



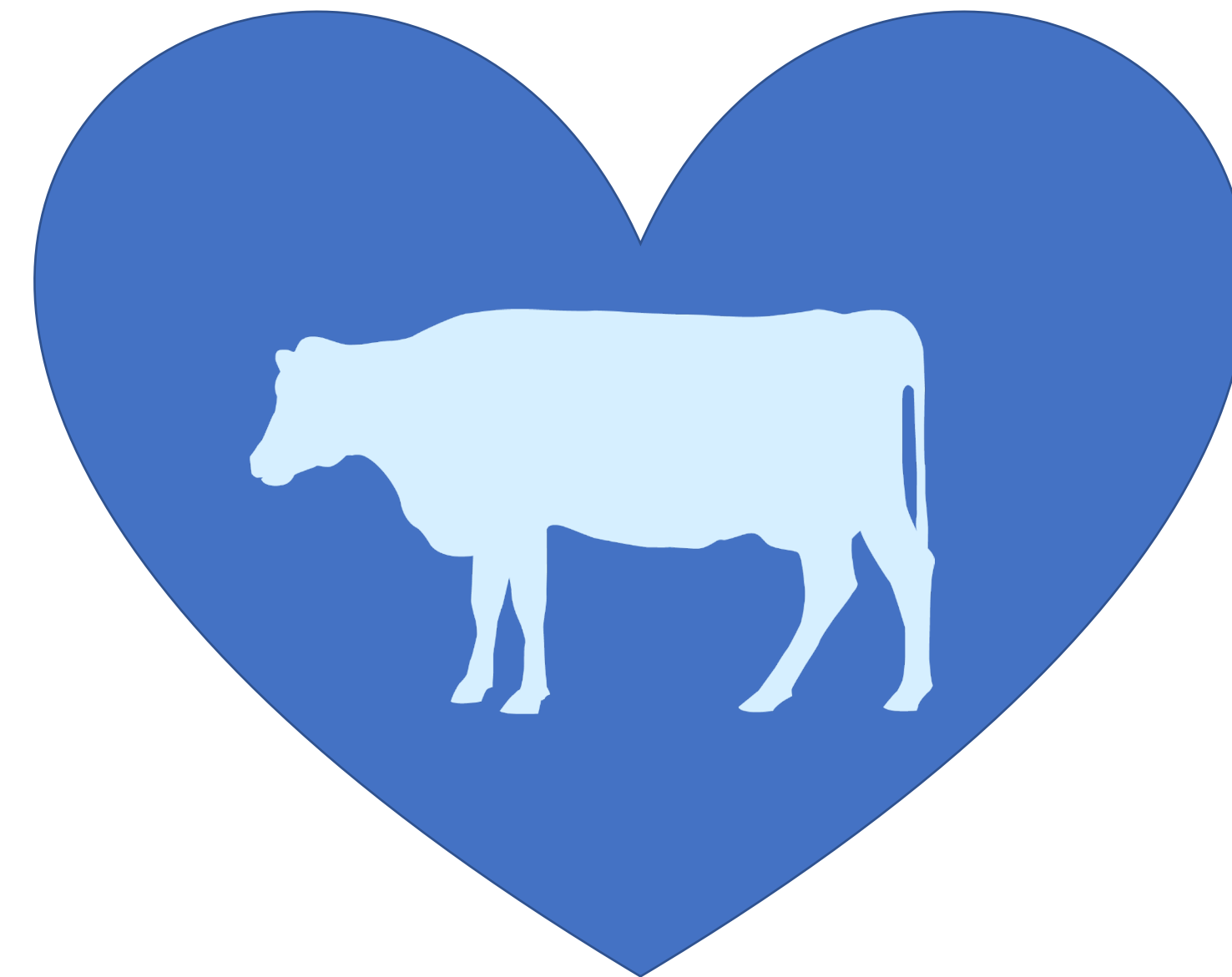
# Claw Health Improvement

dr Katarzyna Rzewuska

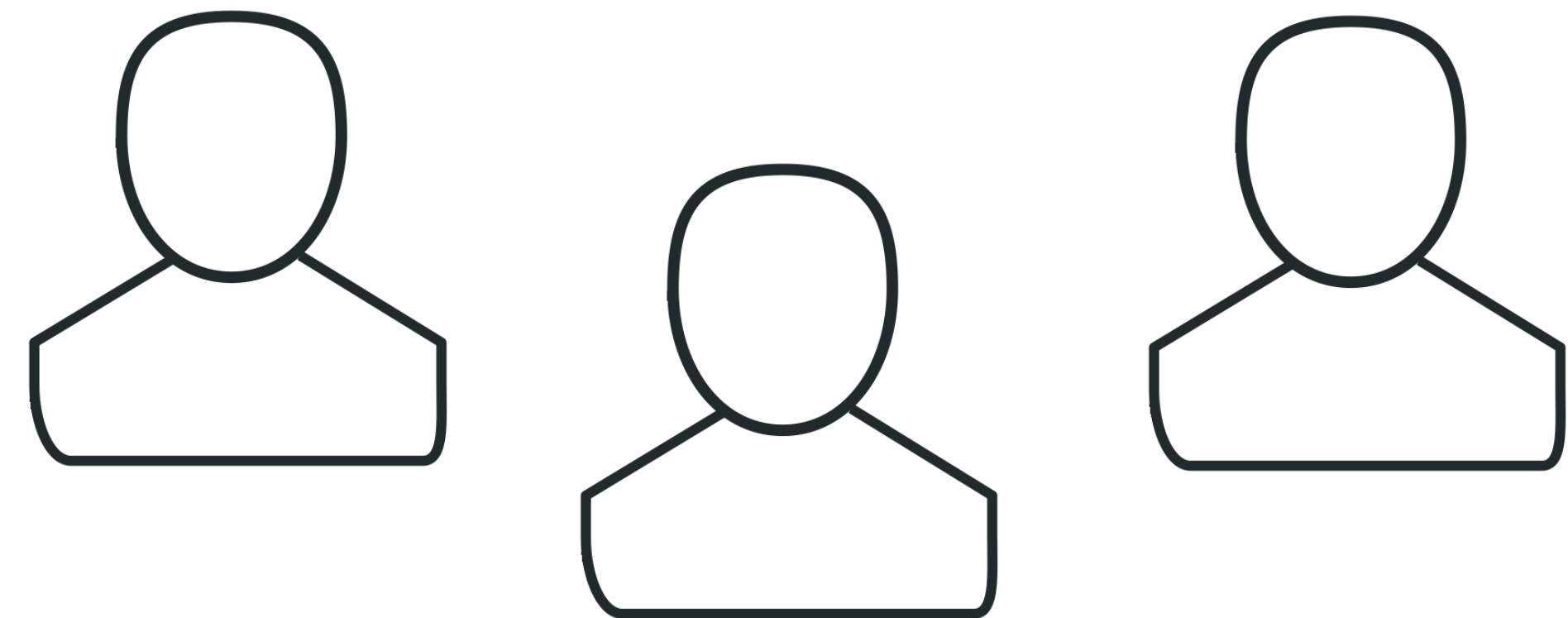
Manager of Centre for Genetics

Polish Federation of Cattle Breeders and Dairy Farmers

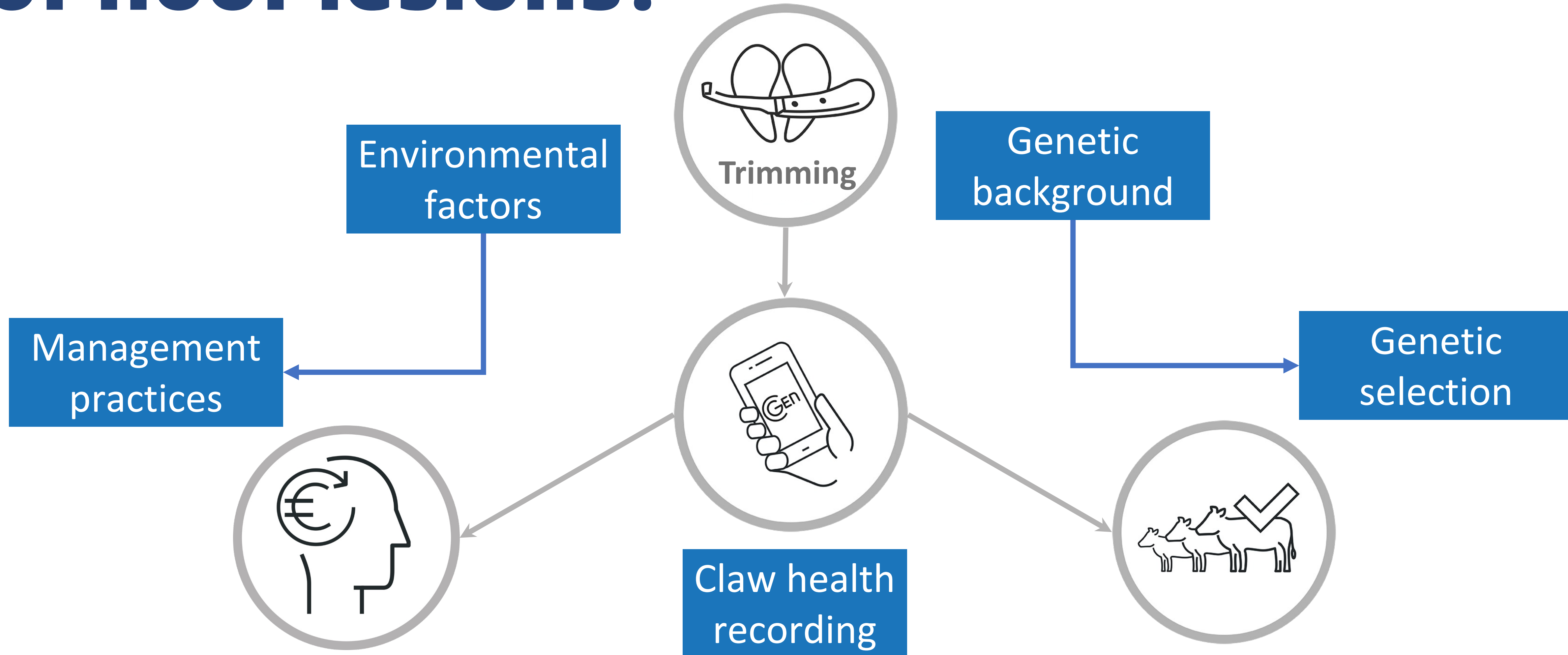
# Why hoof lesions?



Lameness is the one of the most important reasons for involuntary culling on Polish dairy farms, after mastitis and low fertility.



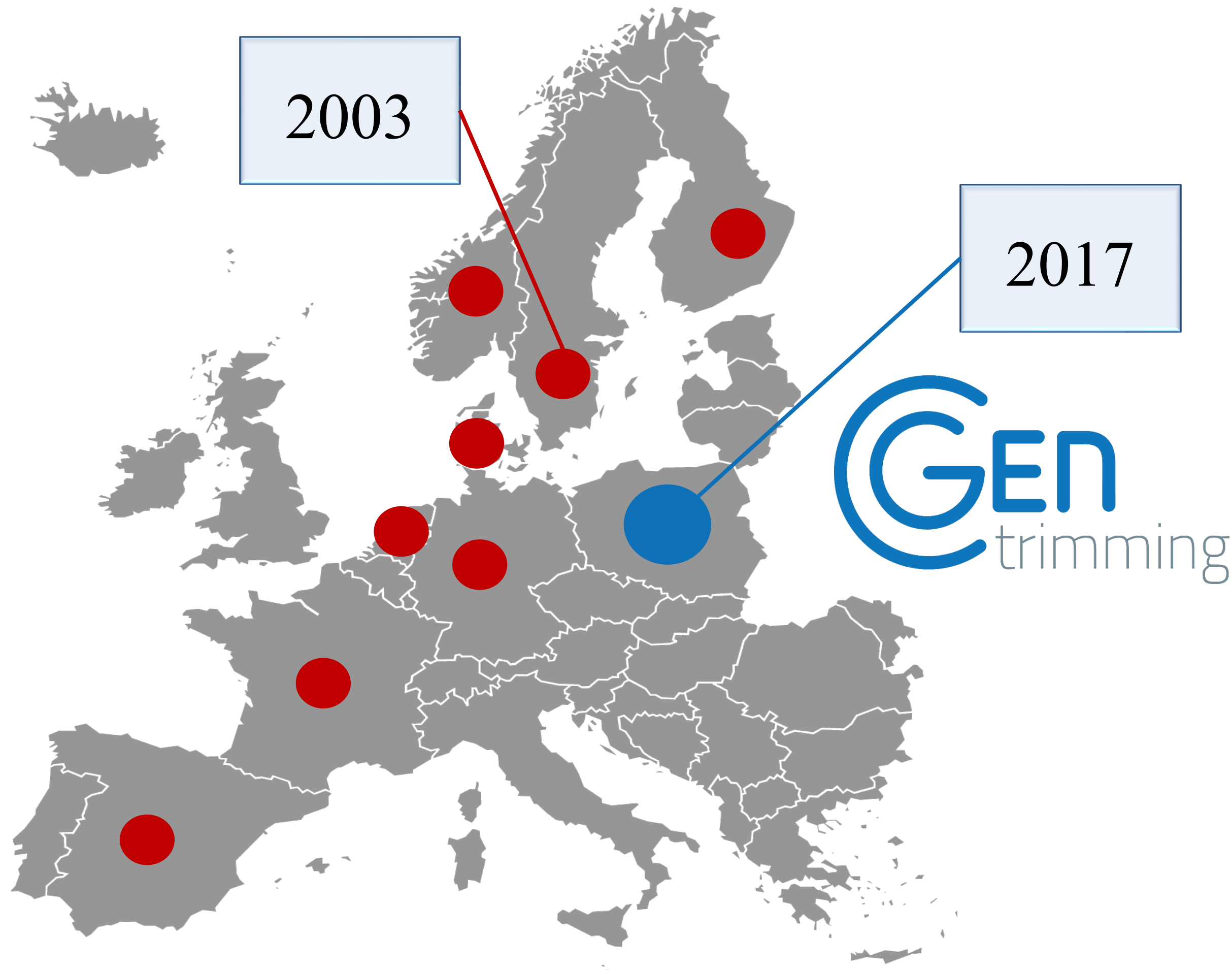
# How to reduce the incidence of hoof lesions?



# Genetic evaluation for hoof health



# Hoof health indices are increasingly used



**NAV** Nordisk Avlsværdi Vurdering  
 Nordic Cattle Genetic Evaluation




# International standard

Polish version

ICAR ATLAS ZDROWIA RACIC



II edycja

ICAR CLAW HEALTH ATLAS



2nd revised version

ICAR



PL	DD	ID	HHE	IH	PP
	SH	SHD	SHC	IP	
	U	SU	BU	TU	
TL	WL	WLF	WLA	TN	TP
	CH1		CH2	INNE	

**ICAR ATLAS ZDROWIA RACIC** THE GLOBAL STANDARD FOR LIVESTOCK DATA

- Asymetryczne racice (AC)
- Wklęsła ściana dorsalna (CD)
- Racica skrzycona (CC)
- Dermatitis digitalis (DD)
- Dermatitis interdigitalis/powierzchnowe zapalenie skóry (ID)
- Podwójna podeszwa (DS)
- Erozja rogu opuszek (HHE)
- Przerost skóry szpary międzypalcowej (IH)
- Racice nożycowe (SC)
- Szczelina racicy (HFA, Szczelina Przyosiowa Segmentu Koronowego)
- Rozpadlina racicy (HFH)
- Szczelina racicy (HFV, Szczelina pionowa)
- Ropowica międzypalcowa (IP)
- Obrzęk korony i/lub opuszki (SW)
- Rozlana postać krwiaka podeszwy (SHD)
- Ograniczona postać krwiaka podeszwy (SHC)
- Cienka podeszwa (TS)
- Ściana oddzielona (WLF)
- Powierzchnowe ropne zapalenie tworzywa w linii białej (WLA)
- Wrzód podeszwy (SU)
- Wrzód opuszki (BU)
- Wrzód ściany i podeszwy (TU)
- Martwica kości racicowej (TN)

The ICAR Claw Health Atlas can be downloaded from: [http://www.icar.org/Documents/ICAR\\_Claw\\_Health\\_Atlas.pdf](http://www.icar.org/Documents/ICAR_Claw_Health_Atlas.pdf)

# Training of trimmers



Diagnosis of disease  
and use of  
harmonized codes

Use of software

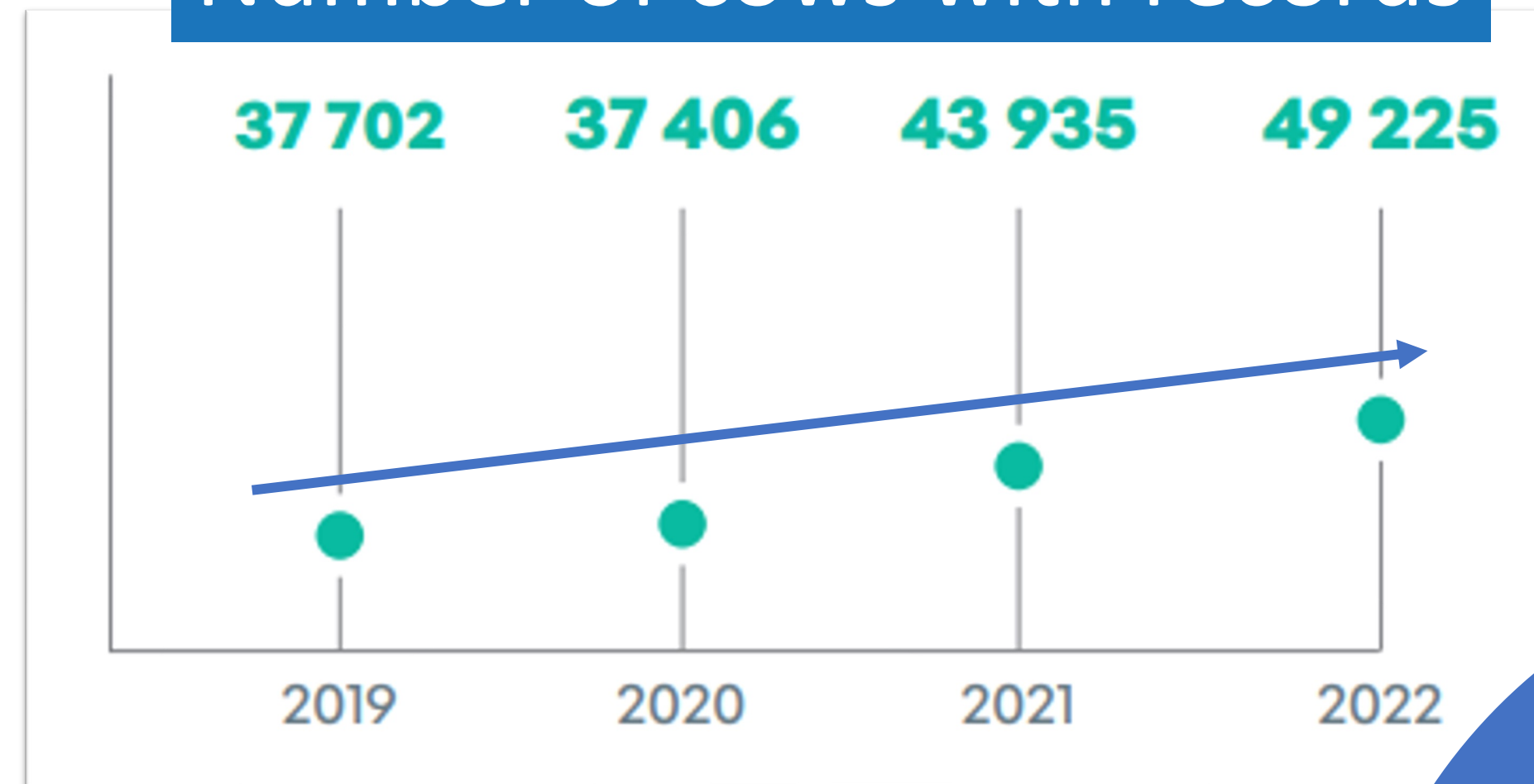
Recording hoof  
health status  
during farm visit



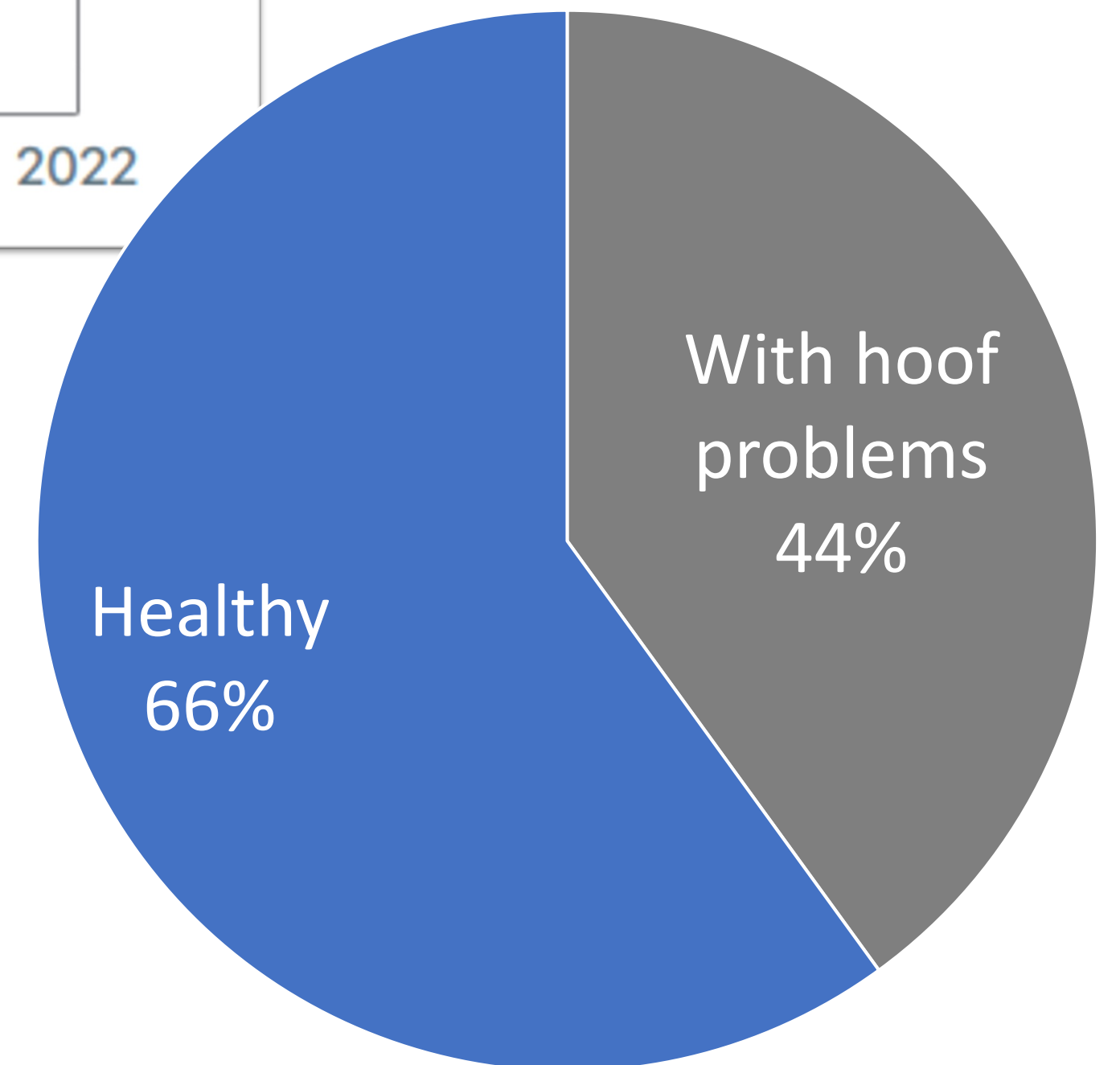
# There is a problem with hoof health



Number of cows with records

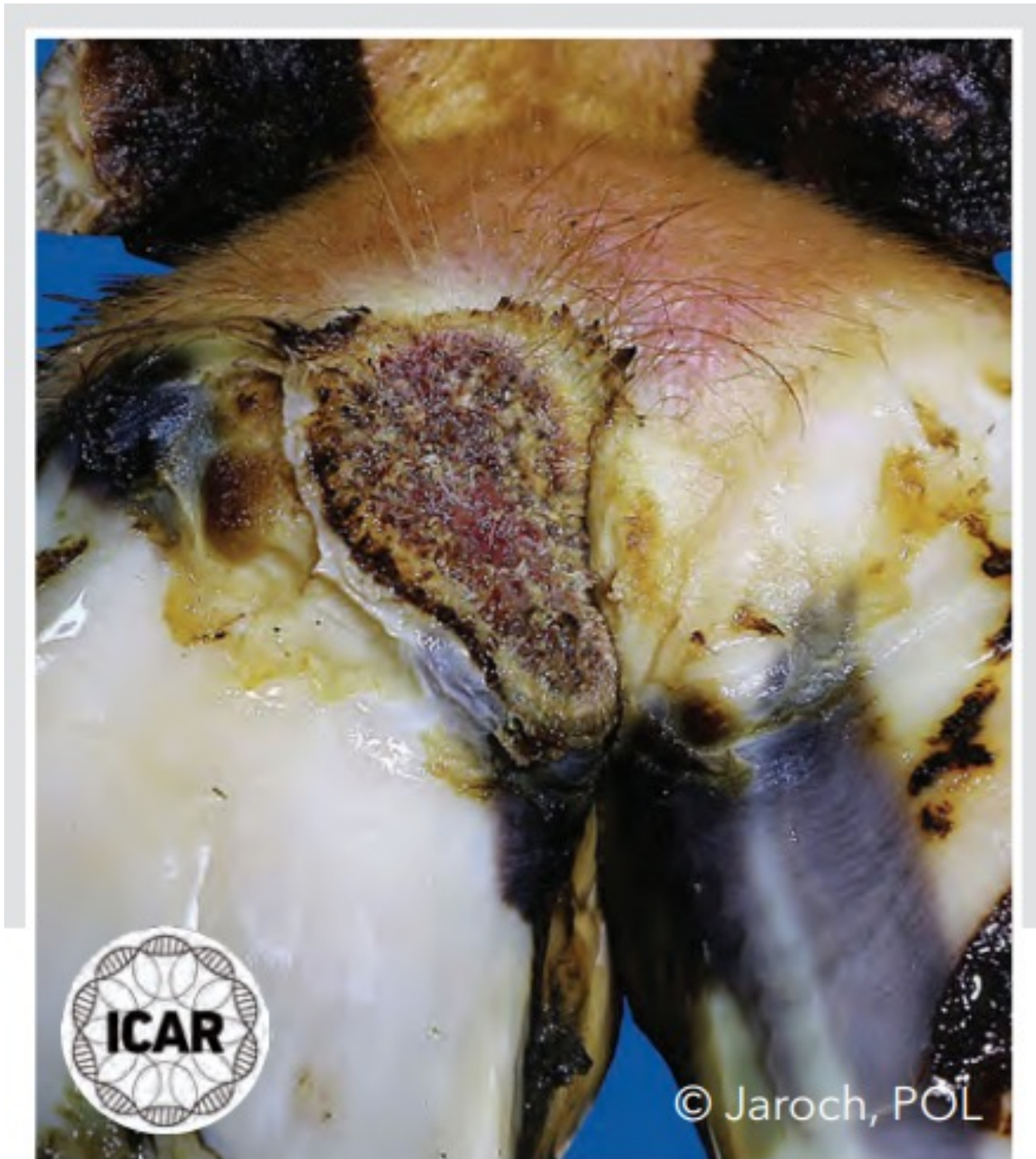


92K HF cows with records





# — Dermatitis digitalis (DD) is the most frequent disease



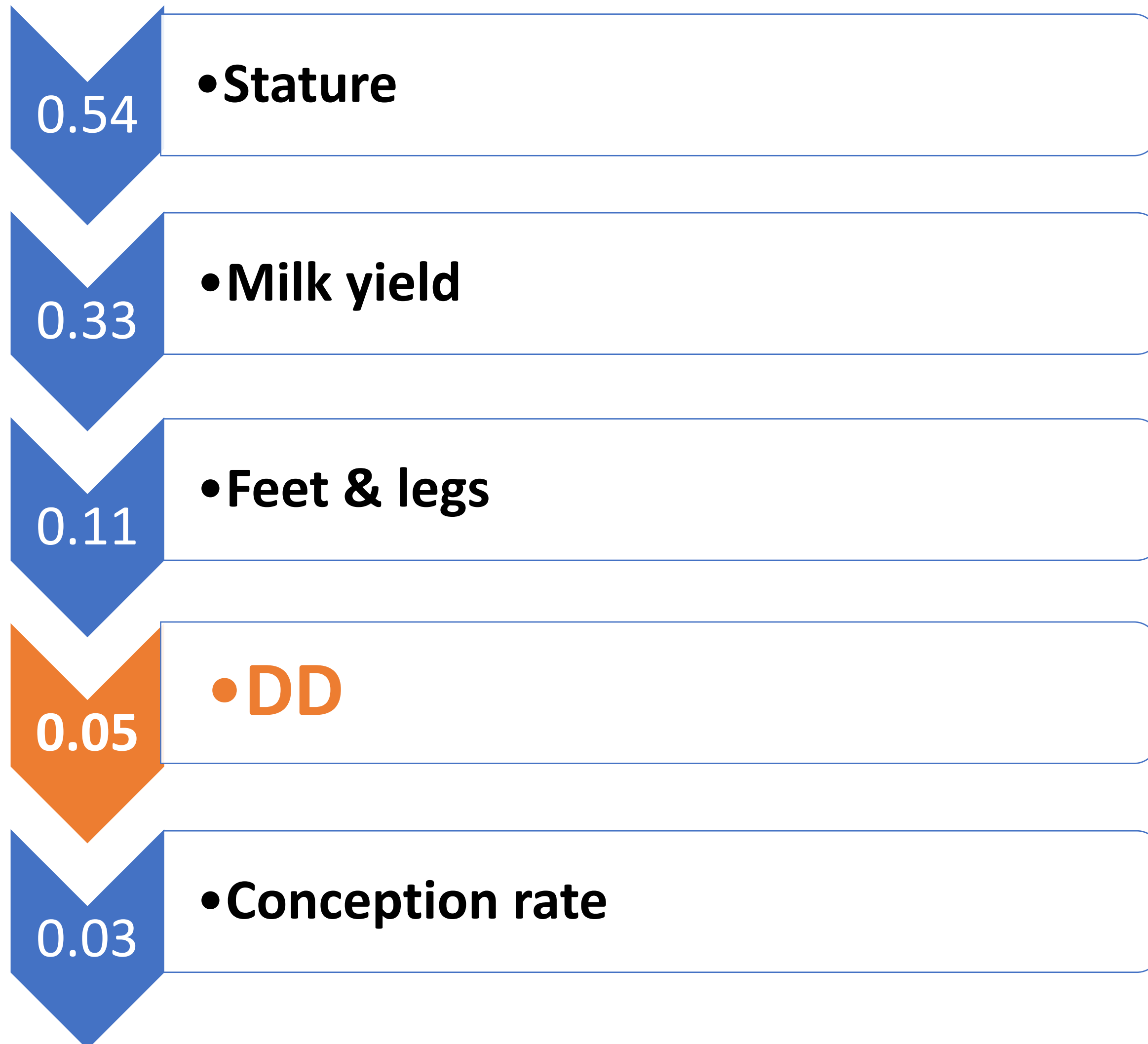
• Digital dermatitis

• Sole ulcer

• White line disease

• Sole haemorrhage

# Heritability of DD



- Heritability is in the the range of the values of the improved traits
- Genetic improvement of resistance to DD in Poland is possible
- Genetic evaluations carried out according to the Golden Standard
- Estimated based on phenotypes of  $\approx 63K$  Polish Holstein Friesian cows in „CGen trimming” app.
- $\approx 5.5K$  bulls with daughters with a phenotype in evaluation

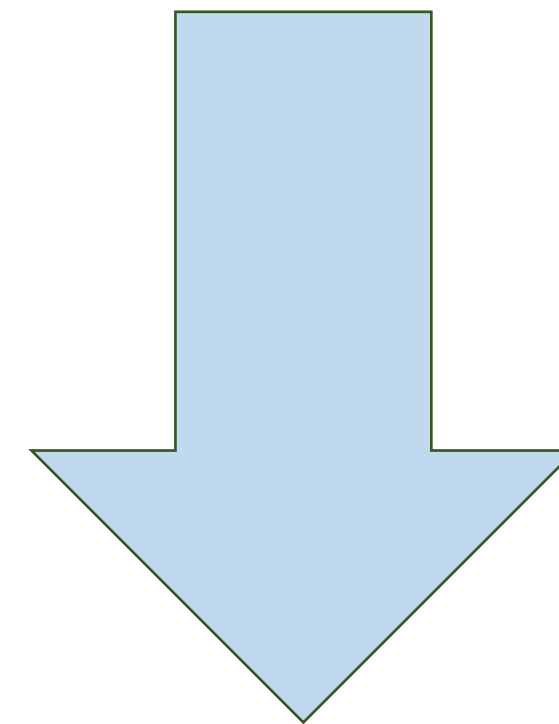
# Percentage of daughters with DD

Bulls sorted by breeding value for resistance to DD

## 10% of the best sires



2.5

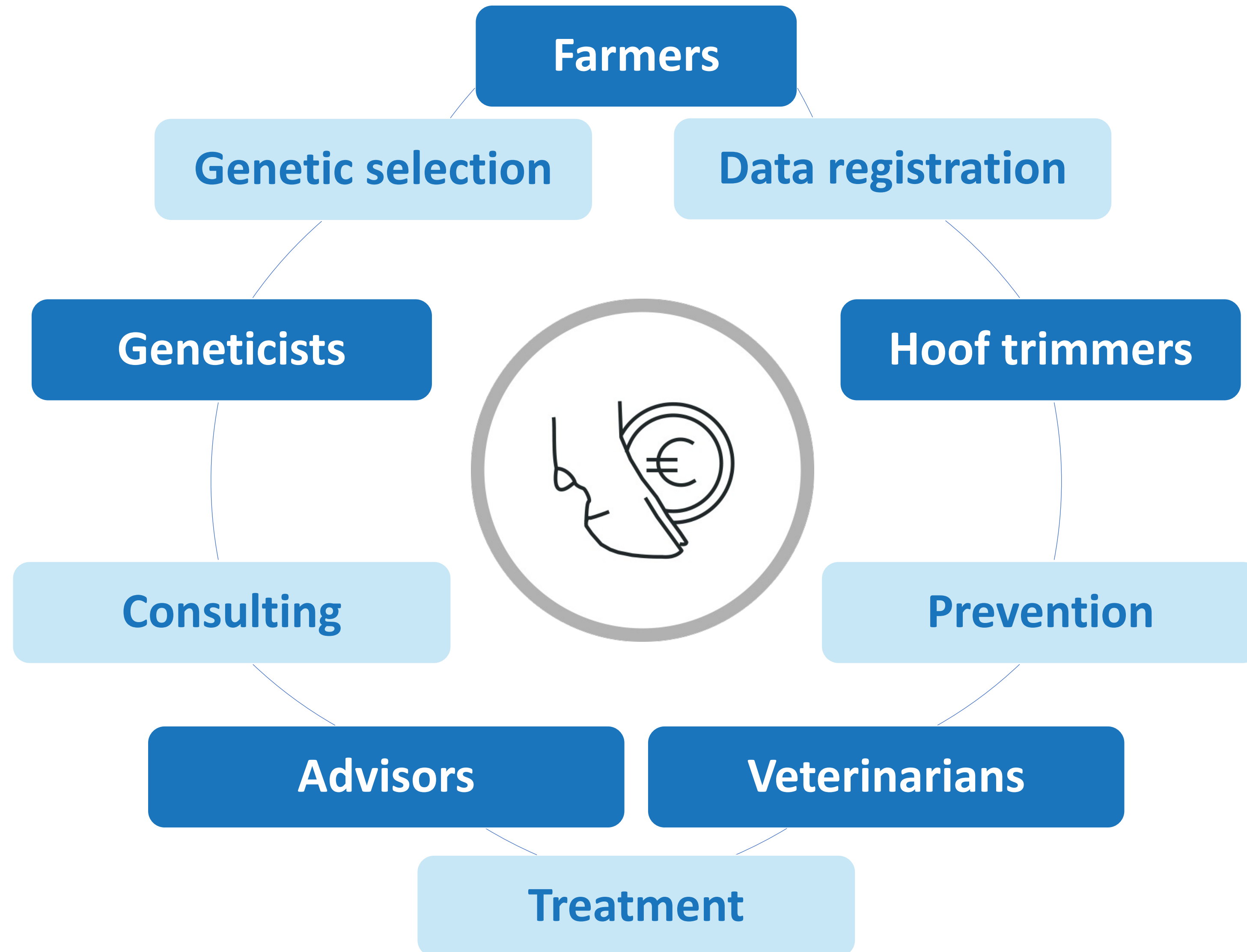


less cases

## 10% of the worst sires



# Improving hoof health requires cooperation



# Steakeholders and their expectations



**Geneticist**

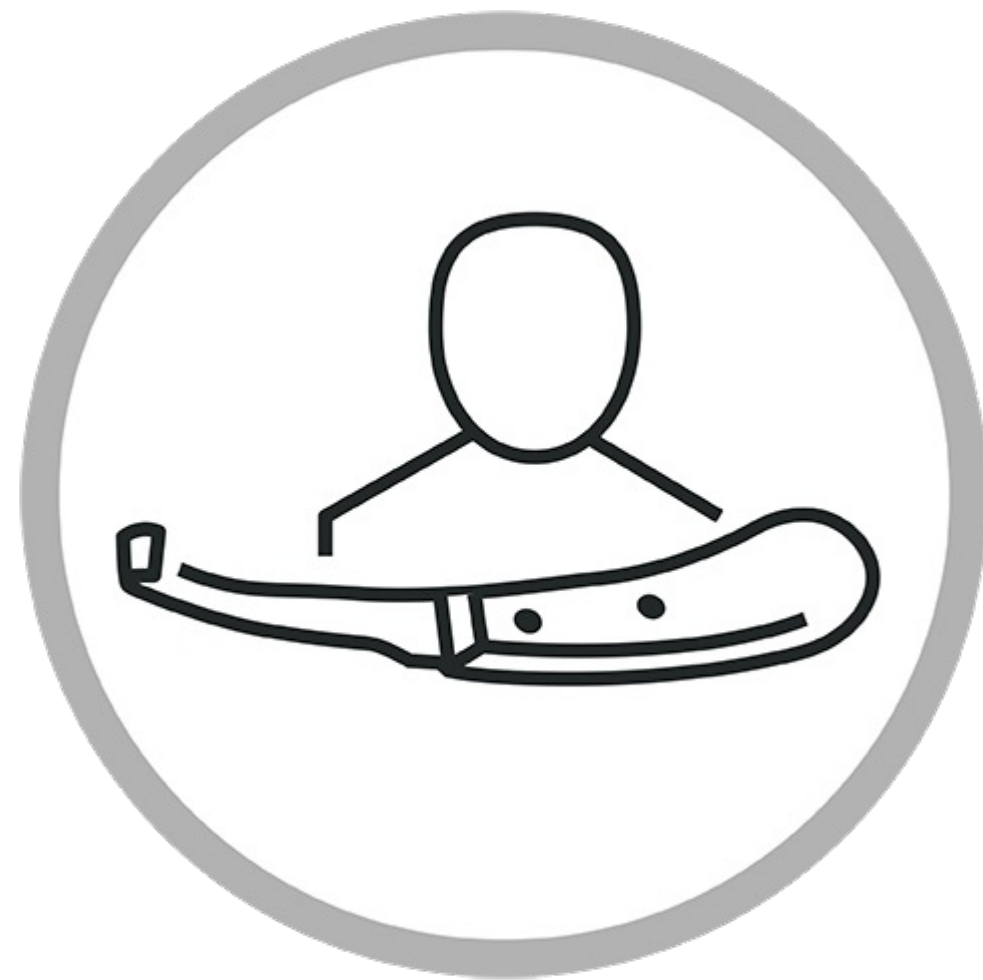
- Standardised good quality data

- Correct diagnosis of diseases

- Phenotypes for animals with pedigrees

- Large amount of digital data

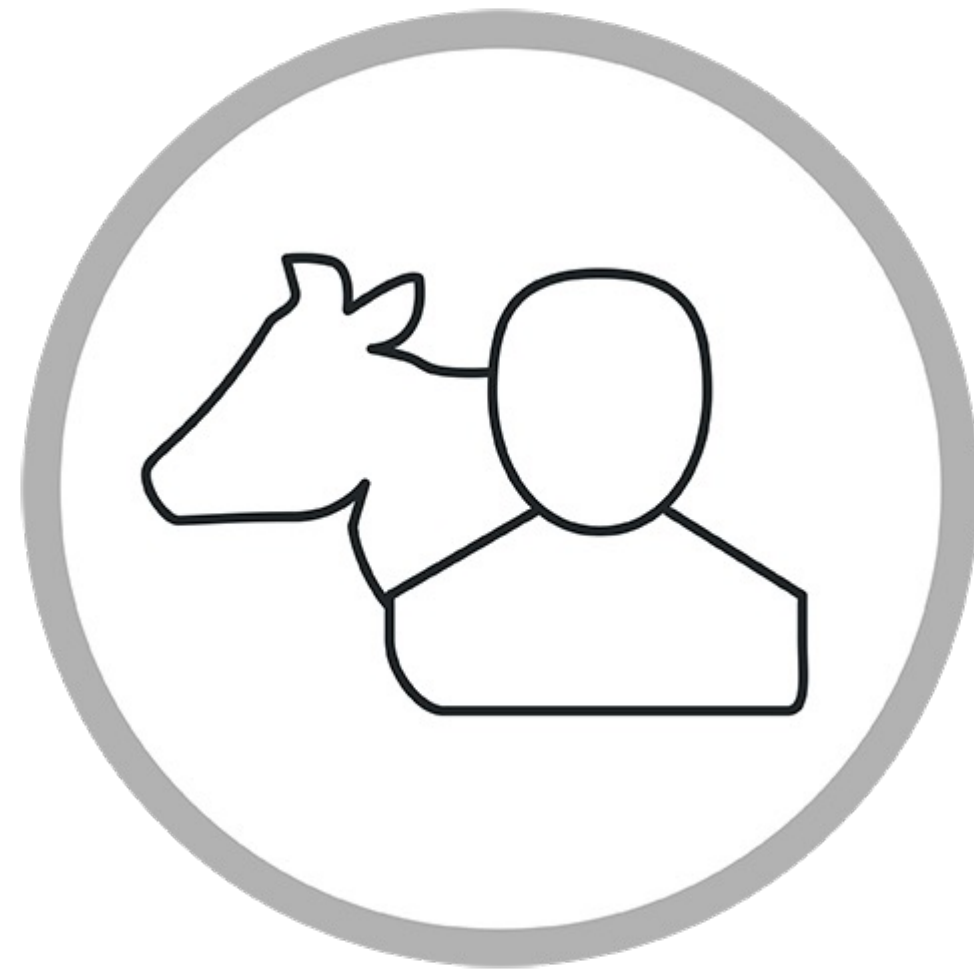
# Steakeholders and their expectations



## Hoof trimmer

- Quick-to-use software
- Reports to clients - easy billing for the service
- The same quality of service for every customer
- Healthy cows mean more pleasant and faster work
- Training in hoof trimming techniques

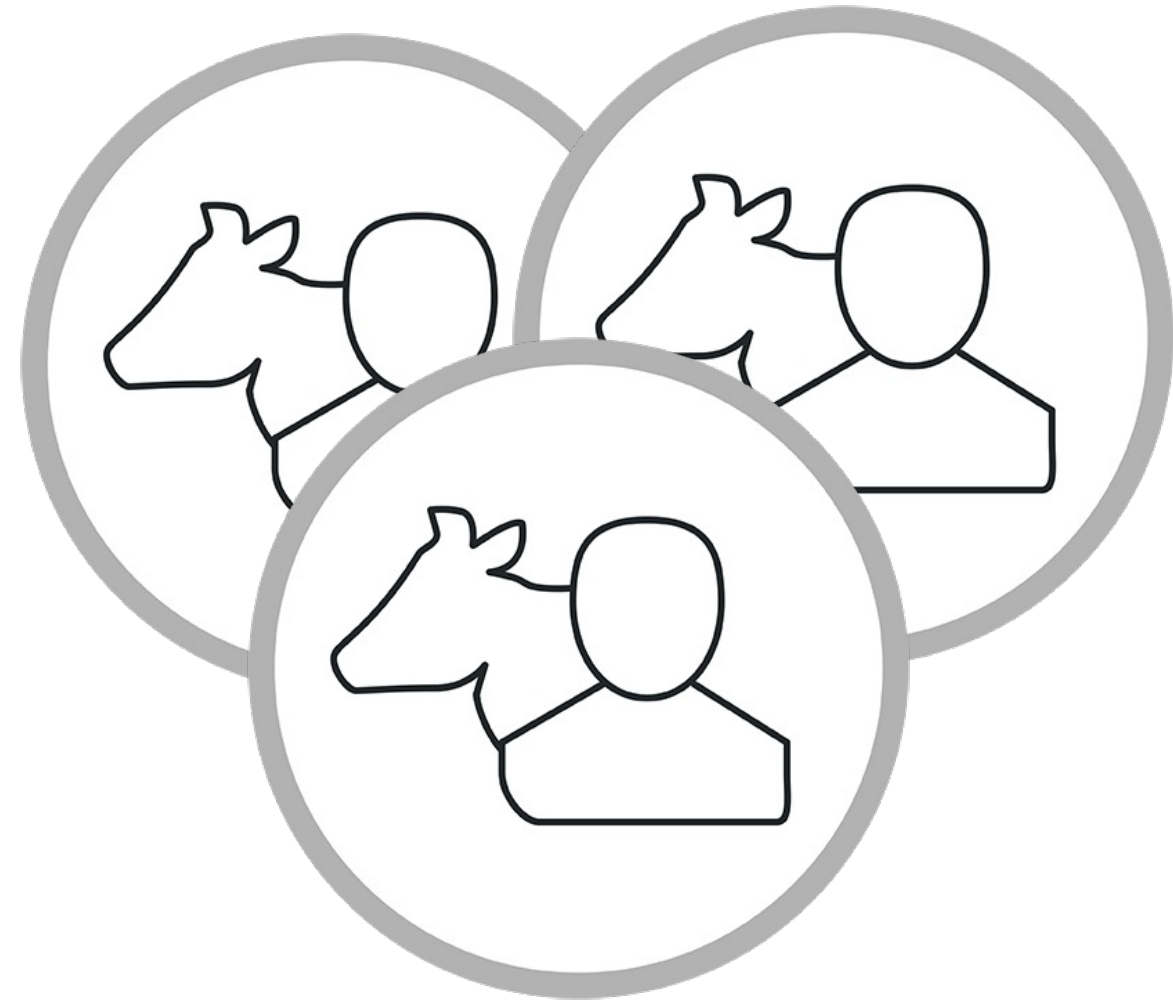
# Steakeholders and their expectations



**Farmer**

- Healthy and economically efficient cows
- Easy preparation of the list of cows to be trimmed
- Report - the most common diseases,  
list of cows to remove the bandage
- Easy billing of the service
- Software integration

# Steakeholders and their expectations



**Breeders  
Association**

- Data on the Holstein cow population

- Software only available to associated members and customers

- Safety of breeders data

- Consumer perception of cattle farming



# Trimming report for the farmer



## Summary for the visit



### Legenda

- DD** ..... Dermatitis digitalis
- U** ..... Wrzód
- SU** ..... Wrzód podeszwy
- WL** ..... Choroba linii białej
- OP** ..... opatrunek
- BL** ..... podklejenie
- Z** ..... zdrowa

### Podsumowanie zgłoszeń

- liczba krów: 20
- liczba zgłoszeń: 24
- wg typów: 23x R, 1x I, 0x T, 0x N
- liczba opatrunków: 4
- liczba bloków: 4
- liczba uszkodzeń mechanicznych: 0
- liczba krów chorych: 9
- % krów chorych: 45
- liczba nóg chorych: 13 (spośród 77)
- % nóg chorych: 16.9

## Information on the most common diseases

### Najczęstsze schorzenia

1. WL: krów 7 (35%)
2. DD: krów 1 (5%)
3. SU: krów 1 (5%)
4. SH: krów 0

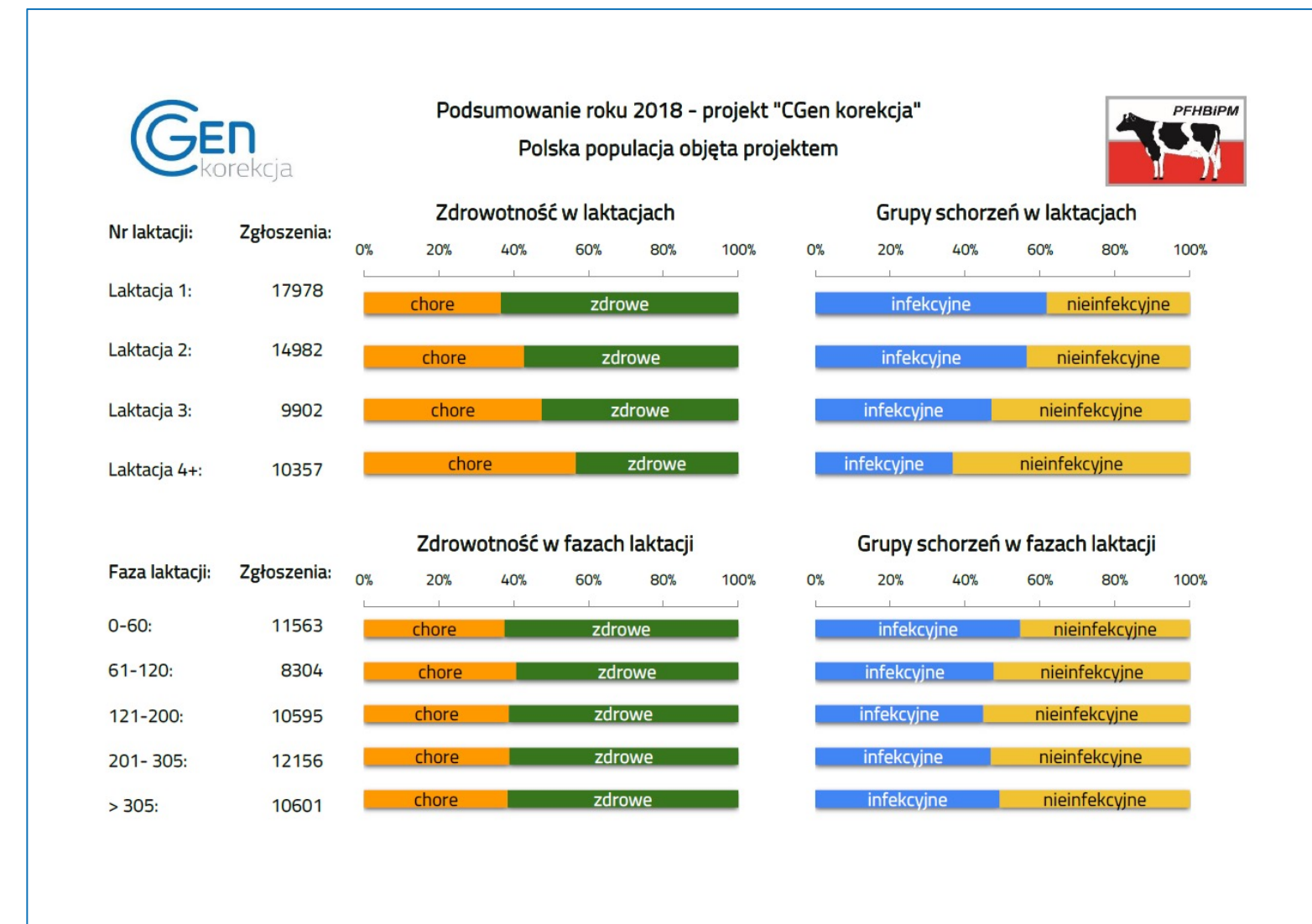
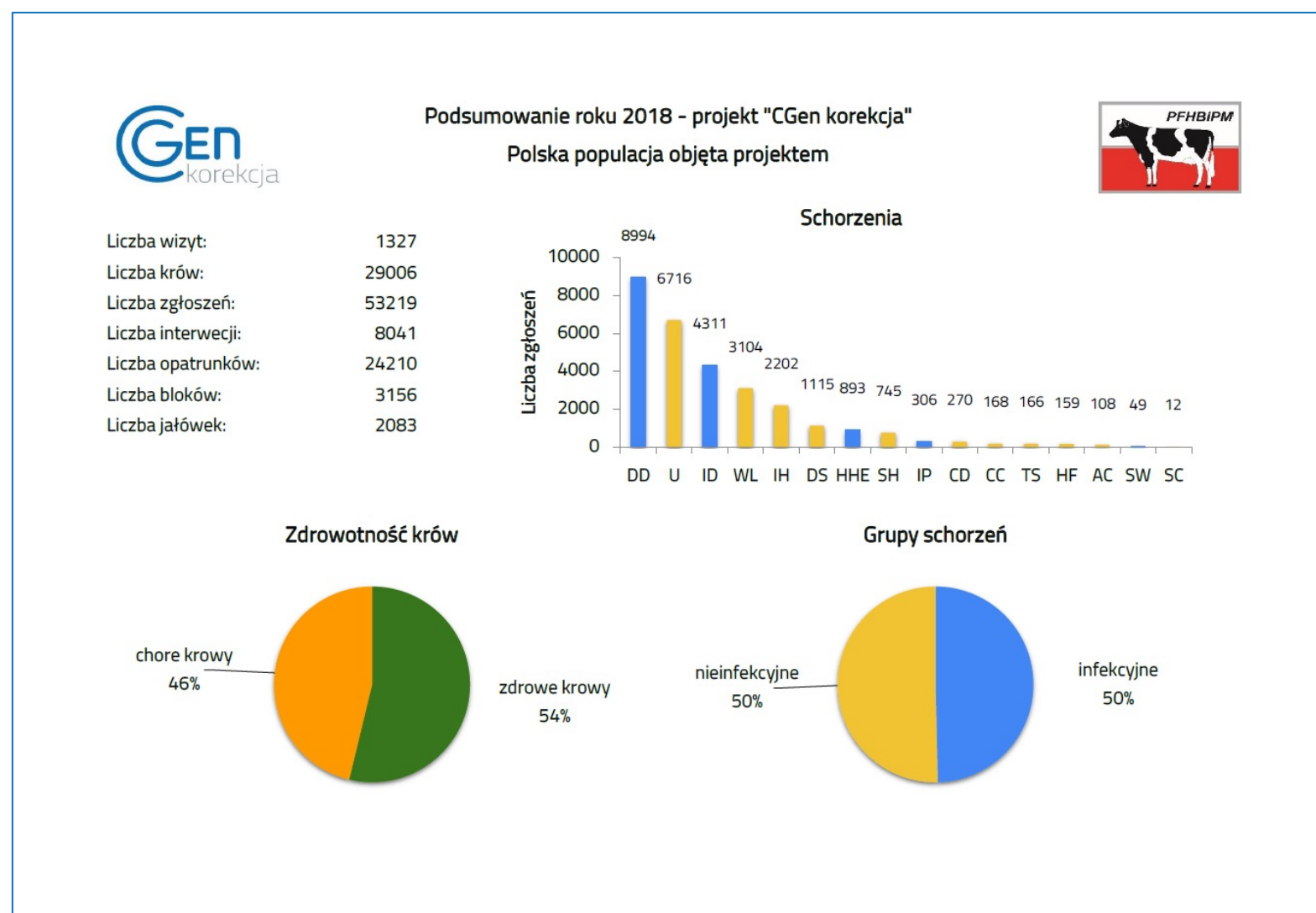
## List of cows with information on diseases and treatments



612

obor.	kolczyk	lakt.	dow/w	noga	diagnoza	zabiegi	inne	notatki	typ	data
PL7781246	1031	4	4	54	PL	Z			R	2019-02-05
					PP	Z				
					TL	WL				
					TP	WL	OP 10.02, BL 26.02			
						kbackiewicz				
PL7781246	1031	4	4	54	PL	Z			R	2019-02-05
					PP	Z				
					TL	Z				
					TP	Z				
						kbackiewicz				

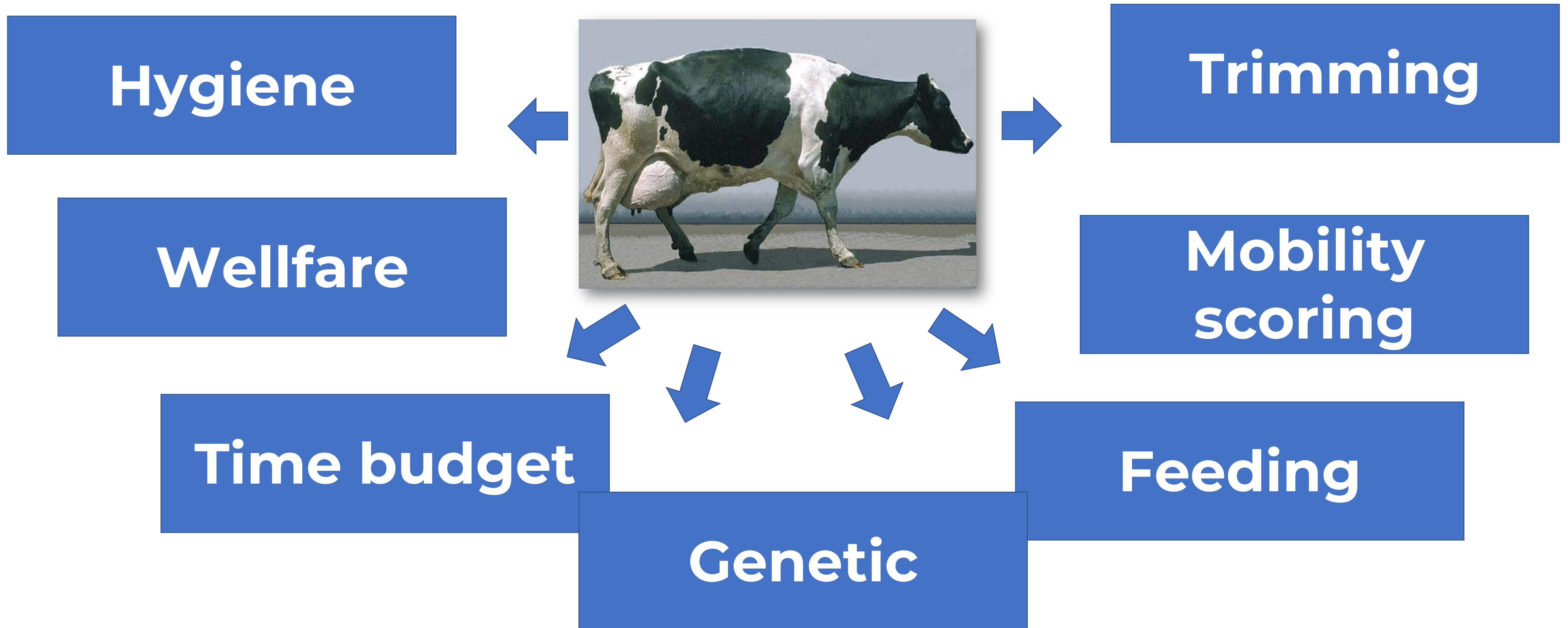
# Better herd management: annual reports for farmers



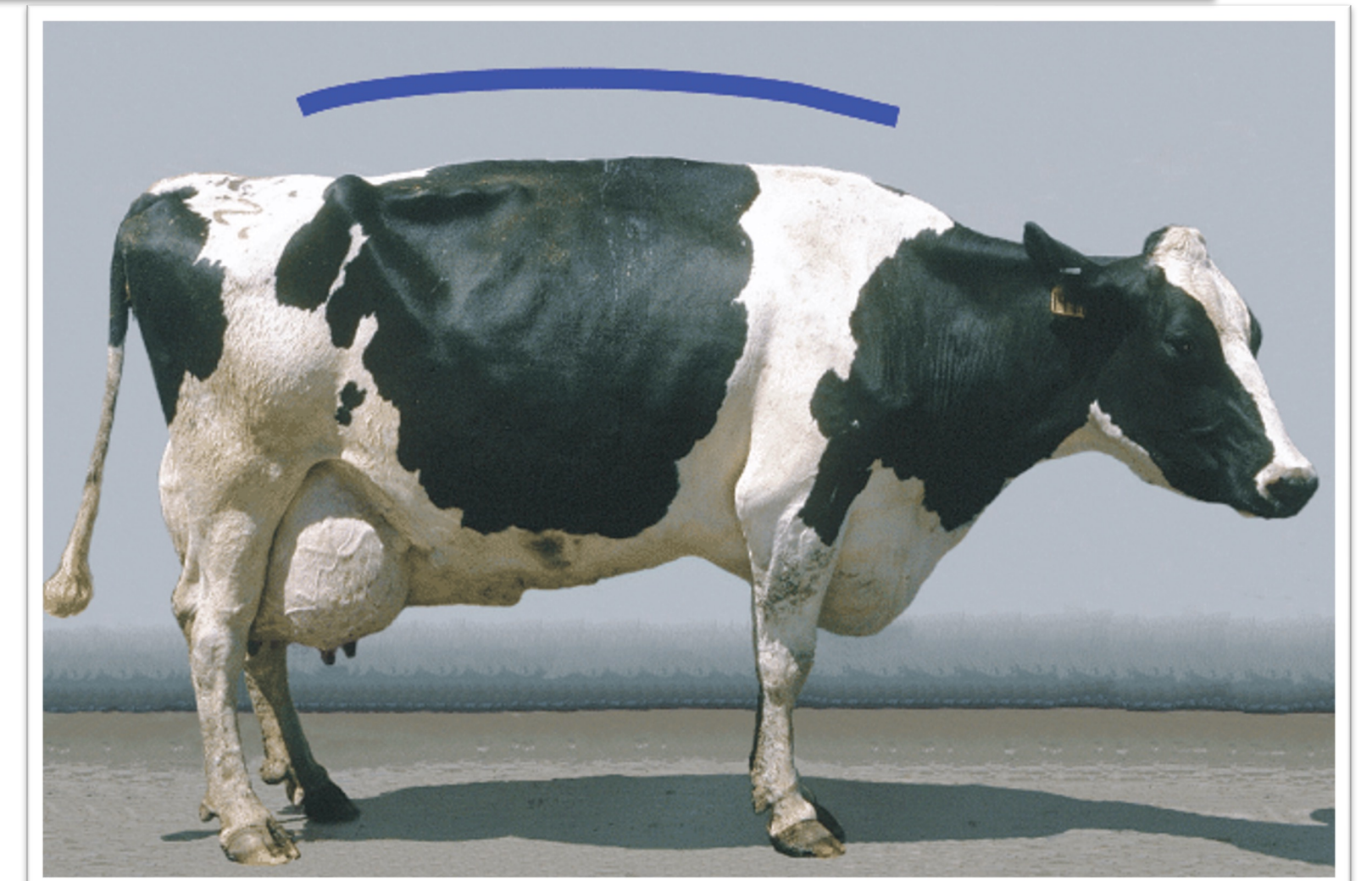
# Reports are useful during consulting visits



# Factors affecting hoof health

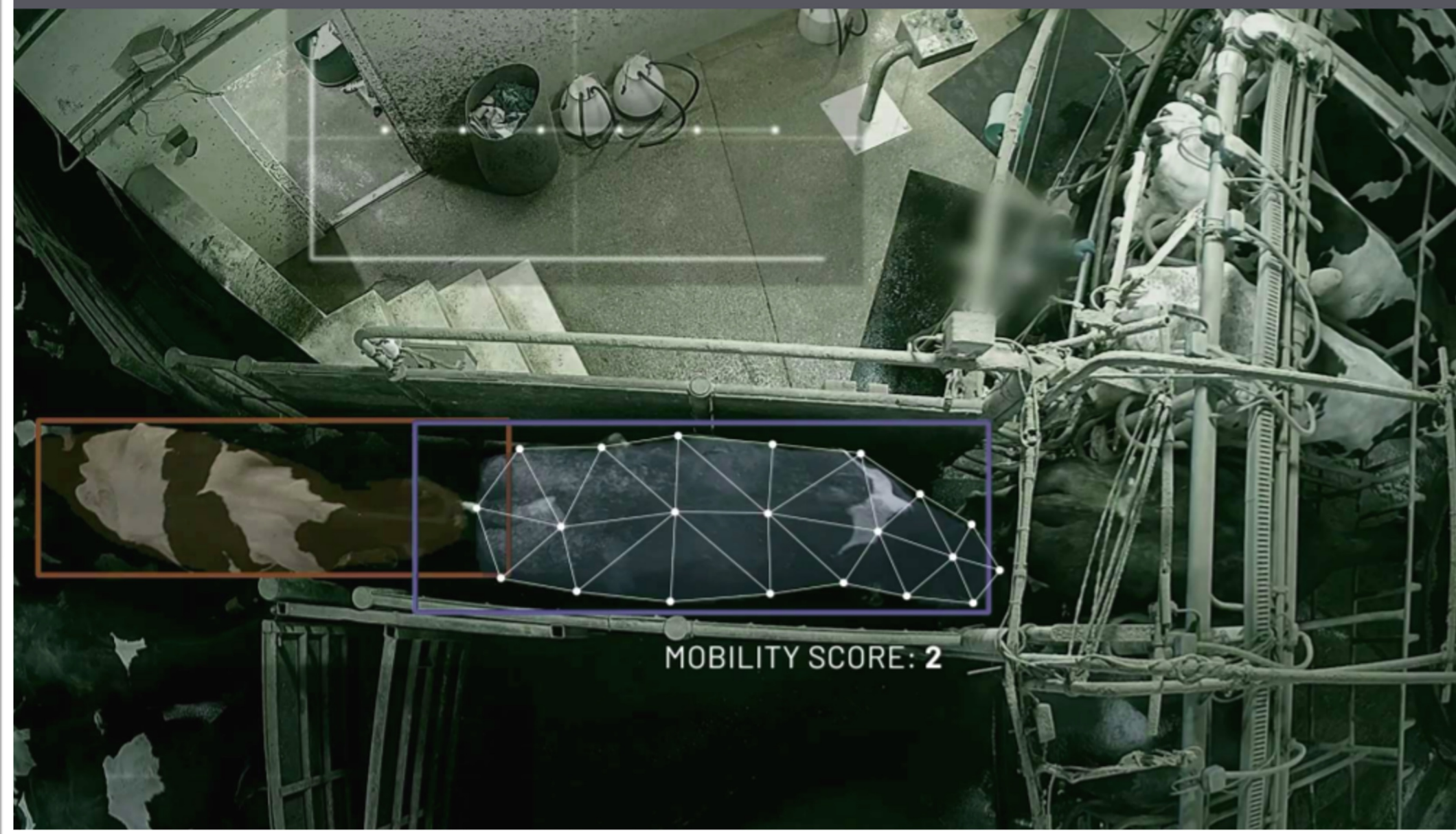


# Education for farmers

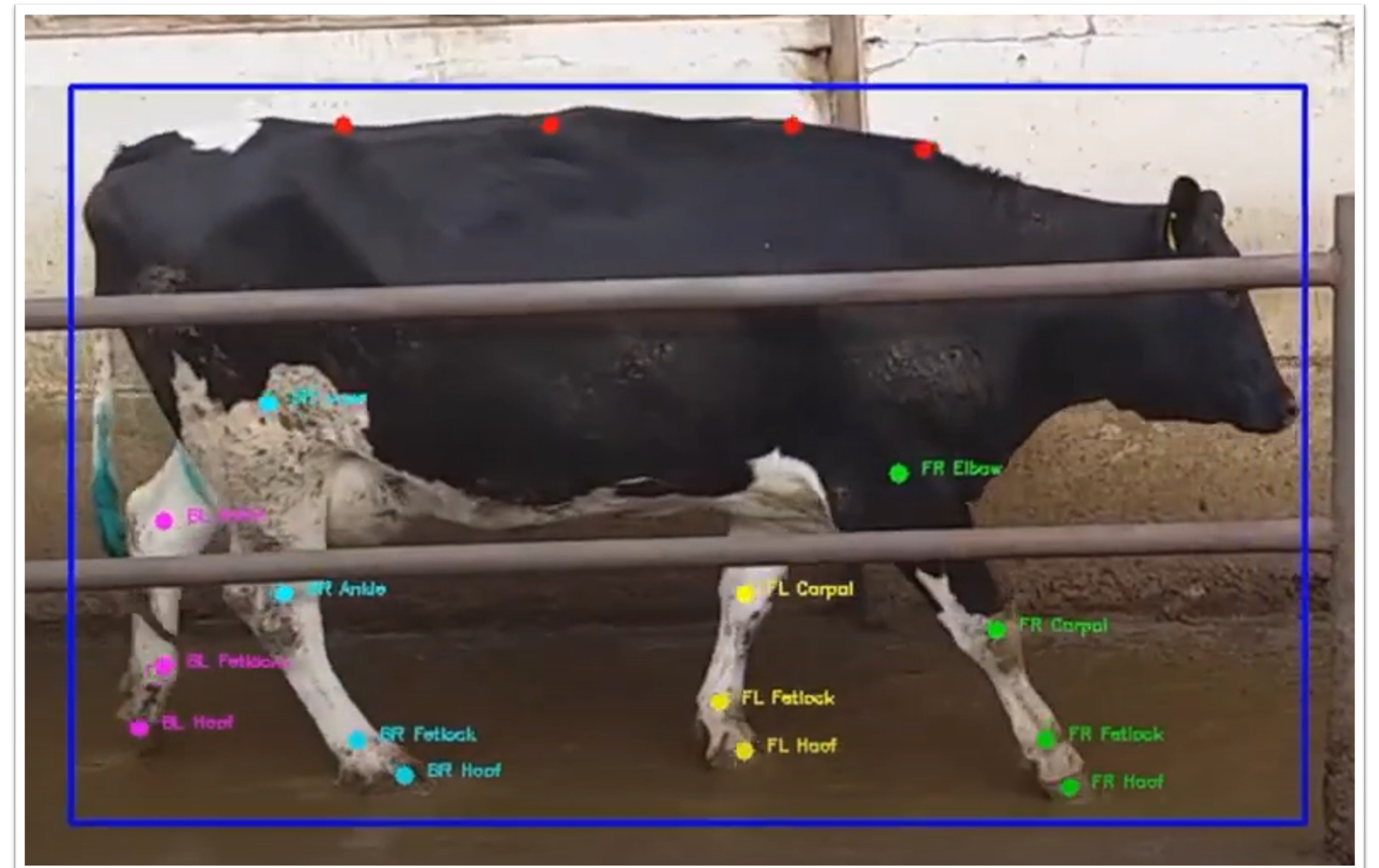


# Use of technology

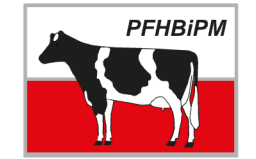
Video Analytics Platform



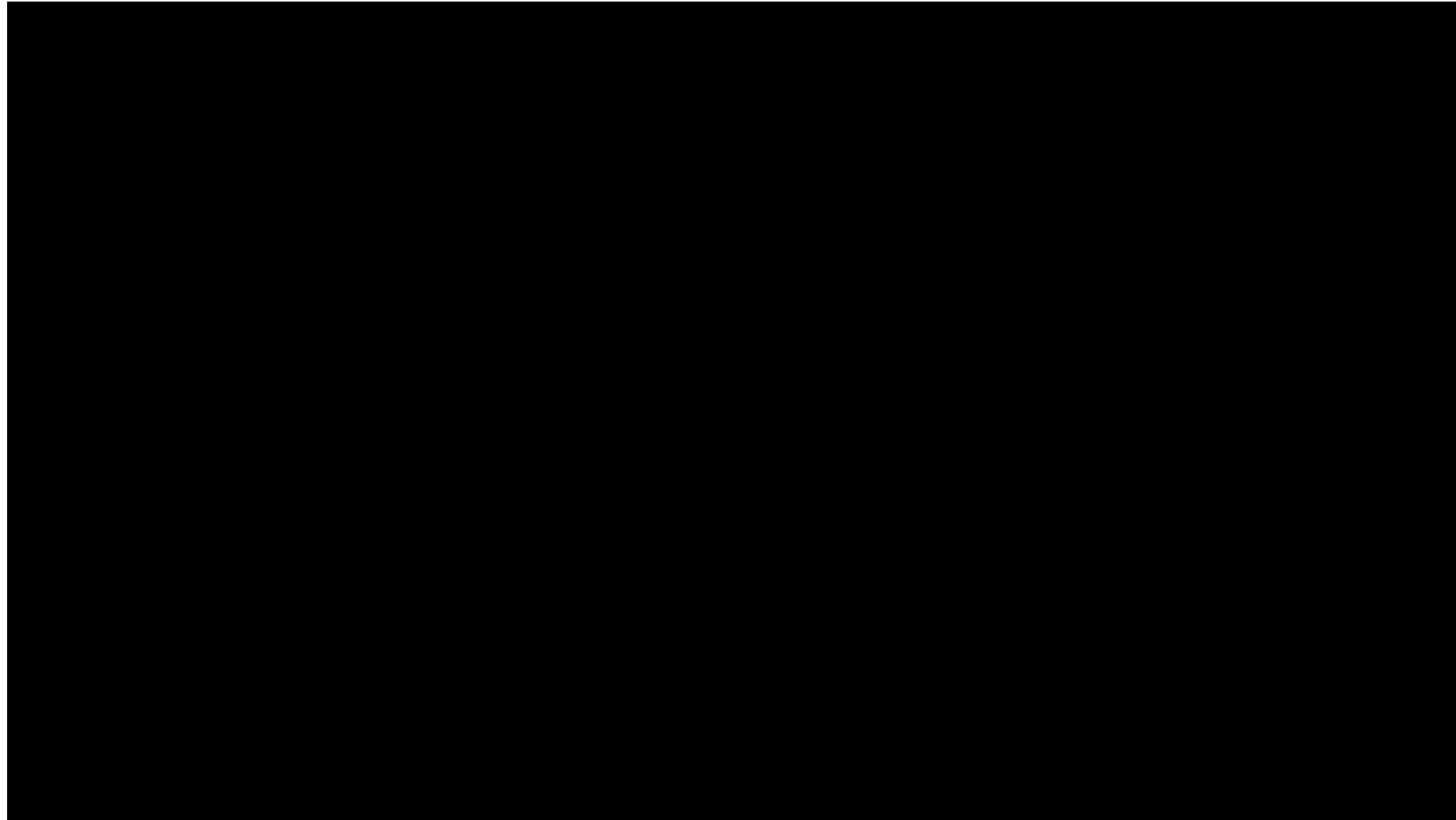
Cow Monitor



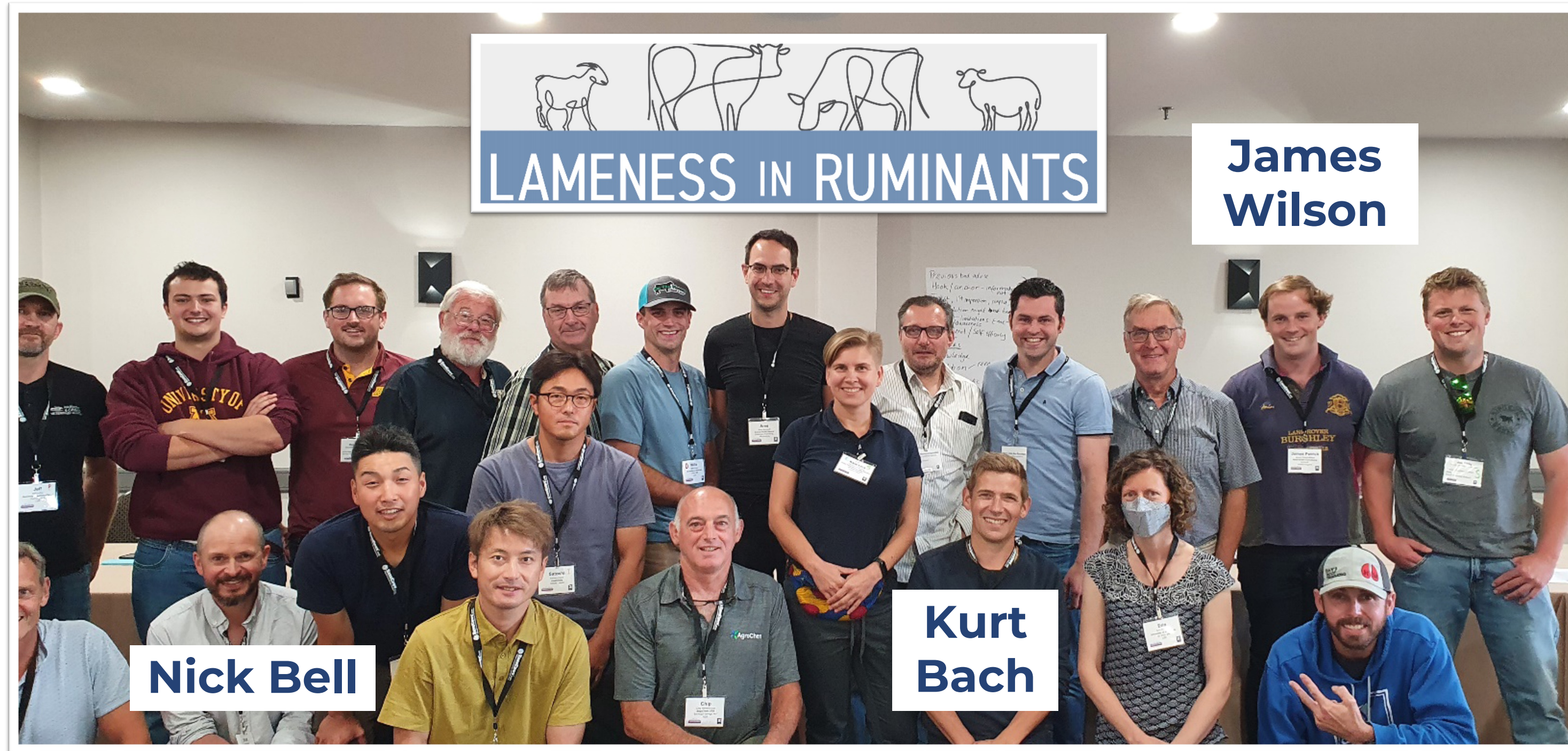
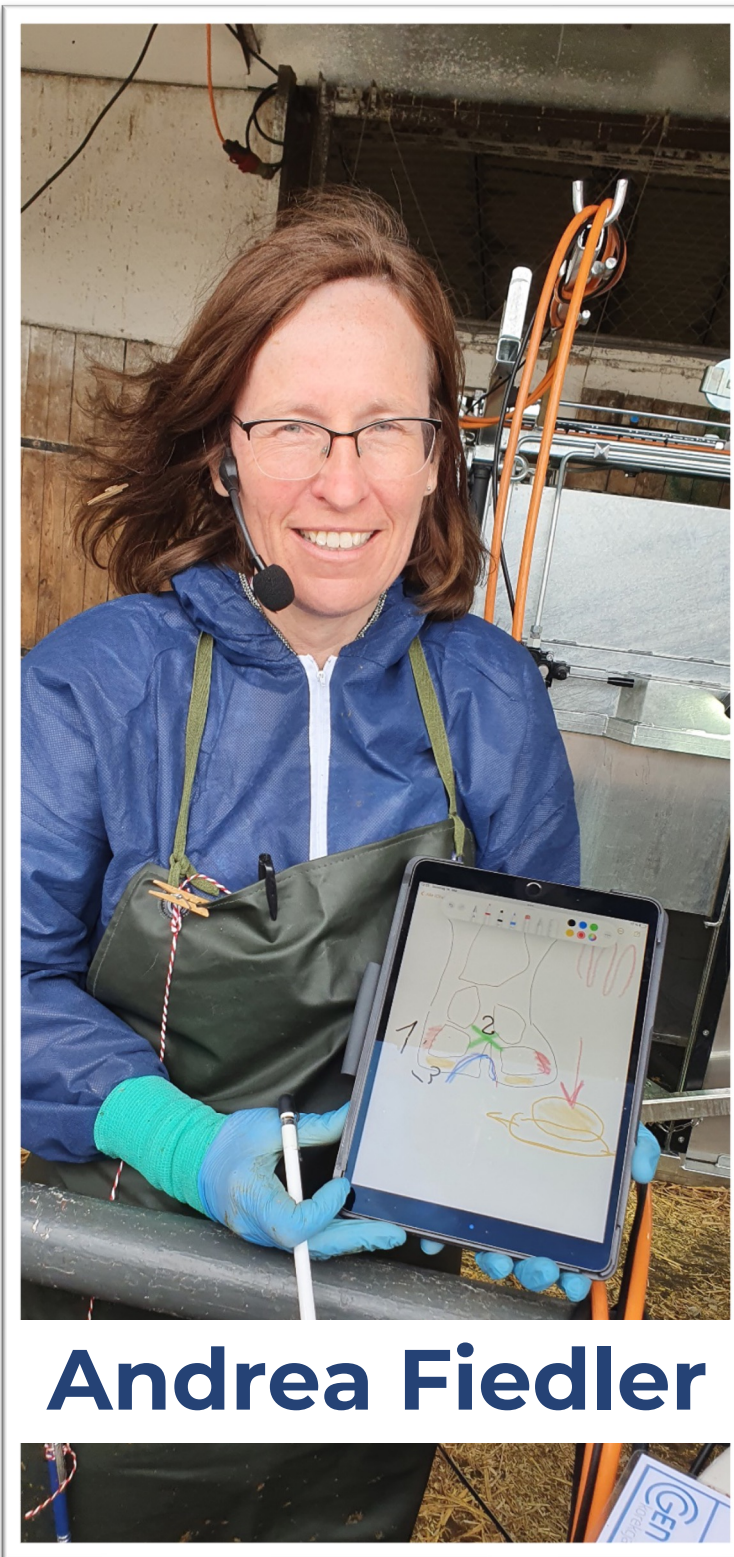
Cattle Eye



# Polish technology



# Knowledge transfer from European experts





# Summary

- **Claw health improvement depends on cooperation between farmers, hoof trimmers and geneticists.**  
**The cooperation is not easy but required.**
- **Genetic improvement of resistance to DD in Poland is possible.**
- **Taking advantage of other countries experience is important.**



# Claw Health Improvement

dr Katarzyna Rzewuska

Polish Federation of Cattle Breeders and Dairy Farmers

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