



SCIENCE AND
EDUCATION **FOR**
SUSTAINABLE
LIFE

Impact of farmer investment and welfare management decisions on dairy cow longevity and life quality

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Animal welfare is interesting

- At farm level
- Stakeholders outside the farm
- For science



Short life

**Early
separation**

**Zero
grazing**

Short life

Animal welfare

**Early
separation**



Farm competitiveness

**Zero
grazing**

Short life

Animal welfare

**Early
separation**



Farm competitiveness

**Zero
grazing**

**Early
separation**



Short life

**Zero
grazing**



Farmer awareness of cow longevity and implications for decision-making at farm level

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Method

- Qualitative study with semi-structured interviews
- 30-80 farms (Swedish average herd size at the time = 72 cows)
- Stanchion barns, loose housing, AMS, parlour
- Interview guide included
 - Farmer's general view on longevity and the national situation
 - Longevity in their herd
 - Optimal longevity
 - Farmer's priority and aim
 - Potential winners of short longevity
- Themes were identified using the hermeneutical tradition (Ödman, 2007)



Results

- Farmers agreed with the need to increase longevity at a national level, but they had not considered the concept of longevity in their own herd
- 10 years was the highest cow age any farmer mentioned during interviews



Cow longevity is a product of farmers' decisions

H: *Yes, like, we sat and talked about it. I can't remember. Sort of...We came to the point that...That's how we decide.*

W: *Yes.*

H: *Exactly. We decide the longevity. Partly in any case.*

W: *That is, it's us that decide when they're done with.*



”We ask a lot of the cows” and ”Other farms are tougher”

- *Partly it's that you're asking a lot, you know. It's not an easy life. What I mean is that there is a lot that has to work, you know. It's not enough that they are good milkers. They've got to get in calf. They've got to have legs and hooves that hold.*
- *Although I think that many are tougher than us on culling because they don't get in calf quickly enough. We have a fairly long lactati...or whatever it's called, I mean a long time between calvings and the heifers get to be fairly old before they are in calf. It's that we tolerate that. Lots of others cull much quicker.*

Heifers push older cows out

- Yes, no, but it's a tradeoff, you know. It's how many heifers that are standing and waiting too. How much there is in here. That is just how it is, you know. If you have a lot of heifers that come at the same time you can either sell them or you can cull others, because you've only got so many places for them, you know.





Contents lists available at [ScienceDirect](#)

Animal

The international journal of animal biosciences



Review: Linking animal health measures in dairy cows to farm-level economic outcomes: a systematic literature mapping

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PhD-student



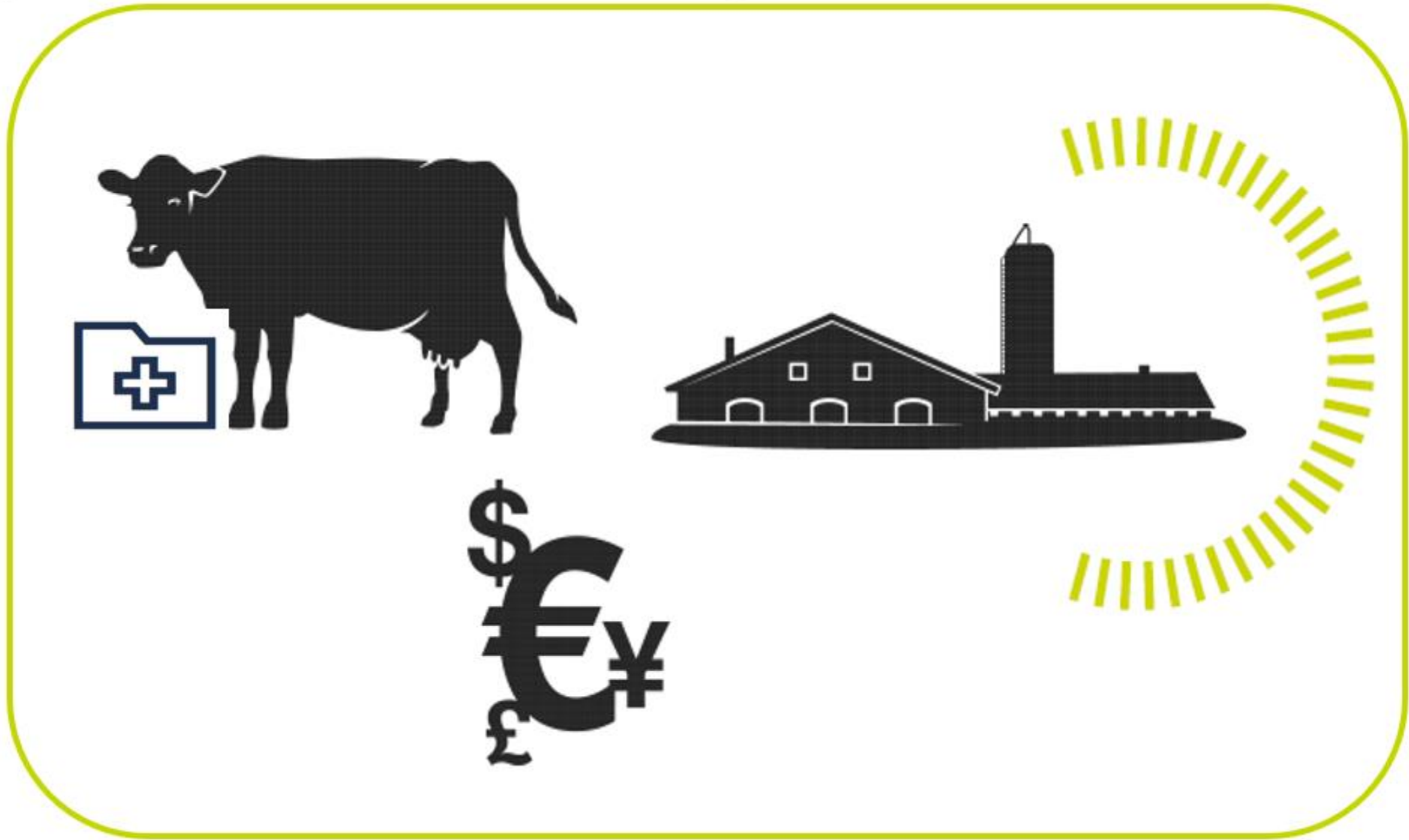
Renée Båge
Fertility



Ann Nyman
Epidemiology



Helena Hansson
Economy



Method

Systematic database search for research papers



Search string

Category	Section searched in	Keywords
Economic outcome measures	Topic	competitive* OR finan* OR "risk management" OR viability OR profit* OR econom* OR cost OR "technical effici*" OR "contribution margin" OR return
Animal health measures	Topic	health OR welfare OR well-being OR immunity OR regeneration OR reproduction OR (*fertility NEAR/10 dairy) OR mortality OR injuries OR mastitis OR lame* OR "pregnancy rate" OR *metritis OR "somatic cell count*" OR "somatic cell score*" OR SCC OR claws OR ketosis OR breed OR culling
Type of animals	Topic	cow OR cows OR "dairy cattle"
Sector	Topic	farm*

Method

Systematic database search for research papers

- Web of Science (n = 2 545)
 - Scopus (n = 2 109)
 - CABI (n = 6 570)
 - EconLit (n = 45)
- Retrieved items (n = 11 178)**
-




Method

Inclusion criteria

- Animal welfare and economic measure
- Empirical data
- Europe, North America, Australia or New Zealand
- English
- Peer reviewed

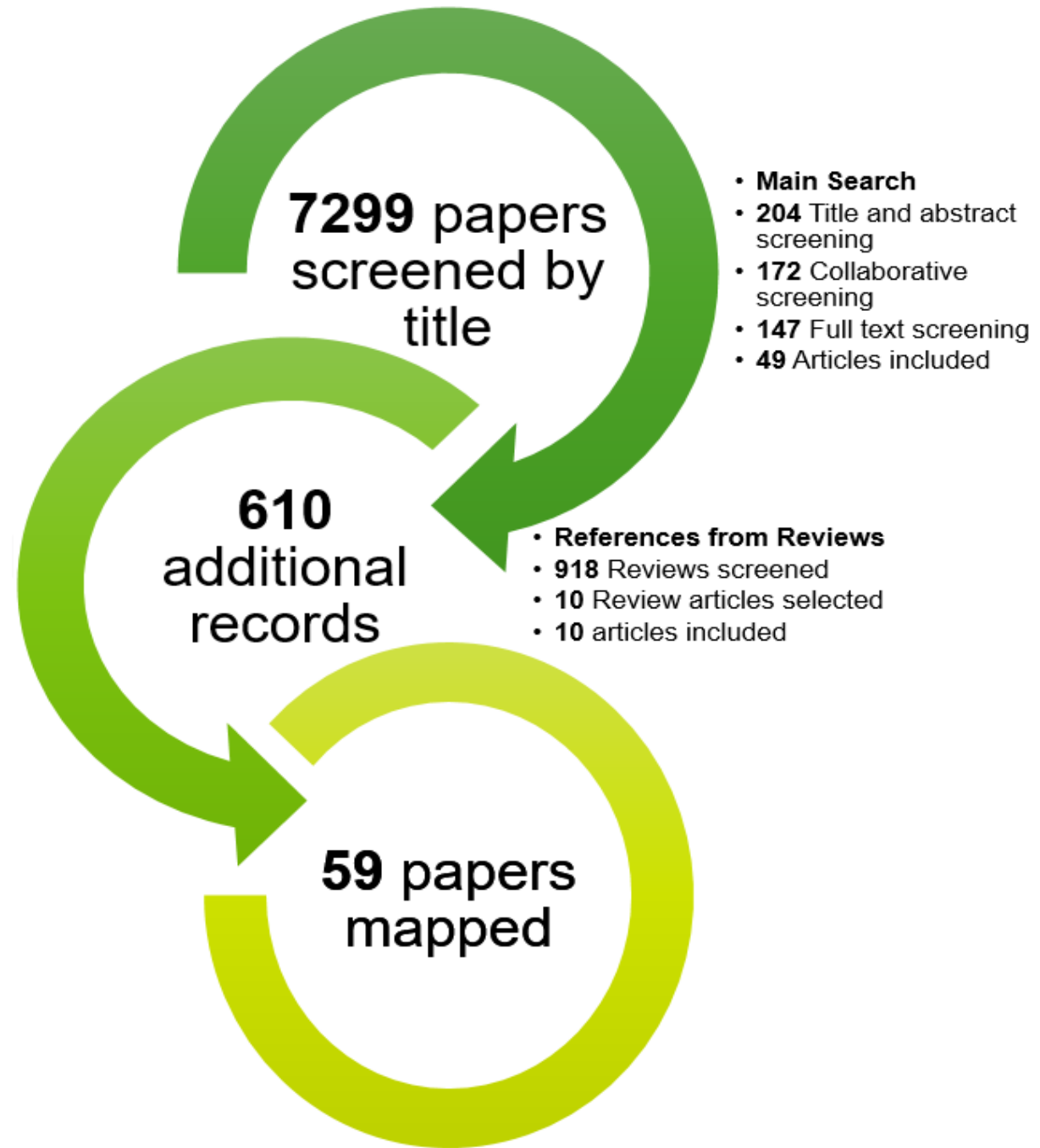
Exclusion criteria

- Review papers
- Sampling restricted to calves/heifers
- Effect of specific medication
- Explores practices that are not allowed in the EU
- Duplicates

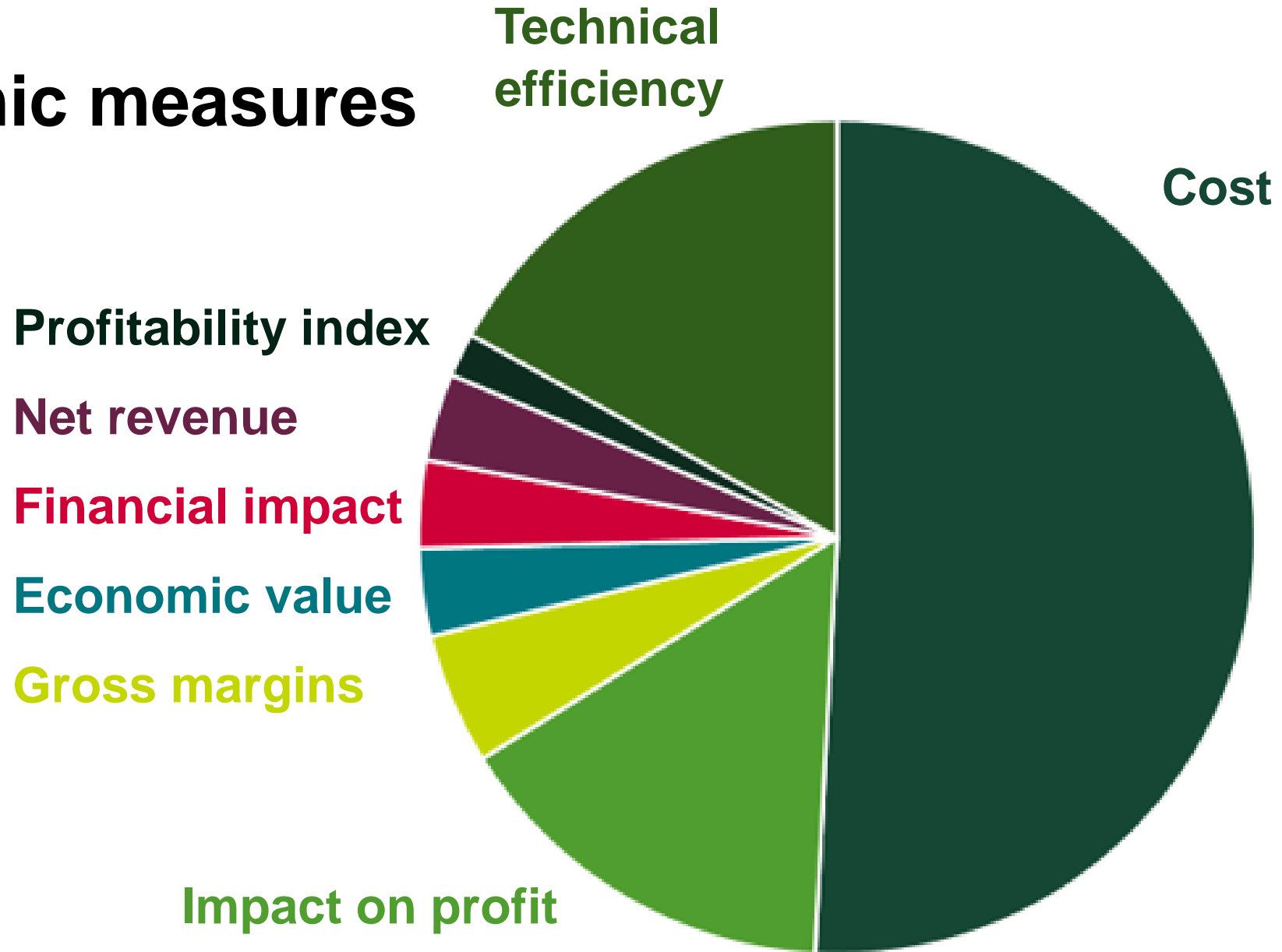


...for identifying relevant papers among the 11178...

Method



Economic measures



Animal welfare measures

Parasites

Metritis

Johne's disease

Bovine viral diarrrea

Bovine leucosis

Welfare Quality Protocol

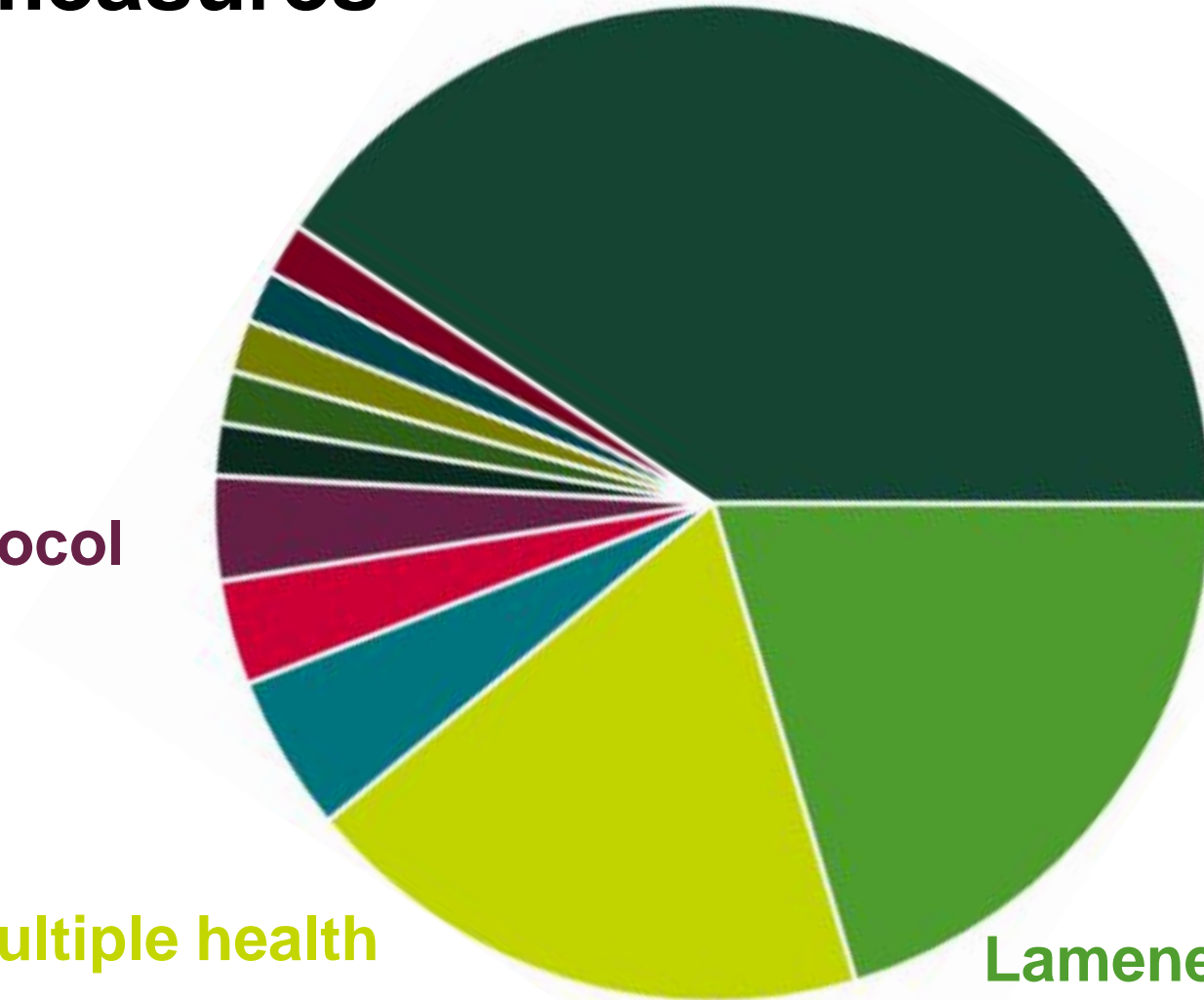
Fertility

Ketosis

**Multiple health
measures**

Mastitis

Lameness



Animal **health** measures

Parasites

Metritis

Johne's disease

Bovine viral diarrrea

Bovine leucosis

Welfare Quality Protocol

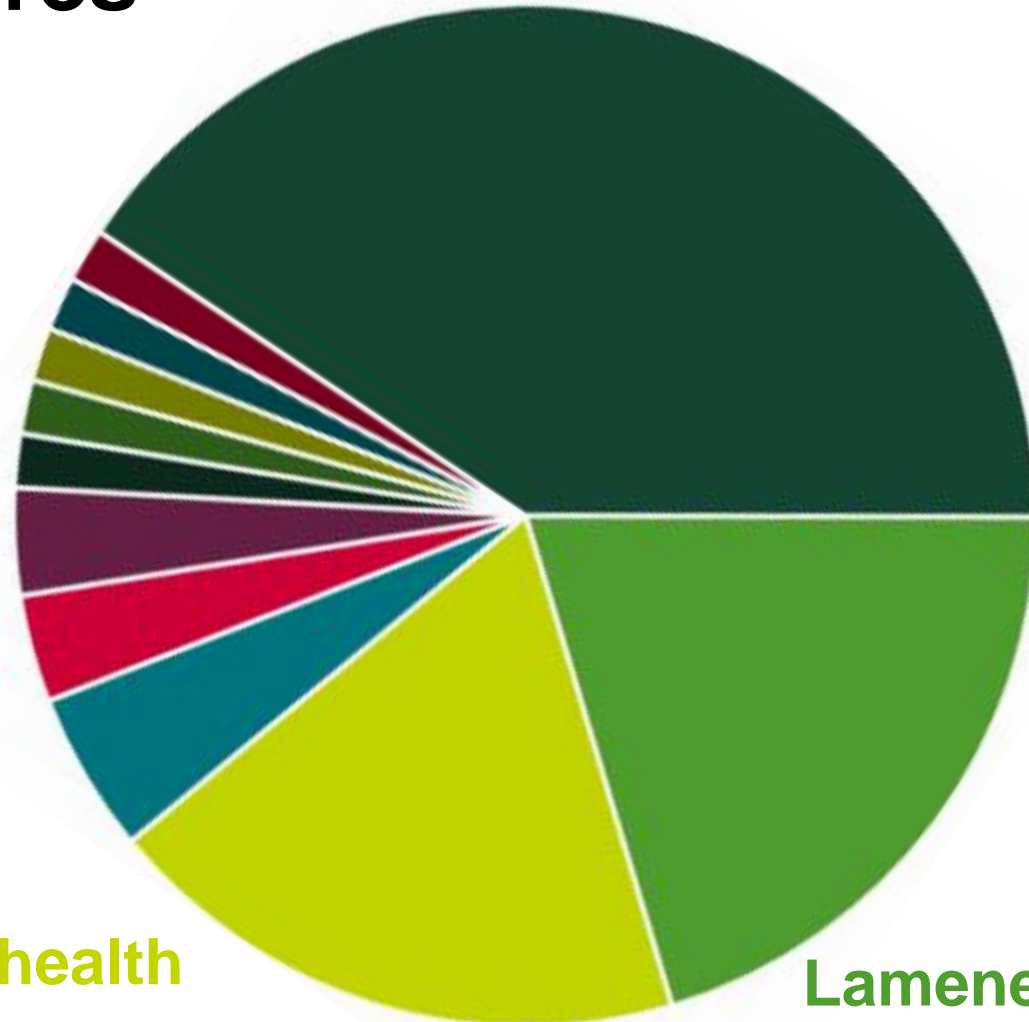
Fertility

Ketosis

**Multiple health
measures**

Mastitis

Lameness



Conclusions

- Very few reports with **measures** of welfare and economy
- Wide range of animal health/welfare definitions
- No standard definition of farm economic outcome
- The causal effect has not been well investigated
- Lack of generalizability - a threat to external validity of evidence
- **No general answer in scientific literature on what facilitates concurrent animal welfare and business viability**





Drivers for CowCalfContact (CCC) dairy farming as stated by active CCC farms

Number of farms



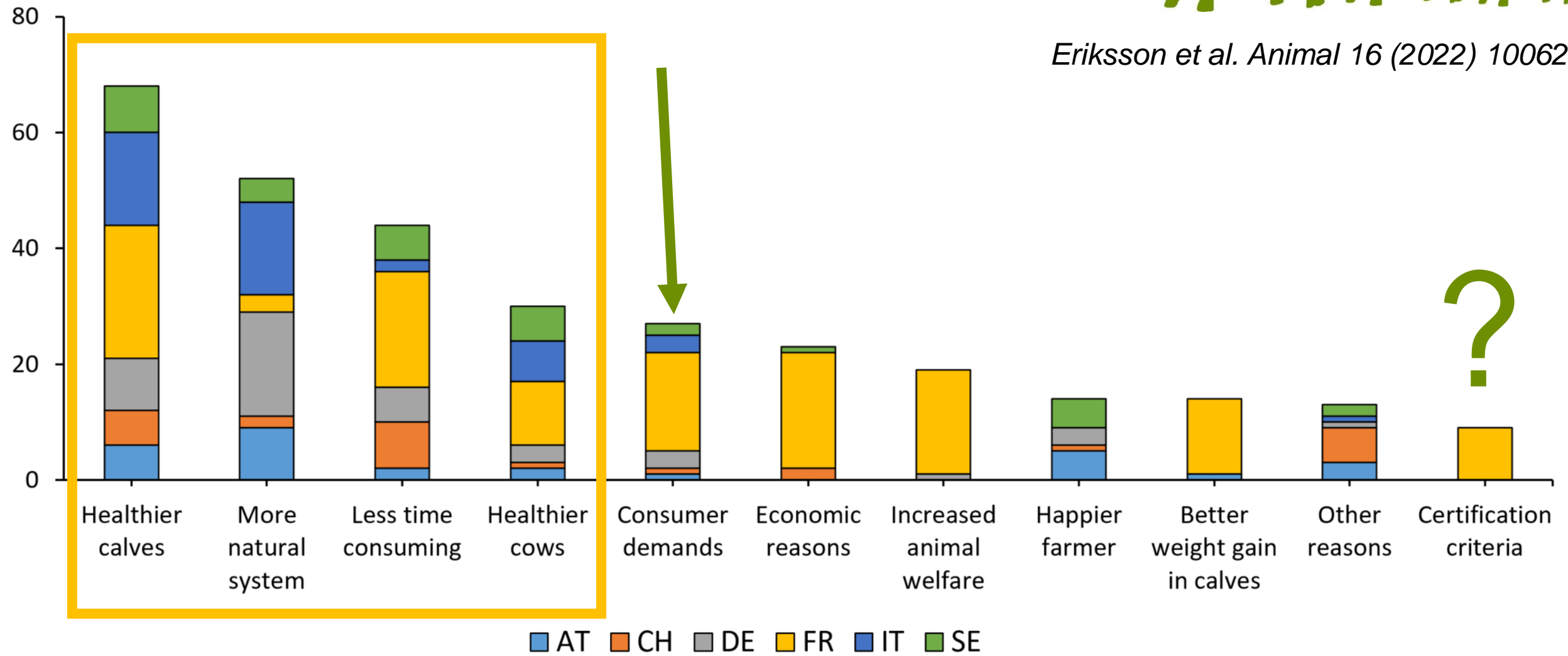
Eriksson et al. Animal 16 (2022) 100624

Drivers for CowCalfContact (CCC) dairy farming as stated by active CCC farms



Eriksson et al. Animal 16 (2022) 100624

Number of farms



Take home messages

- Today's science bulk cannot predict effects of investments in positive welfare on farm economy
- Science does not provide support for saying improved welfare pays off
- It is highly unlikely that more knowledge about mastitis and fertility will make the dairy sector financially healthy



Acknowledgements



The Swedish Farmers' Foundation

The Swedish research council Formas

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