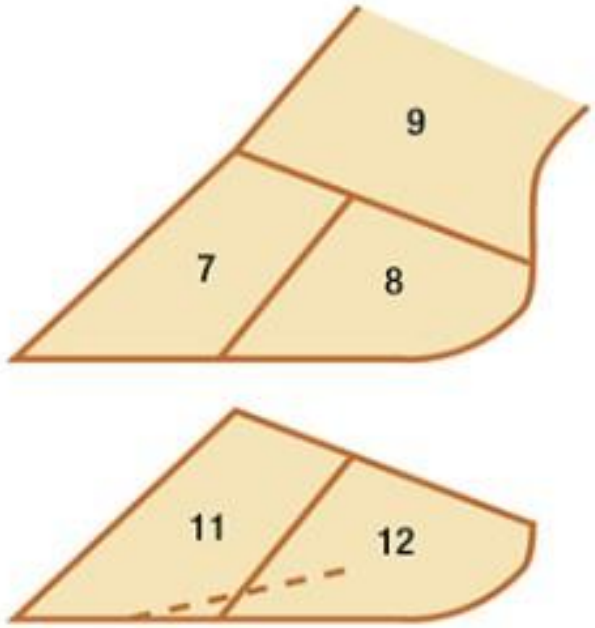
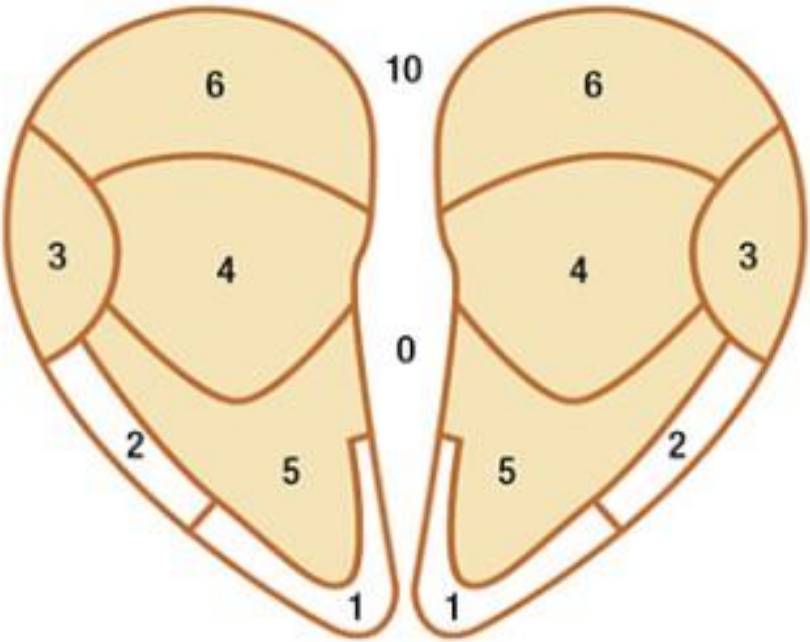
A method described by the Canadian hoof trimmer Vic Daniel. The method is based on some biomarking, whereby you achieve that hoof trimming ensures an equal distribution of weight on both hooves.

- The turning point (zero point) of the claw found on the stable hoof (small hoof)
- The white line must intersect with the axial white line
- Normal sole thickness approx. 1 cm
- Trimming is based on the load point of the hoof wall (zone 2 & 3)
- Rollover point: trimming of the tip of the toe must be completely straight

White lines atlas

FIGURE 1

Claw zones



White lines atlas

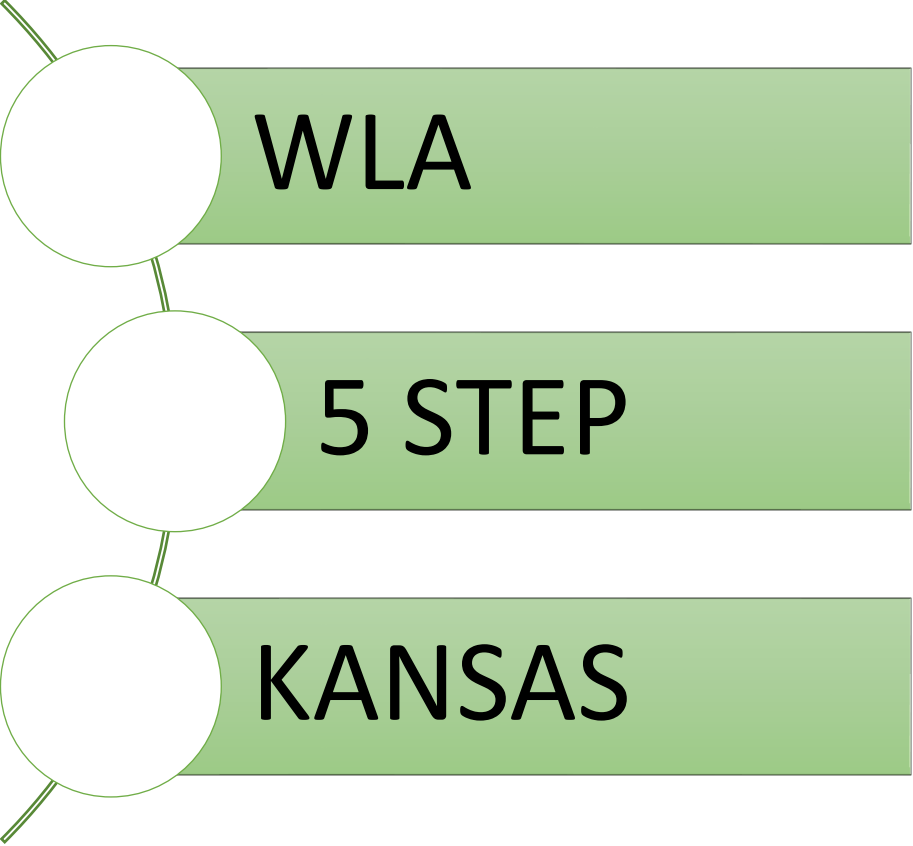
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White lines atlas



Trimming techniques



Less use of blocks
Increased time between trim periods

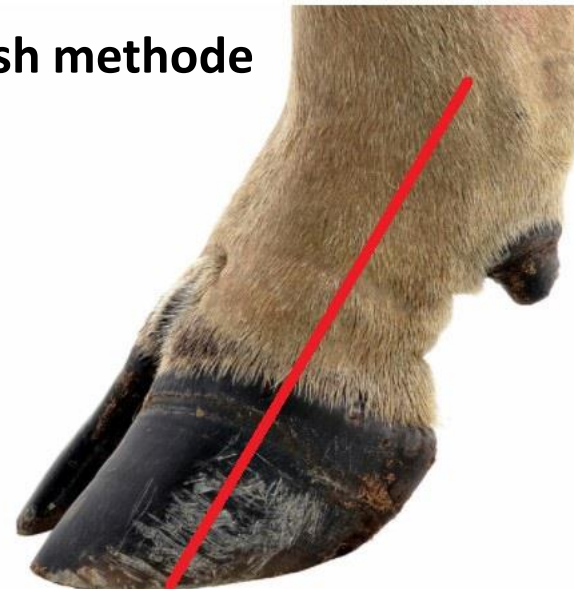
Trimming techniques

- With the Canadian method, the starting point is the toe axis, whereby the pivot point on the stable hoof plays a large role.
- The Danish method emphasizes toe angle, which ensures that the entire structure of the leg has a correct angle and weight distribution.

White lines atlas



Danish methode



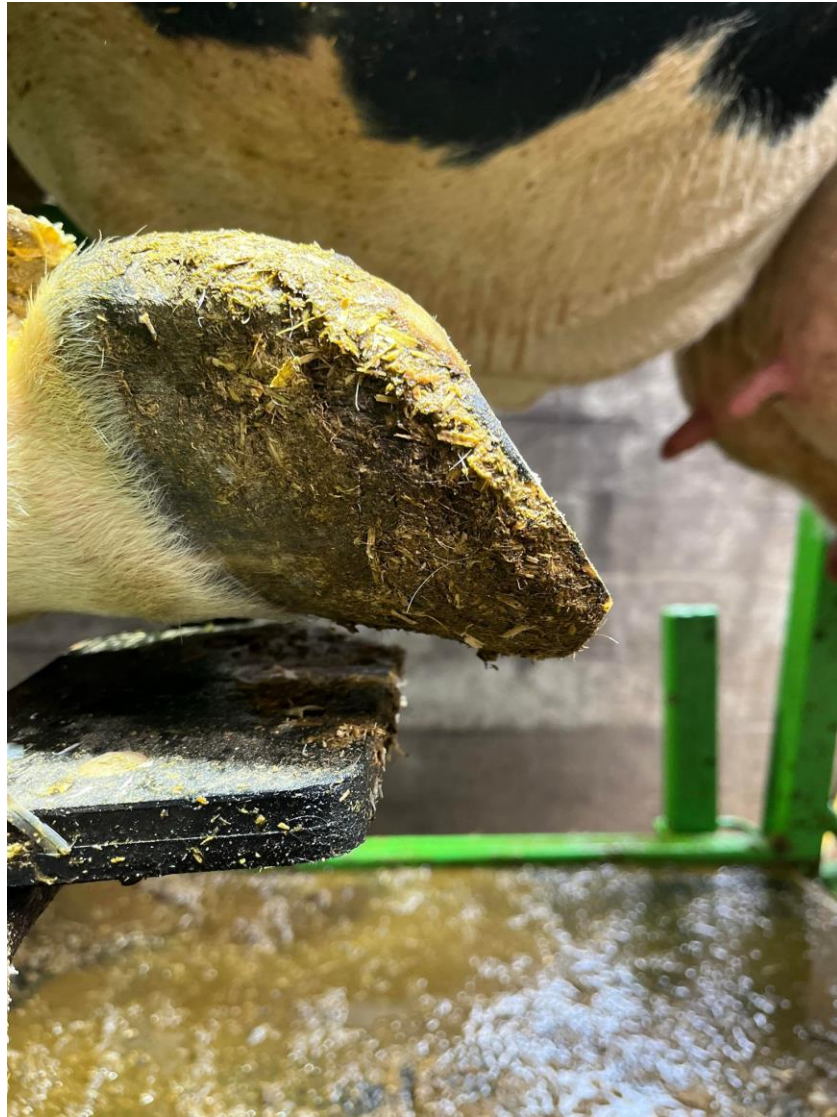
Trimming techniques



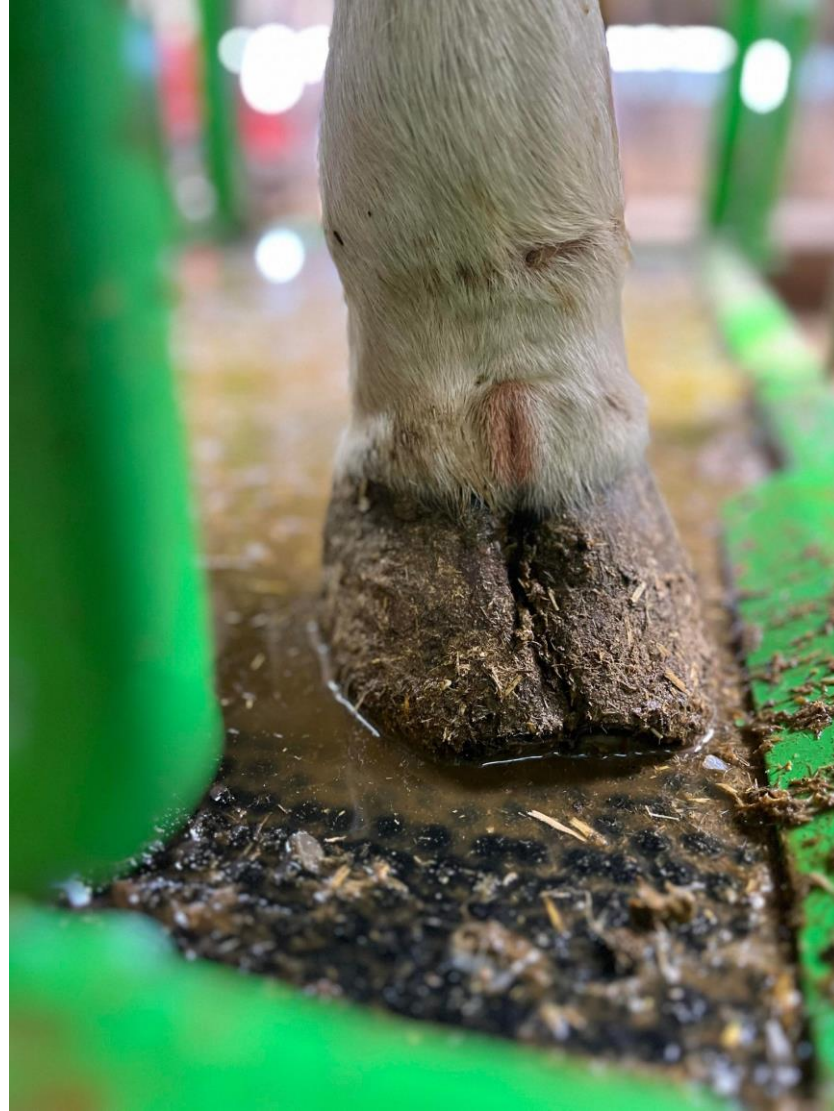
White lines atlas - new way?



White lines atlas - new way?



White lines atlas - new way?



A close-up photograph of a cow's hooves. The hooves are dark brown and appear to be in good condition. The cow is standing on a dark, textured floor, possibly asphalt or a similar material. In the background, other cows are visible, but they are out of focus. The lighting is bright, suggesting an indoor or well-lit outdoor setting.

How often should a cow's hooves be trimmed?

For every 3.000 kg of milk

12.000 kg of milk = four times per lactation

Routine trim - how much and how little?

- Environment (cold, hot, humid)
- Cow breed
- Design of the barn
- Quality of the fodder
- Management (farmer's decisions)

Danish conditions - Environment

- Summer time: +28 C°
- Winter timer: -5 C°

“How are your weather conditions”?

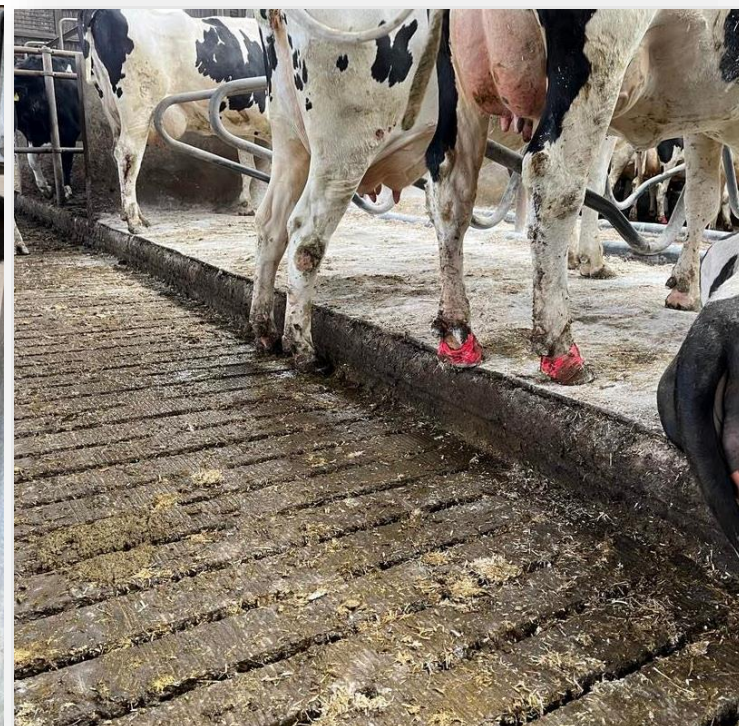


Danish conditions – Cow breed



Danish conditions - Design of the barn

- Sand
- Mattresses /waterbeds
- straw



Danish conditions - Design of the barn

- Slatted floor
- Concrete floor
- Rubber



Danish conditions - Design of the barn

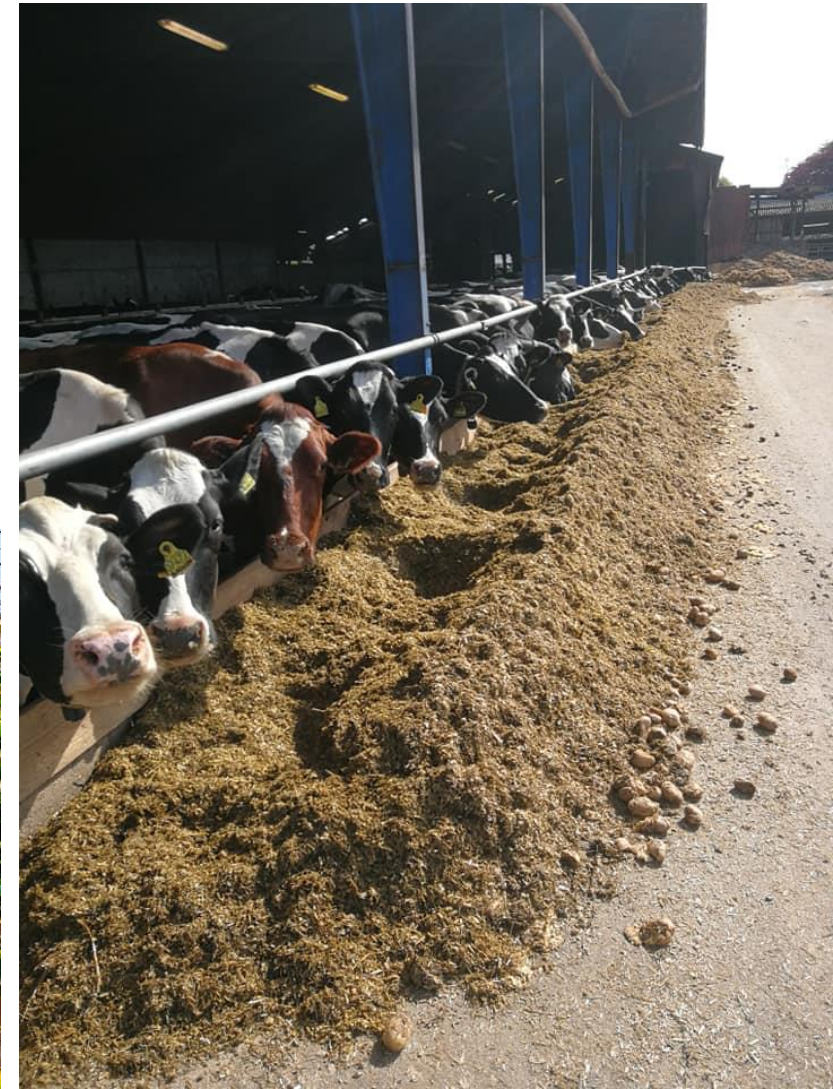
- Organic/conventional



Danish conditions - Quality of the fodder

- Digestibility
- Structure
- Essential minerals and vitamins

- Corn silage
- Grass silage
- Straw



Danish conditions - Quality of the fodder

Rumination



Toxins



Blood circulation



Corium



Lesions

Combination of increased amount of carbohydrates and low chewing time = low pH-value in the rumen

Formation of endotoxins because the gram-negative bacterias die

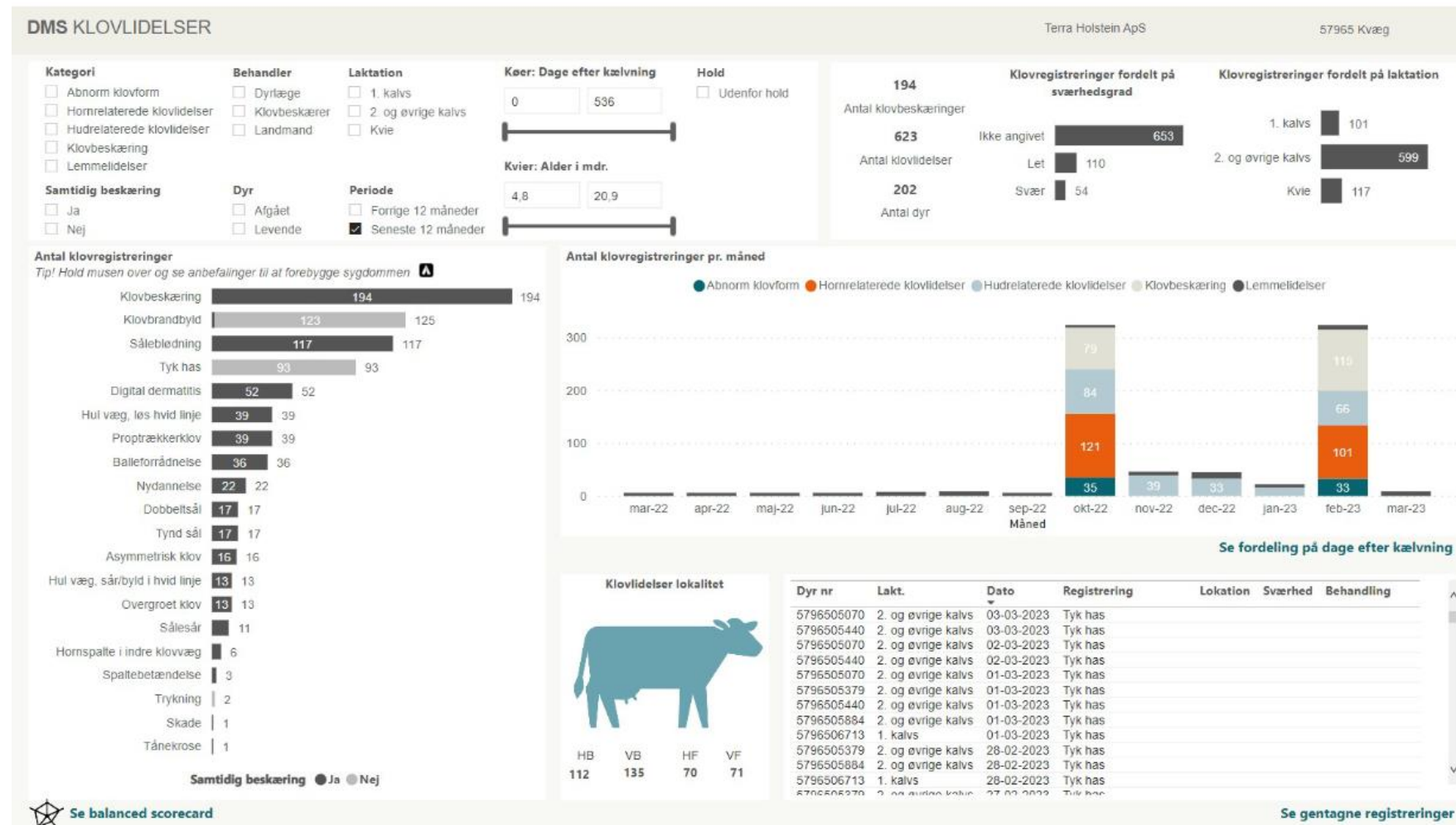
Affected blood circulation causes oxygen deficiency and lack of nutrients (glucose) in the tissue

Lamella in the wall of the hoof are destroyed and lose their function

Sole ulcer, Sole haemorrhage, White line abscess, Double sole

Danish conditions - Management (farmer's decisions)

- Time
- Money
- Milk yield
- Hoof registrations



Break!



Mistakes during trimming !

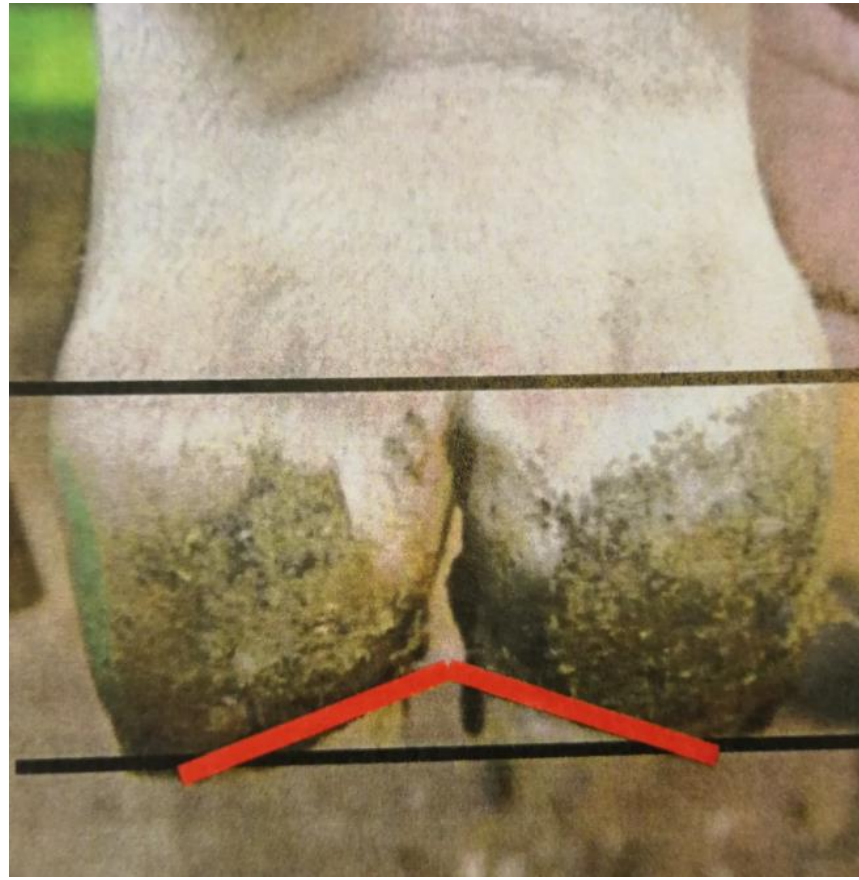
Things we dont think can have an effect on the hooves

- Habits
- Lack of experience/knowledge



Mistakes during trimming !

spreading claws



uneven angle in the toe



Mistakes during trimming !

Modeling



Mistakes during trimming !

Removal of horn wall



Mistakes during trimming !

Uneven sole



removal of dew claws



Mistakes during trimming !

Thin sole



Mistakes during trimming !

Low heel height



Trimming is not just a trim !



the quality of our work



Assessment and treatment

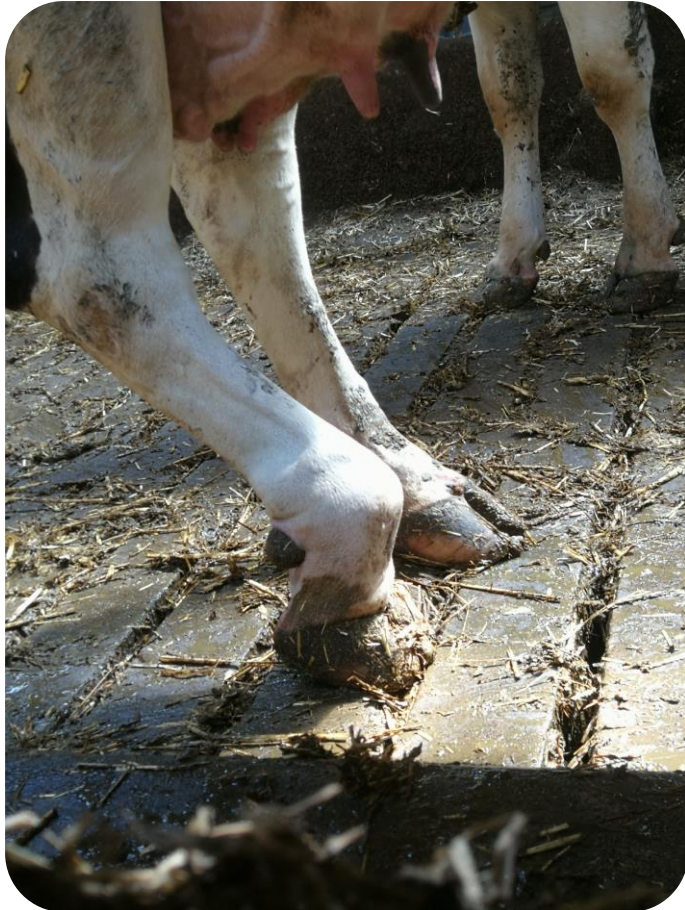
When do we need to treat a cow ?

- *Sick animal*
- *Lameness*
- *Reduced appetite*
- *Low milk yield*



Assessment and treatment

Not always due to an injury in the hooves



Assessment and treatment

Treatment in Denmark



Assessment and treatment

What do you use in Estonia ?



Assessment and treatment - Salicylic acid

Salicylic acid is made out of an organic material
(Bark of a willow trees)



Assessment and treatment - Salicylic acid

Salicylic acid has been used for many 100 years, and has therefore also become a regular ingredient in many skin care products

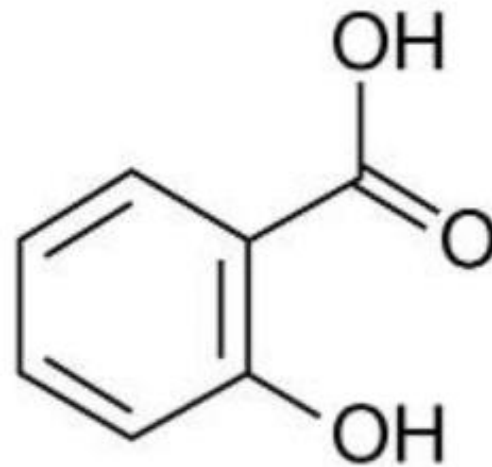


Salicylic acid used to treat fever, pain and arthritis

Assessment and treatment - Salicylic acid

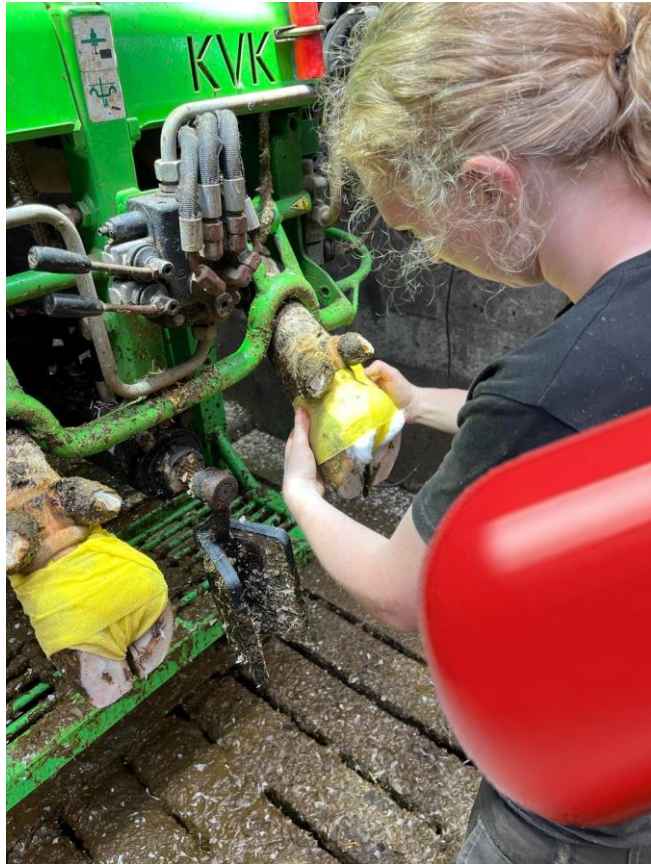
Why does salicylic acid work well for cows?

- Removes dead skin cells
- Disinfect
- Kills Bacteria
- Pain killer !



Assessment and treatment - Salicylic acid

Pain killer ! - faster healing process



Assessment and treatment

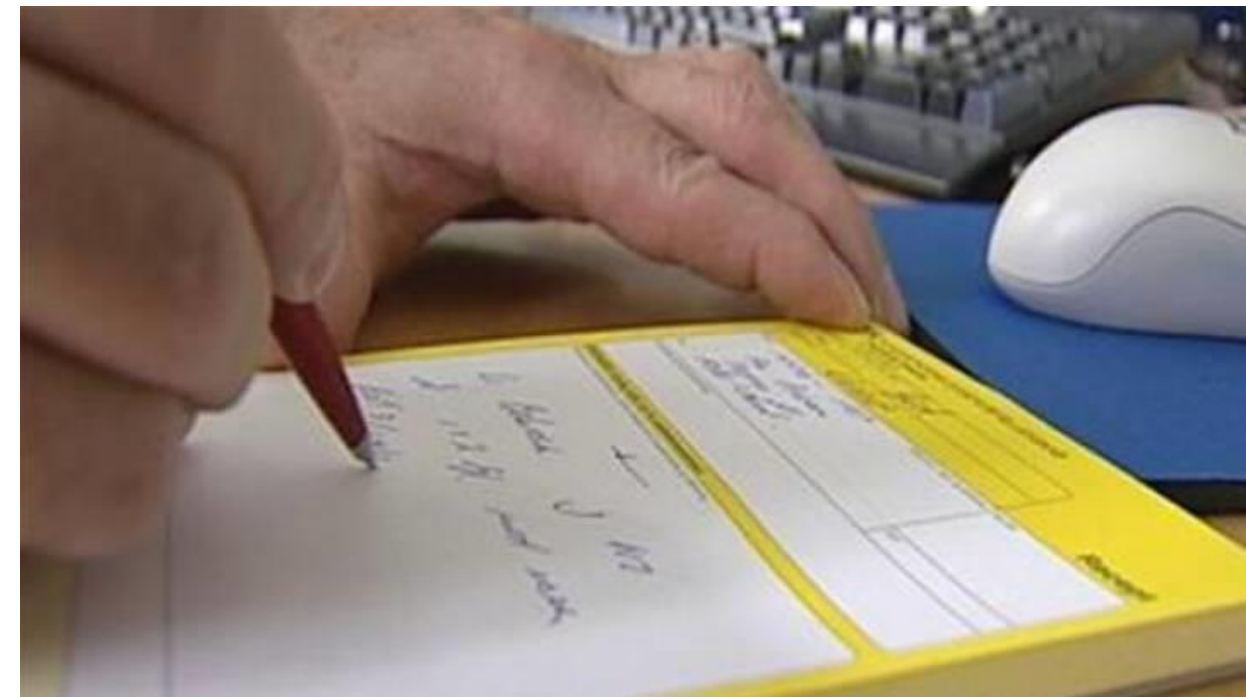
Antibiotics

- Footrot
- Strict control



Assessment and treatment

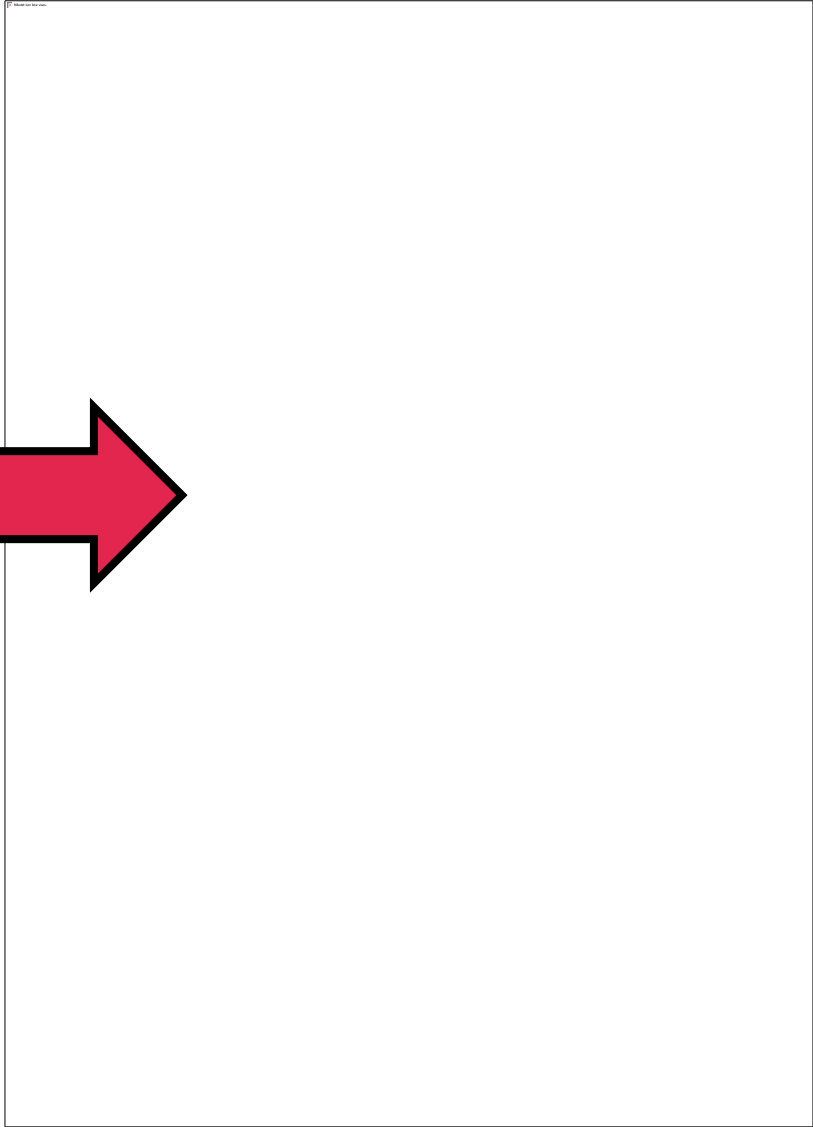
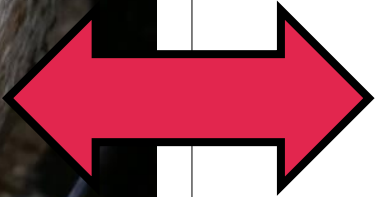
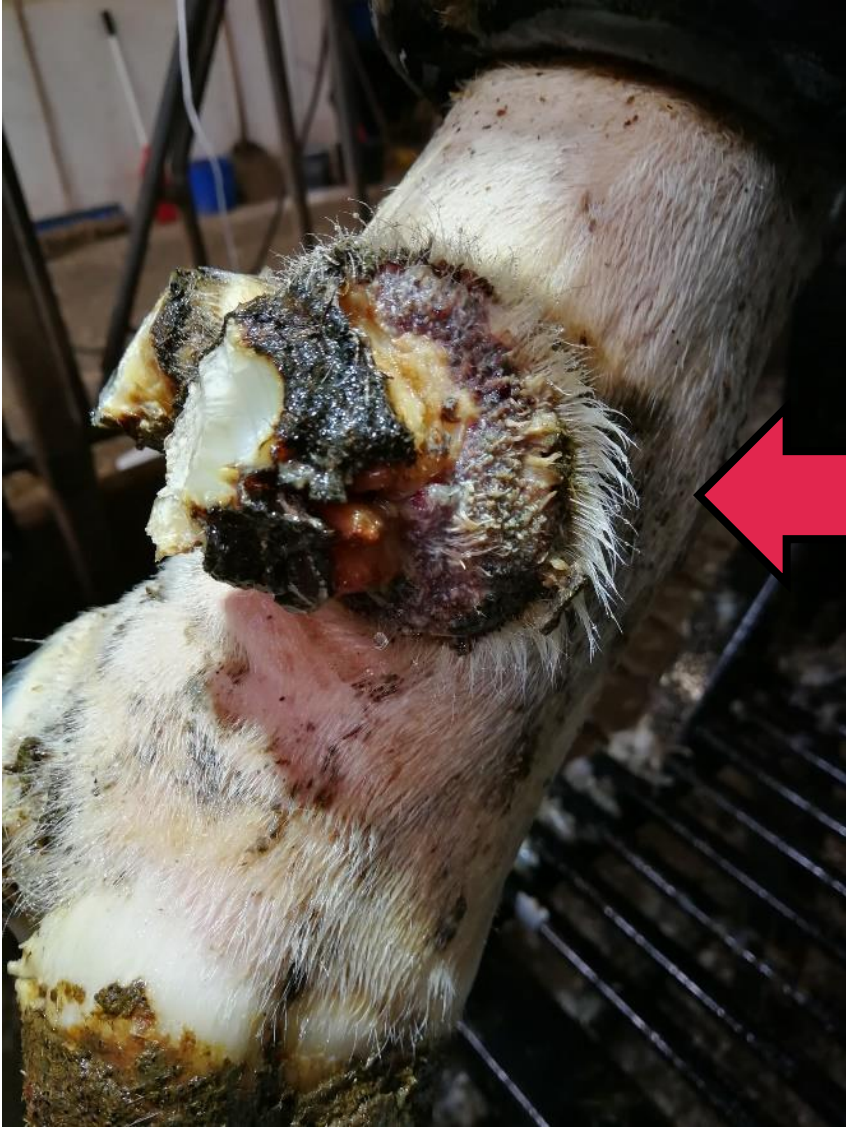
Treatment with medicine in DK for animals requires permits and a course in treatment of sick animals



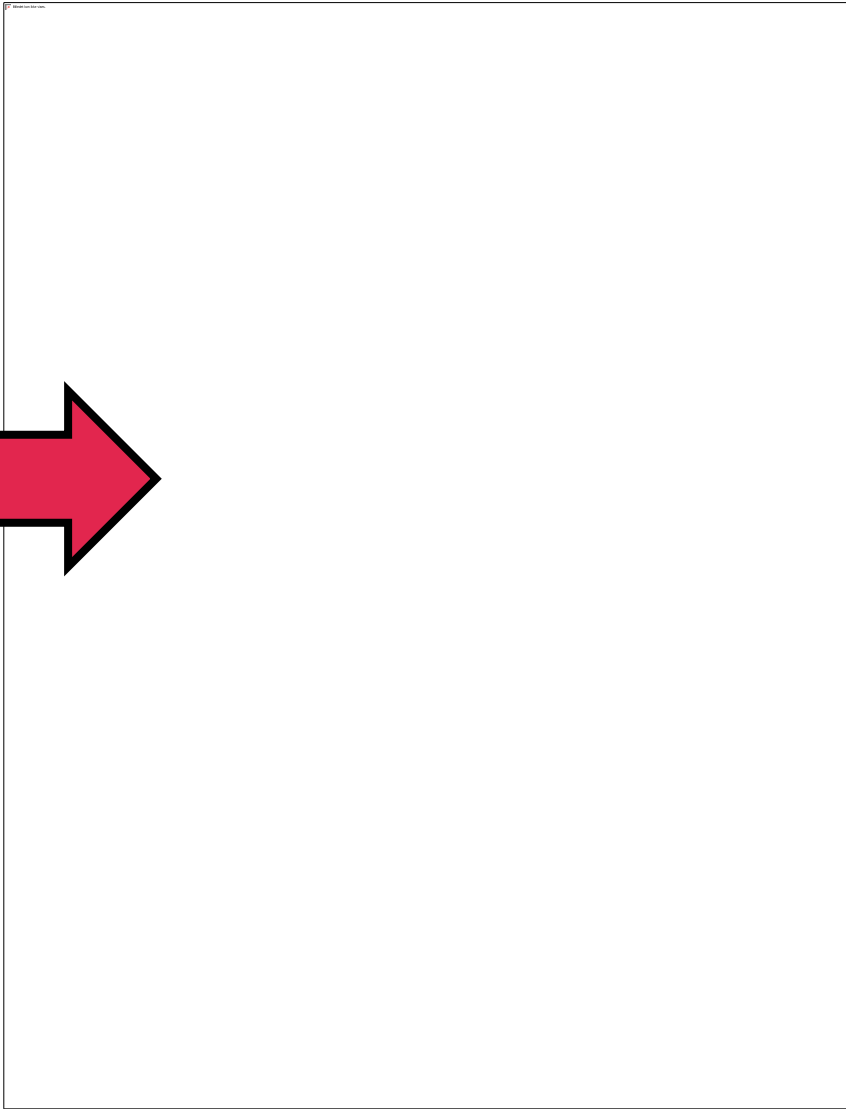
Assessment and treatment



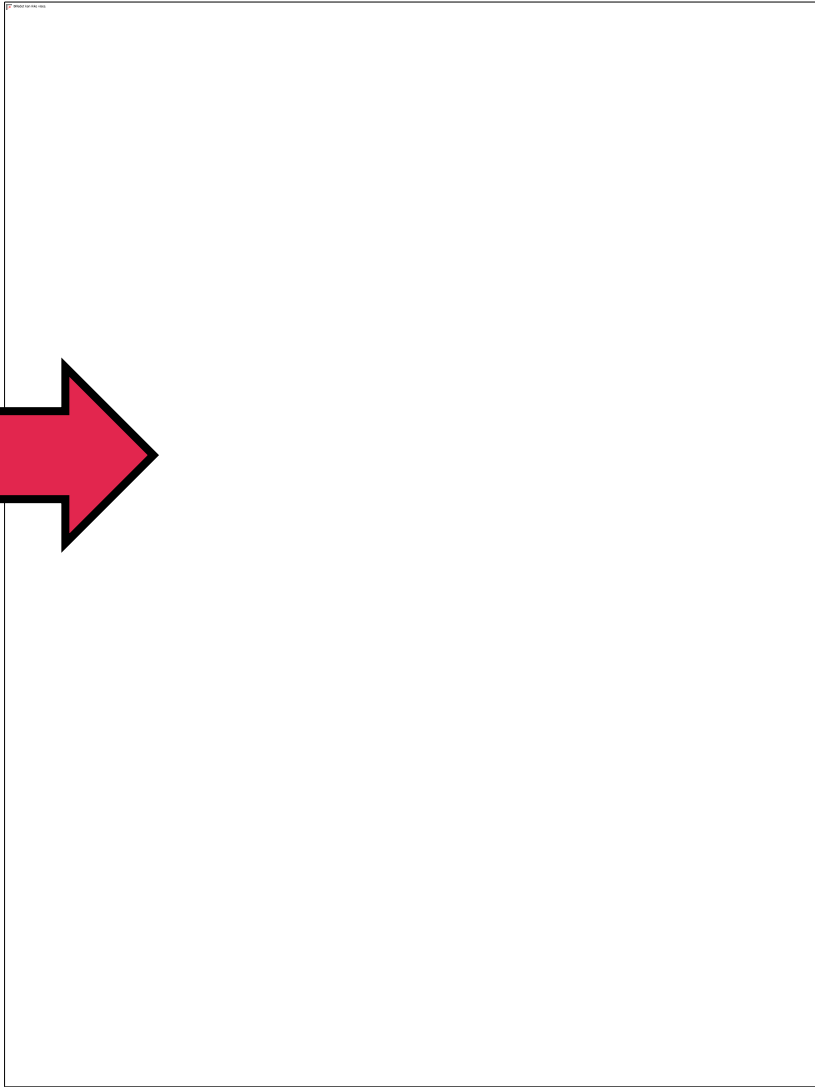
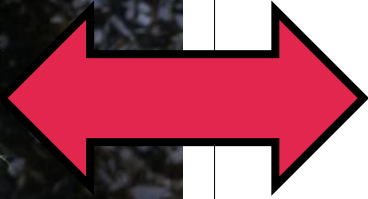
Assessment and treatment - Salicylic acid



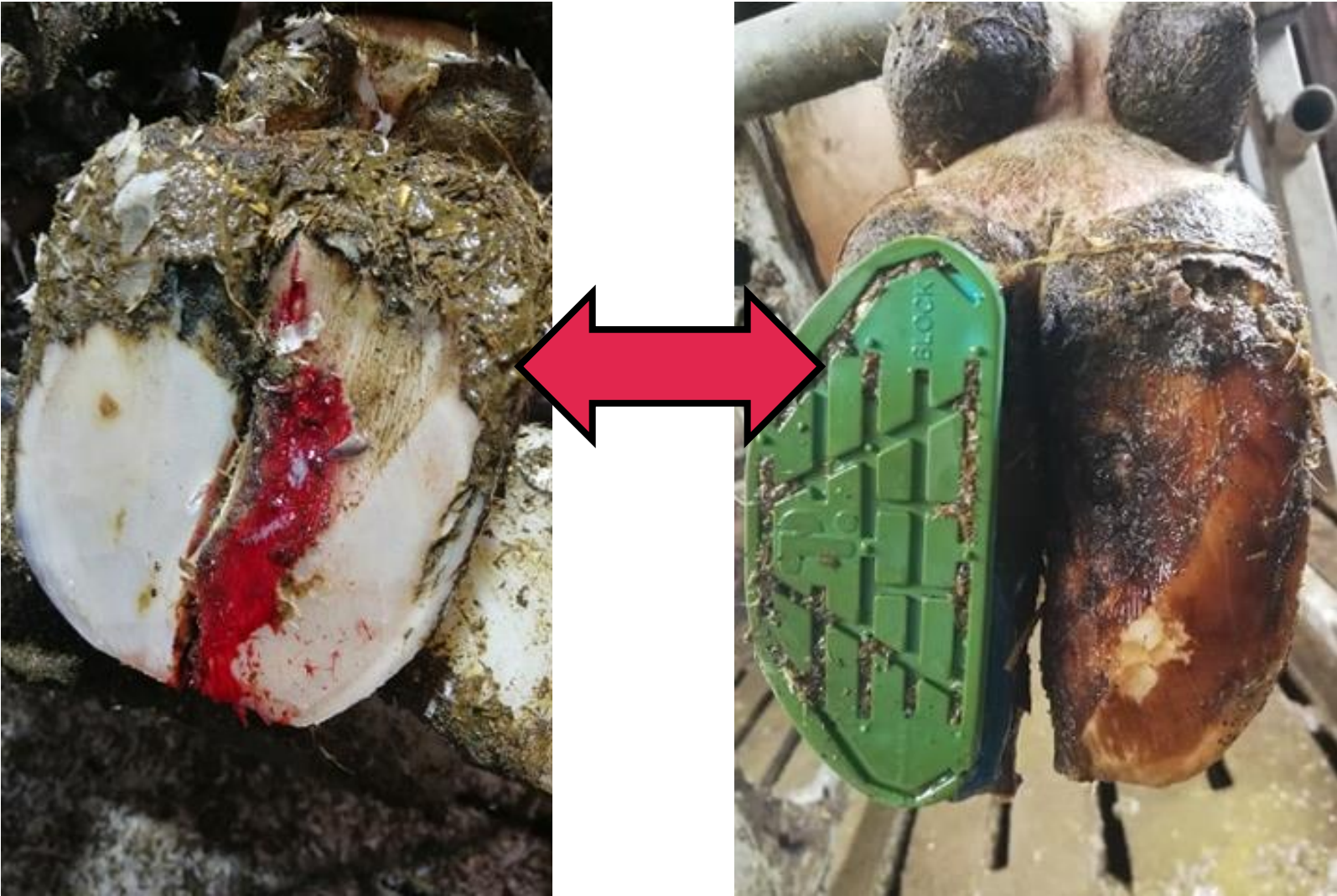
Assessment and treatment - Salicylic acid



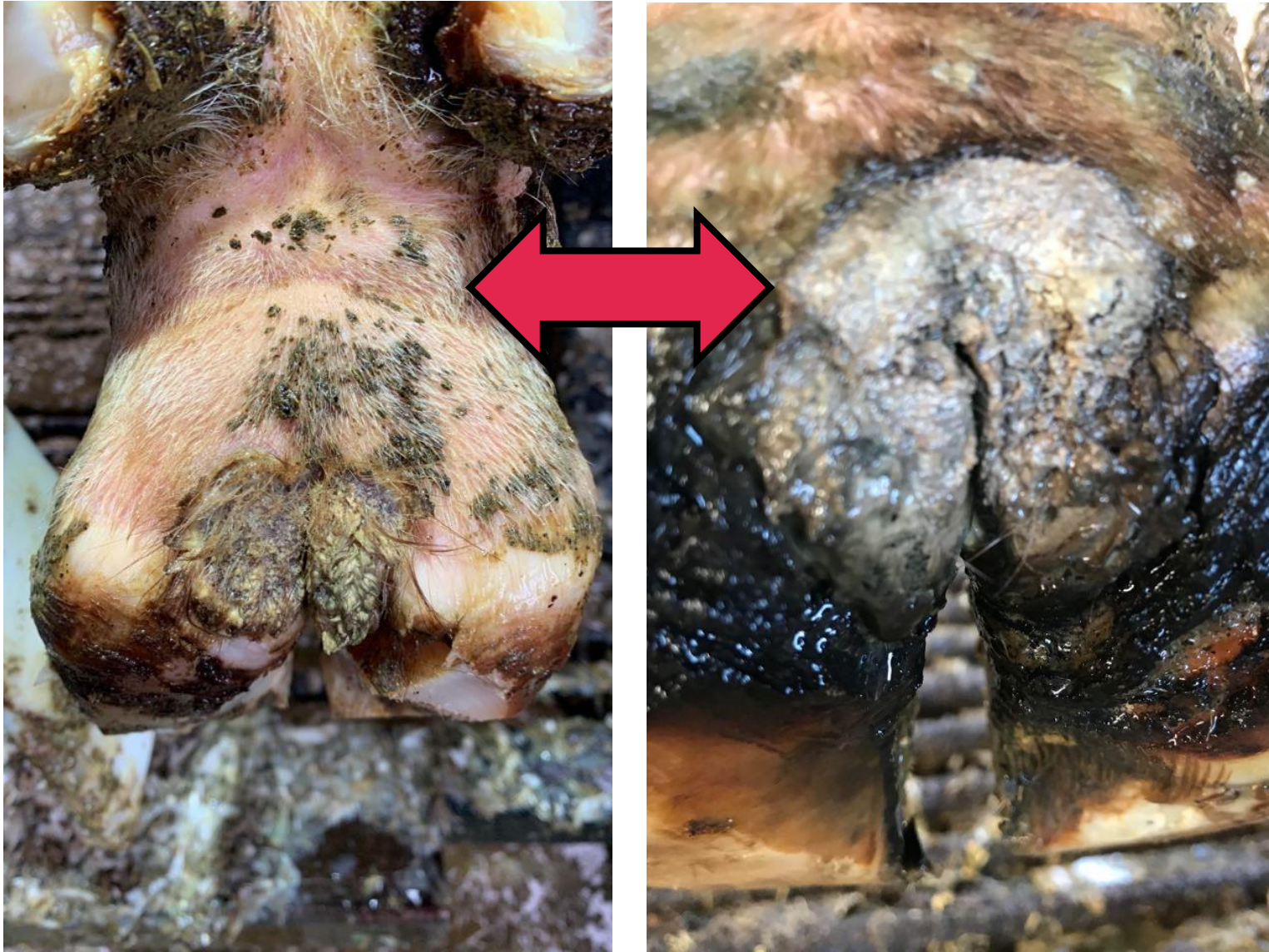
Assessment and treatment - Salicylic acid



Assessment and treatment - Salicylic acid



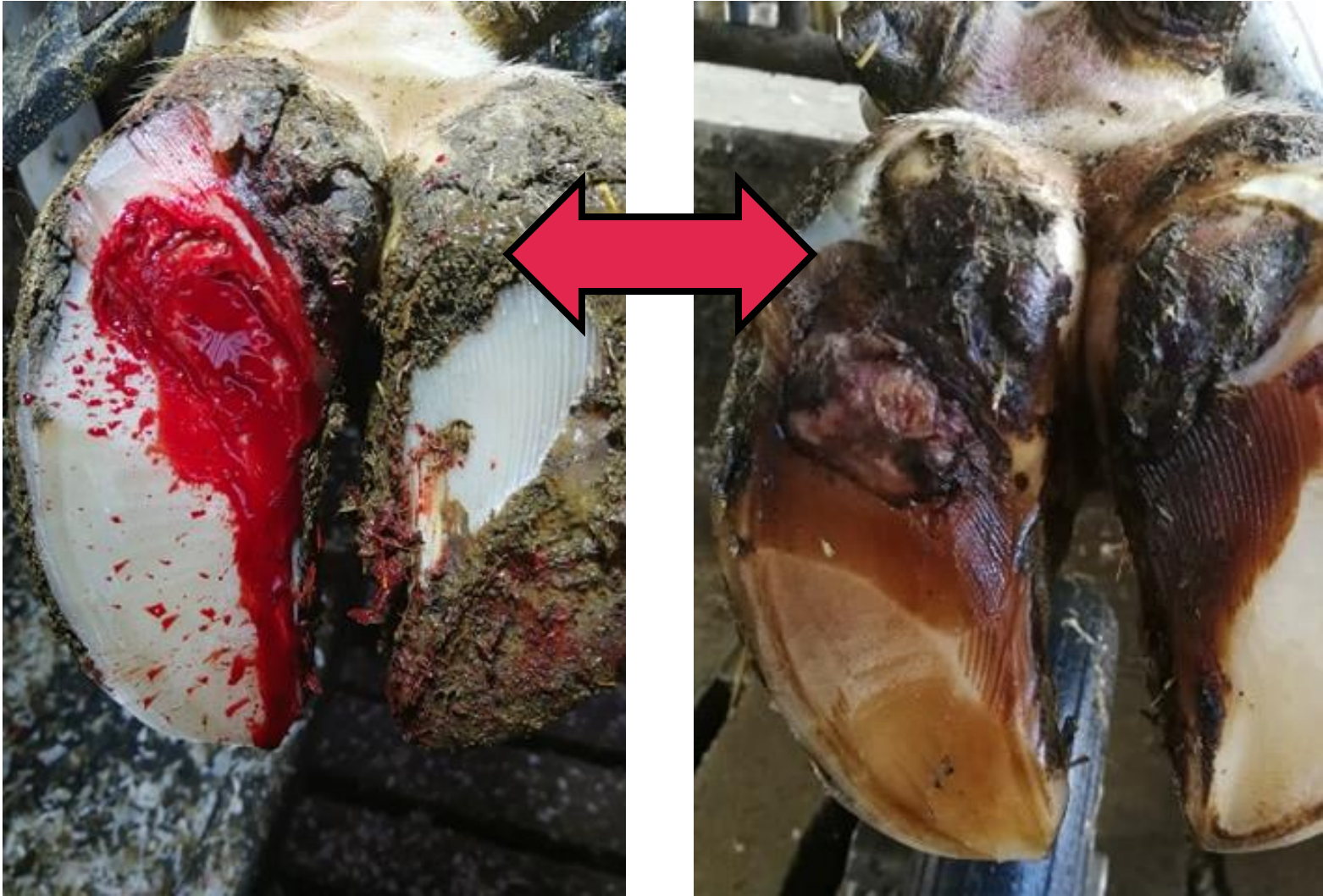
Assessment and treatment - Salicylic gel



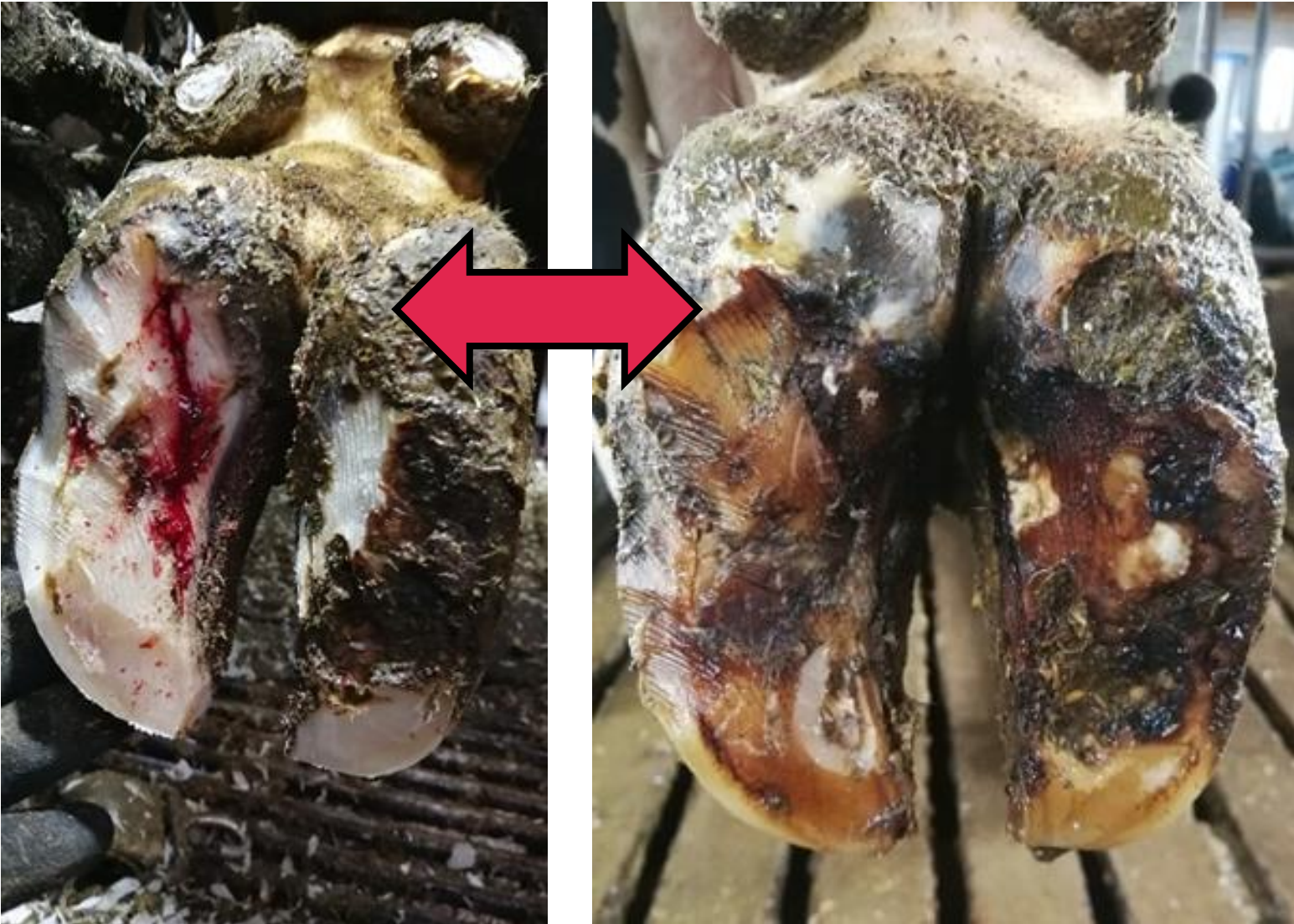
Assessment and treatment - Salicylic gel



Assessment and treatment - Salicylic gel



Assessment and treatment - Salicylic gel



Assessment and treatment - Salicylic acid

How much salicylic acid is needed?



Break!



Assessment and treatment

Use your senses:



Assessment and treatment

How long should a bandage stay on ? What do you tell the farmer?

Digital dermatitis & Interdigital hyperplasia

2-3 days

Sole ulcer, abscess in the white line & toe necrosis

5-6 days



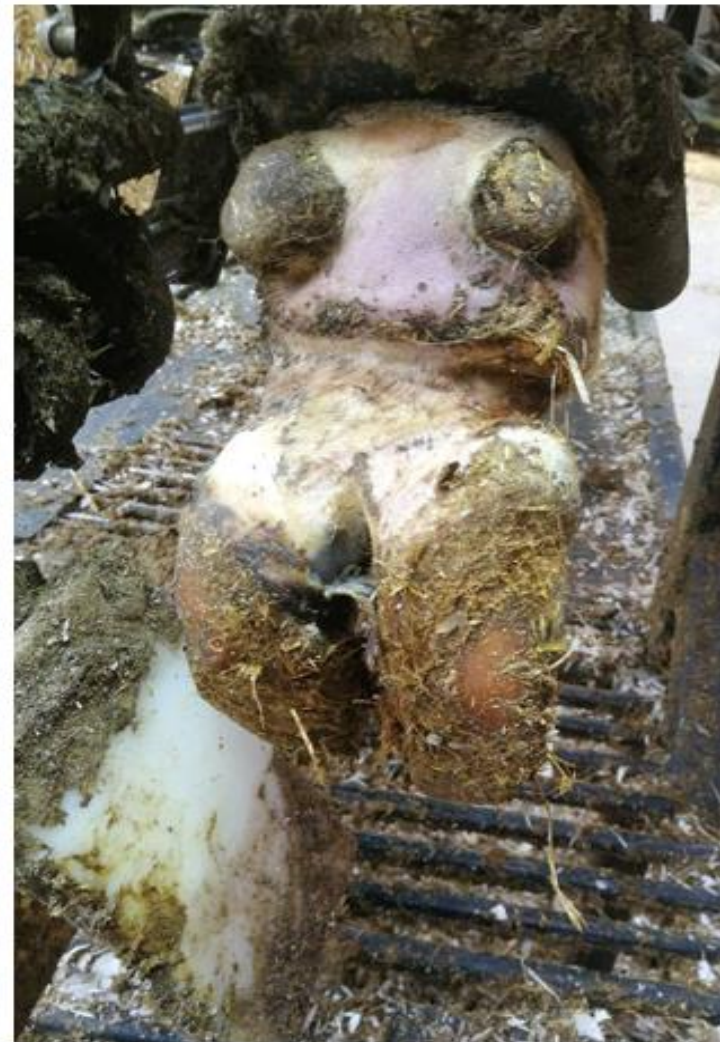
Assessment and treatment

How do you test if a bandage is too tight?



Assessment and treatment

The consequence of too tight a bandage !!



Assessment and treatment

The consequence of too tight a bandage !!



Assessment and treatment

How long do you recommend that a shoe should sit on the hoof ?

A shoe should sit on the hoof between 4-6 weeks.

- Weight bearing again
- The sole grows by approx. 5-2 mm per Month
- The thickness of the cow's sole should be 1 cm



Assessment and treatment

Right and wrong



Assessment and treatment

Totally wrong!!



Assessment and treatment

Totally wrong!!



Case, cow no. 3844

- Why this cow is important?
- Lact. No. = 3
- Days after calving = 455
- 10/3 -2022
Milk yield, kg EKM = 26,7



Case, cow no. 3844

44 Sygdomme		START BEH.	SYGDOM	LOKALITET	LAKT
		12-02-2022	Dobbeltsål	VB	3
ene		12-02-2022	Såleblødning	VB	3
		15-01-2022	Sålesår	VB	3
		27-12-2021	Sålesår	VB	3
>>		02-11-2021	Klovbeskæring		3
		02-11-2021	Sålesår	HB	3
16		26-07-2021	Klovbeskæring		3
		14-04-2021	Klovbeskæring		3
sat		07-01-2021	Klovbeskæring		3
		07-01-2021	Sålesår	VB	3



Case, cow no. 3844

- In the trimming chute
d. 27/12 - 2021



Case, cow no. 3844

- In the trimming chute
d. 15/1 - 2022



Case, cow no. 3844

- D. 11/2 – 2022 Lameness score 2



Case, cow no. 3844

- In the trimming chute
d. 12/2 - 2022



Case, cow no. 3844

- D. 15/3 – 2022 Lameness score 1



Case, cow no. 3844

- To the slaughterhouse d. 17/3 - 2022



Case, cow no. 3844

- Trimming after she has been slaughtered 18/3- 2022



Case, cow no. 3844

- How do the bones look like??



Case, cow no. 3844



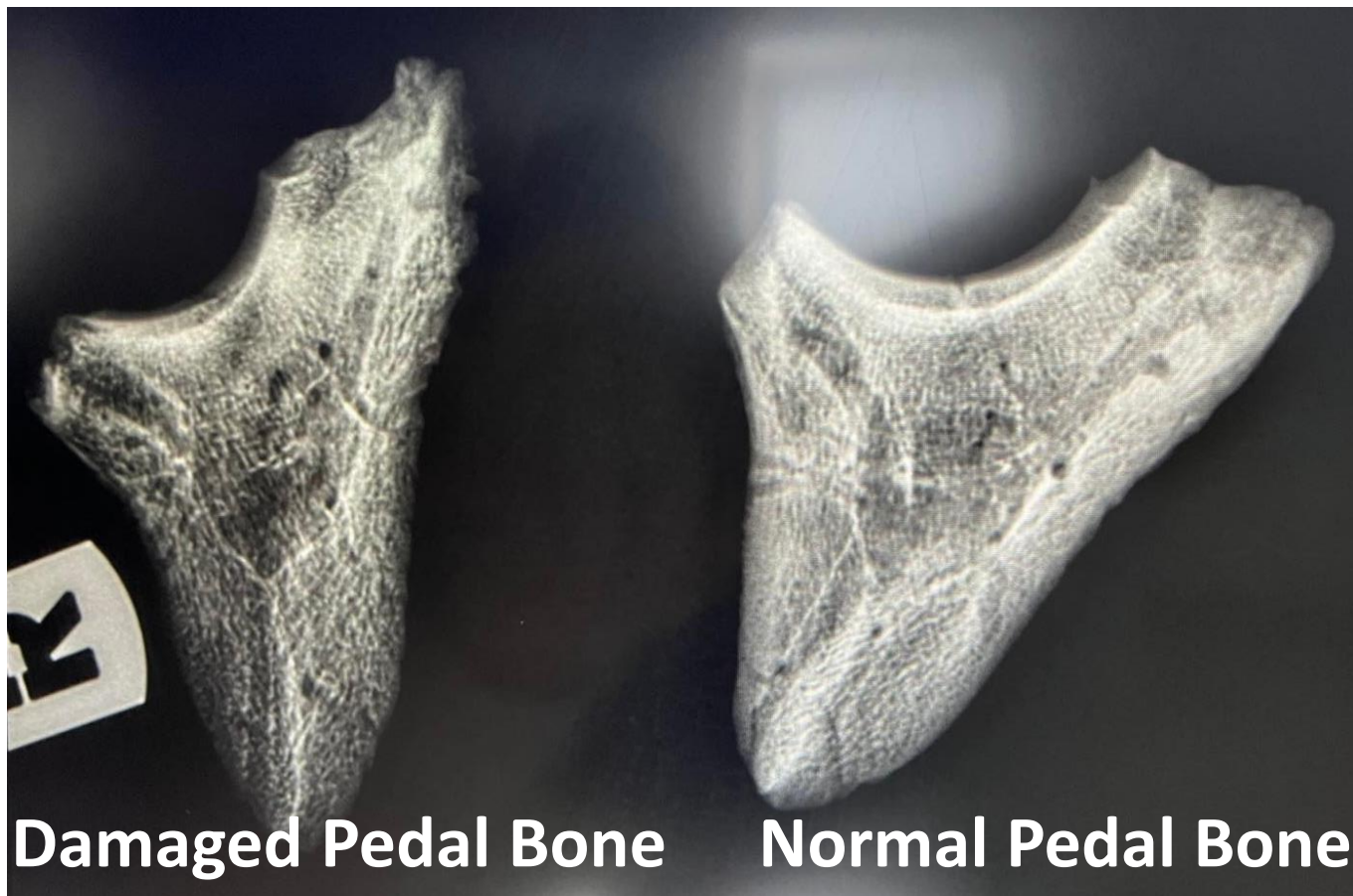
Damaged Pedal Bone



Normal Pedal Bone



Case, cow no. 3844



Case, cow no. 3844



+	12-02-2022	Såleblødning	VB	3
+	15-01-2022	Sålesår	VB	3
+	27-12-2021	Sålesår	VB	3
+	02-11-2021	Klovbeskæring		3
+	02-11-2021	Sålesår	HB	3
+	26-07-2021	Klovbeskæring		3
+	14-04-2021	Klovbeskæring		3
+	07-01-2021	Klovbeskæring		3
+	07-01-2021	Sålesår	VB	3
+	29-10-2020	Dry-off period	Alle	2

Practical experience exchange

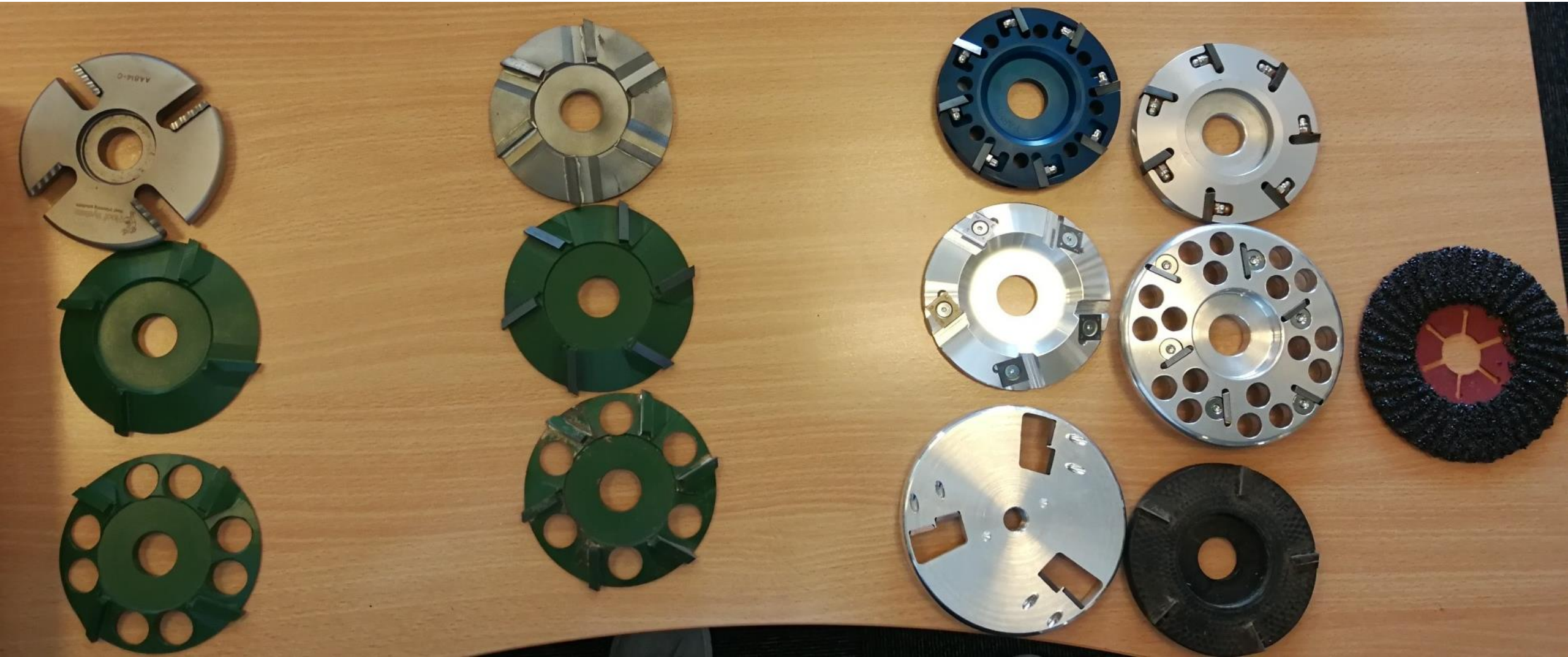
KVK – a danish product



Practical experience exchange



Practical experience exchange



Practical experience exchange



Practical experience exchange

- Safety - control



Practical experience exchange



Practical experience exchange



Practical experience exchange



Practical experience exchange

- How do you trim ?
- How do I do trim?

“Pros and cons” !

