Sustainability at Dairy farms Friesland Campina, Gerrit Hegen

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Longer productive life

In balance with environment

Sustainability at dairy farms
with the Cow-compass

→ In favour for the farmer

→ Holistic view and predictive at the farm

→ Holistic aproach of the vet: connects results and communicates with the farmer

Good for the cow → cow is good for you !!

- Why?
  - Animal welfare is profitable for the farmer

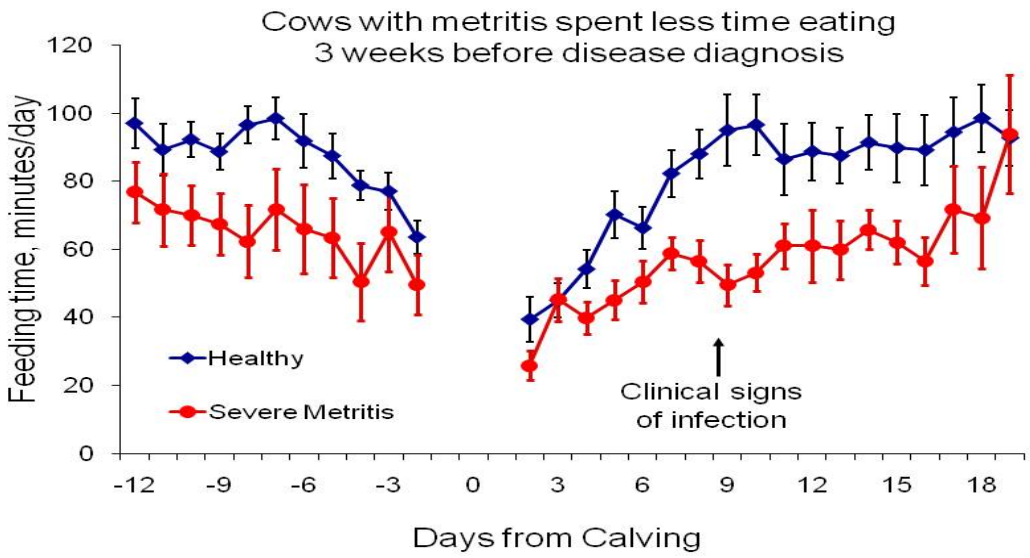
Monitoring system, riskanalysis:
Cow Compass

- HACCP: no
- Risk-analysis: yes, high potential.
  - Analysis shows risk factors at the farm
  - Risks focused at quality milk
  - Risks focused at quality way milk is produced
- 2 audits per year
  - Two assessment + control visits → evaluation
- Certified veterinarian → ICM training

Quality management- issues

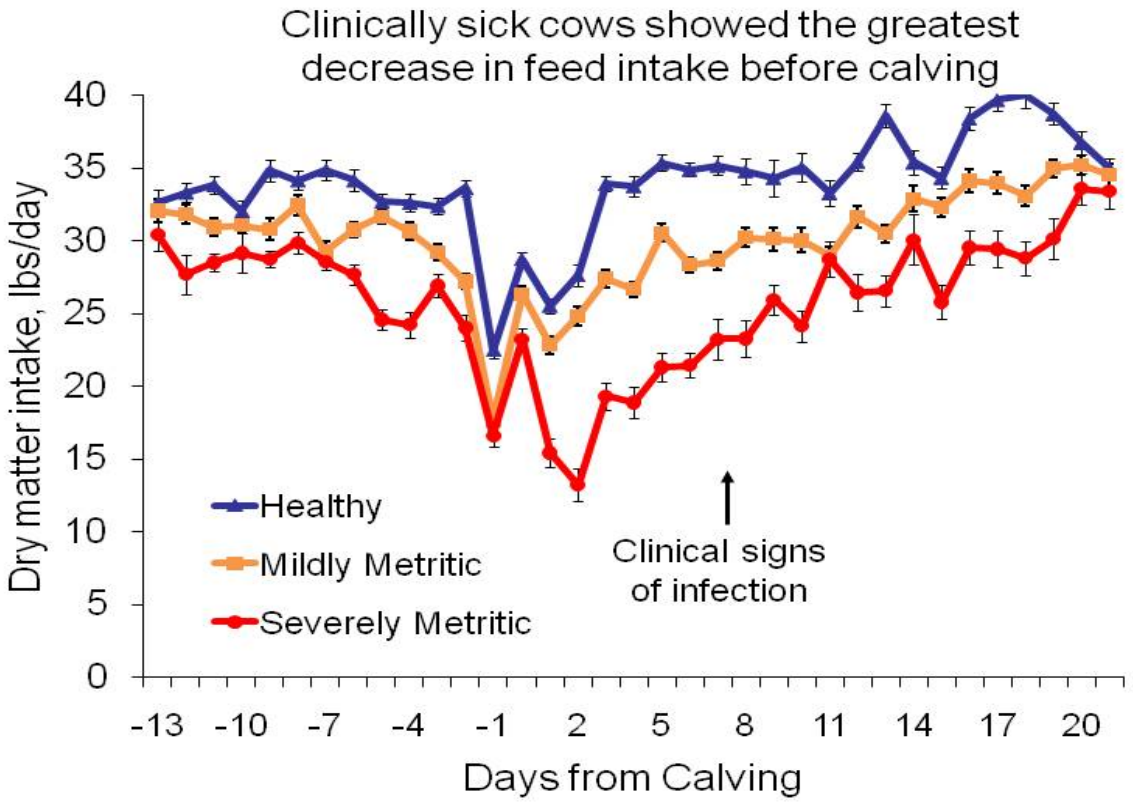
- Food safety -> zoonoses
  -> animal disease incidence
  -> water supply
- Animal friendly -> animal disease incidence
  -> cow comfort / welfare
  -> natural surroundings
- Sustainable -> animal disease incidence
  -> manure: N, P, C
  -> age at culling

Figure



Urton et al. 2005 J. Dairy Sci. 88:2843-2849.

Figure 2



Huzzey et al. 2007. J. Dairy Sci. 90: 3220-3233.

Less quality food = Less milk production

Risk

Feed with mould

Bad water facility

Change of wrong cheese

Butaric acid → bad cheese

Animal welfare under presure:

Risk factors

Resting area

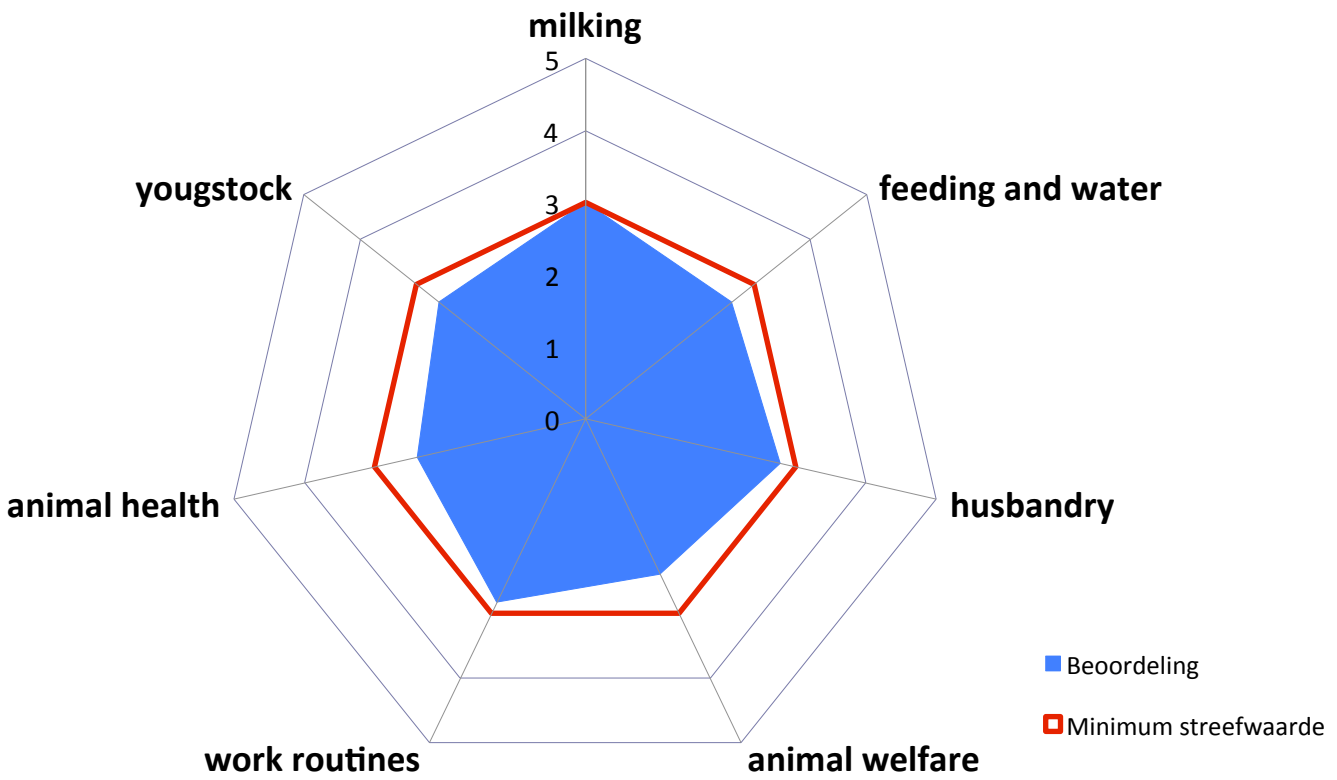
Bad water facility

Chance of short lifetime

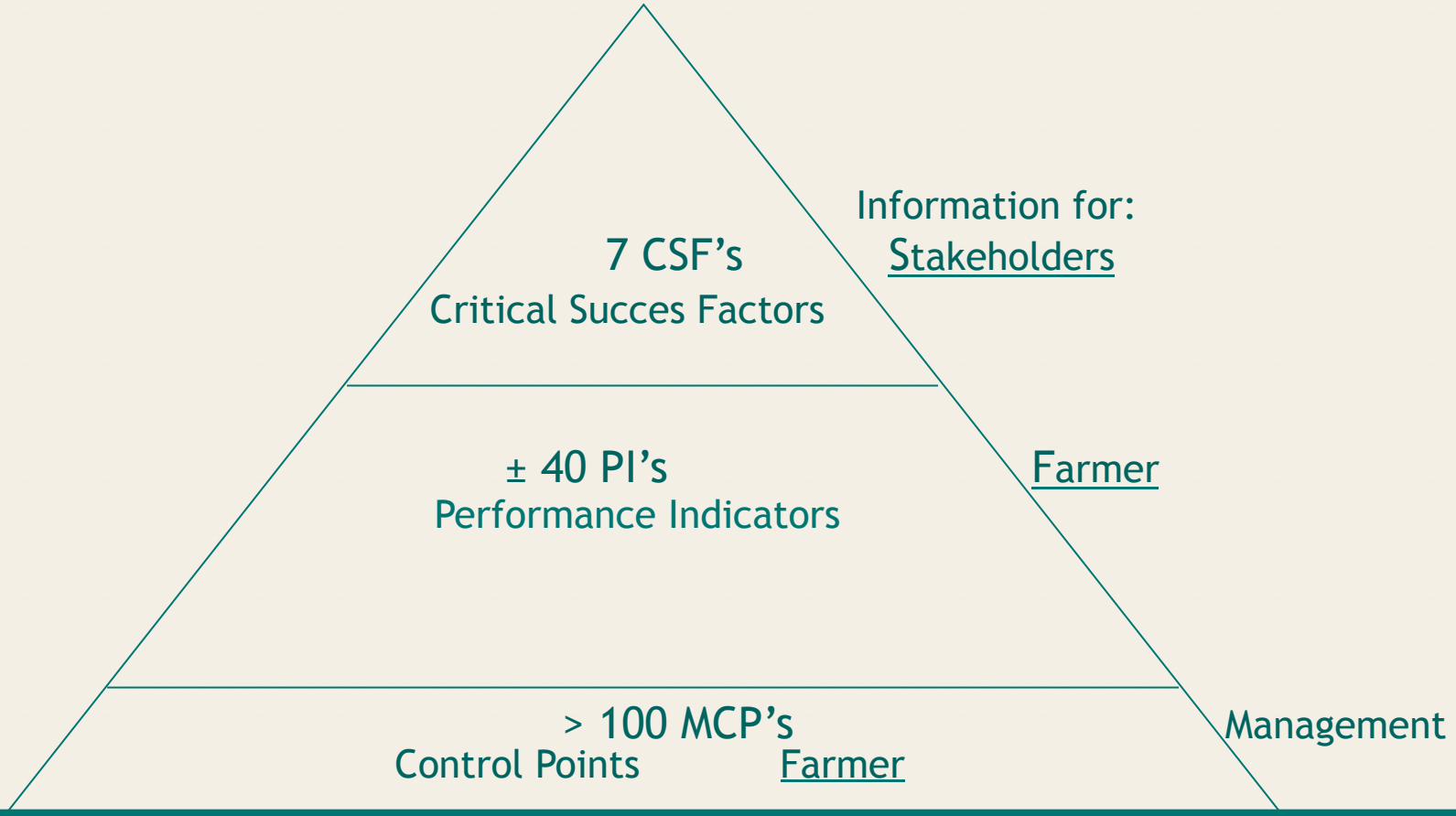
Less quality in way of milkproduction =

Less milk production and less animal welfare

Cow Compass monitoring system
Risk analyses



Components Cow Compass



Time management of the cow

inside – outside approach

- Laying down and ruminate: 12 - 13 hours
- Eating : 5 - 6 hours
  10-12 meals
- Drinking: 5 -10 minutes
  15 - 20 litre a minute
- Milking and natural behaviour: 5 - 6 hours

Milking (CSF)

PI Performance indicator	MCP Management Control Point	
Tank room	Clean, milk temperature	2
Milk system	Clean, replacing rubber components	4
Milk routine	Milking with gloves, pre milking	5
Preventive	Special treatment high risk cows	3

Score milking	**3,3**

Feeding and water (CSF)

Performance Indicator	Management Control Point	
Silage process	Mould, conservation	1
Feed milking cows	Quantity, quality, ration for milking cows	3
Feed dry cows	Quantity, quality, ration for dry cows	4
Water milking cows	Quantity, clarity, sediment, smell	3
Water dry cows	Quantity, clarity, sediment, smell	5
Feed management	Concentrates, silage analyses, hygiene feed place	5
Score feed and water	**3,6**	

Water trough: quality/ quantity

15 - 20 ltr per minute,
salmonella in sediment?

Salmonella environment

What a cow likes

7 cm per cow !!

Husbandry (CSF)

PI

MCP

Feed gate	Number of feed places, 75 cm	3
Stable climate	Light, ventilation, cow brush	2
Walking surface	Quality ground, hygiene	2
Cubicle comfort	Number, comfort, hygiene, space	3
Pasturing	Pasturing, cow path	2

Score husbandry 2,3

Lay down comfort, knee test

Cow comfort, pasture !

Animal Welfare (CSF)

PI		MCP	
Activity milk cows	Cows not active, cows not used to humans	4	4
Condition score	BCS <2 en >4	5	4
Locomotion score	Locomotion score 3, 4, 5	9	3
Hock (swollen, damaged)	Most common hock score	3	3
Hygiene cows	Score 3 of 4	10	4
General appearance	Ruminating, manure score, paunch score	20	3
General impression	Skin / fleece, skin damaged	3	3
Score animal welfare	**3,4**		

Green = number

Blue = score

General impression, condition score, hocks, rumen fill

Locomotion score 3 ? , 4 ?

Good looking cow !?

Work Routines (CSF)

PI

MCP

Work, walk - and cross lines	Work line calves to milk cows, separation of manure and feed	2
Animal health status	BVD, IBR, Salmonella, Neospora, Johne's	3
Preventive	Calf rearing separate of milking cows	3
Protocol working	Mastitis, claw disorders	2
Score work process	**2,6**	

Animal Health (CSF)

PI

MCP

High som.cell count cows	Last herd test + bulk cell count	3
Mastitis		2
Claw disorders		3
Metabolic disorders	d.a's, milk fever, acetonaemiae	4
Afterbirth	(24 hr)	5
Endometritis		3
Forced culling		3
Remaining diseases	Bluetongue	3

Score animal health **3,4**

Green = number

Blue = score

Young Stock

PI

MCP

Feed & water	Colostrum, forage, concentrate, water	3
Husbandry	Type of housing, cubiclecomfort, difference of age, pasture	2
Animal welfare	Dehorning, development, body condition	3
Animal health	Diarrhoea, pulmonary disease, navel problems, stilbirth	3

Score animal health **2,75**

Green = number

Blue = score

Automatic calf feeder

Risk factors for diarrhoe

Quality system dairy industrie sustainability and animal welfare

- Partico introduced the Cow-compass

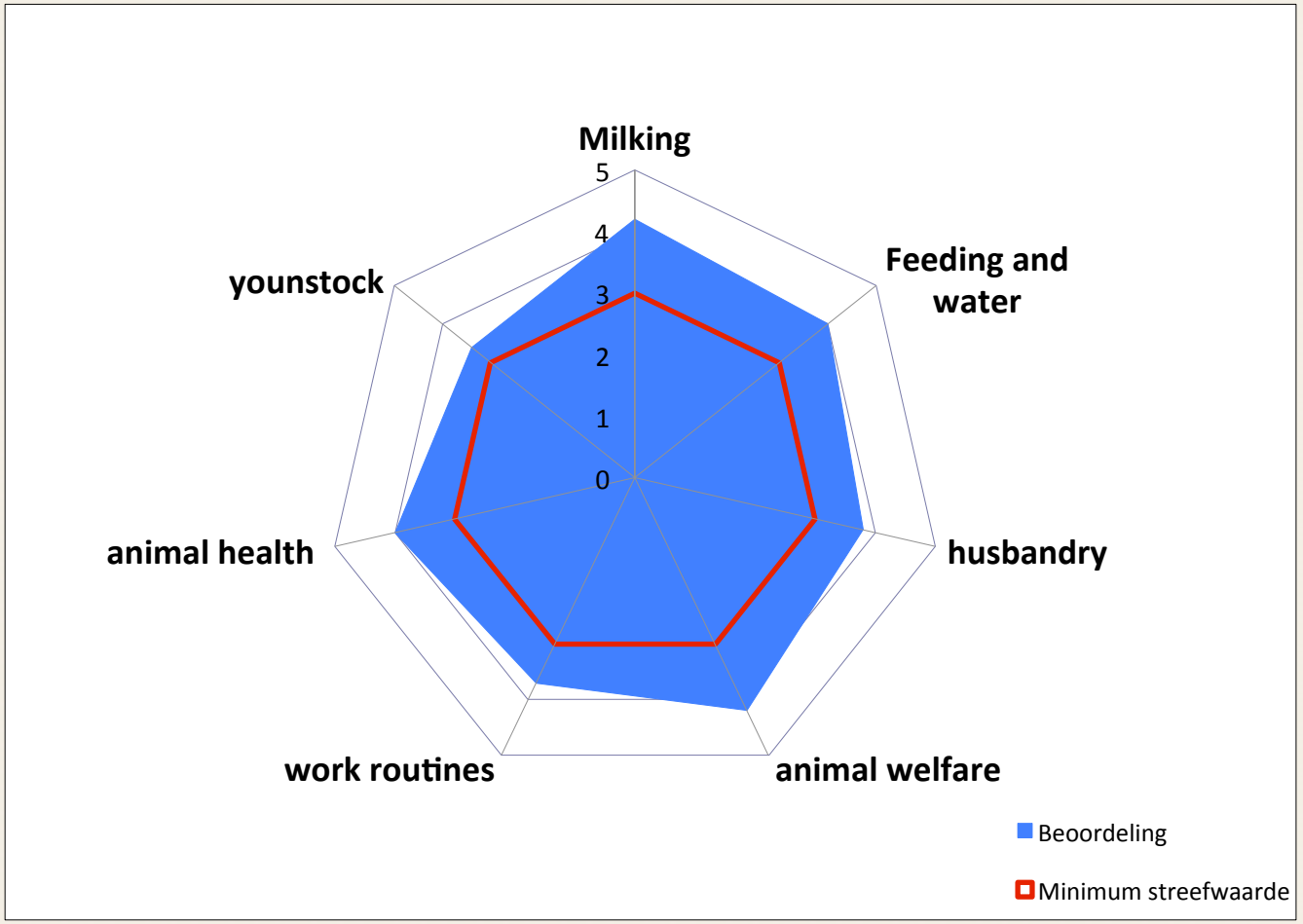
→Trained (ICM) veterinarians are doing this job:
About 1500 – 1700 farmers

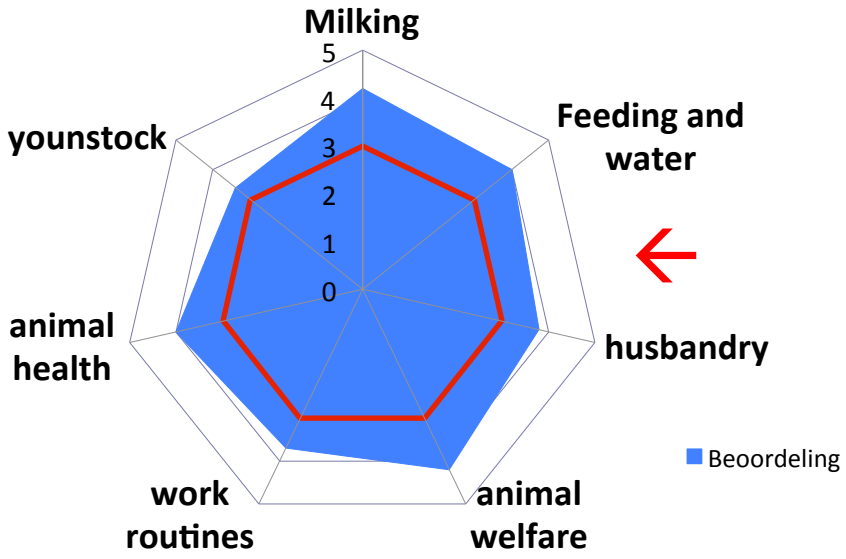
- Scientific evaluation by WUR/ASG, Wageningen:

→ Veerkracht = Resilience.

with Marten Scheffer (critical transitions in nature and society) and Ingrid van Dixhoorn, reseacher

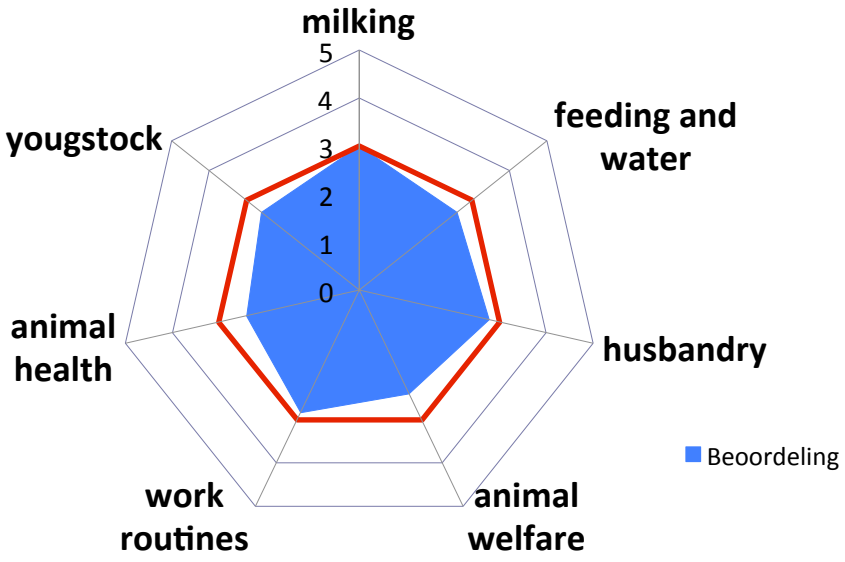
Cow compass and resilience





High resilience

Low resilience



Dairy quality system focused at prevention

- Cow-compass: risk analysis of the dairy farm → prospective
- The present quality system is retrospective

- Cow compass → important management tool for the farmer, only with a:

  very knowlegeble farmer and veterinarian!!

Thank you for your attention!