EFFAB pig breeders' perspective and contributions to the revision of the animal welfare legislation

Subgroup on the Welfare of Pigs, 16 January 2023

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to responsible breeding

1. Introduction
2. Responsible and balanced breeding
3. Contributions to animal welfare
4. Perspectives on the current proposals for Animal Welfare legislation
5. Conclusions

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1. Introduction

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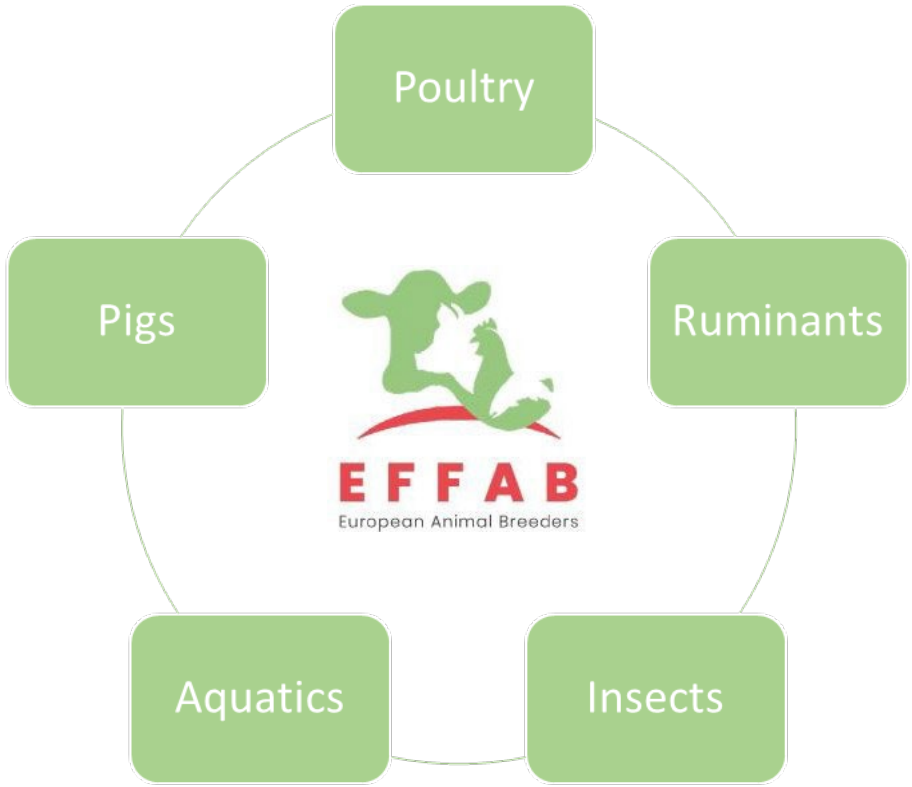
The voice of Animal Breeders in Europe



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Research institutes and academia + EFFAB members

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- Ensuring the representation of member interests at the EU level
- European policy and legislation
- Supporting and promoting responsible and balanced breeding - **Code EFABAR**
- Engaging and promoting dialogue around sustainable animal breeding and farming
- **Knowledge provider in EU projects**

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- Develop research and innovation agendas and set priorities
- **Connecting industry, knowledge institutes and the private sector**
- Promotes and supports **research and innovation** in animal breeding
- Building bridges between the private and research sectors

Rumigen · AQUA-FAANG · GERONIMO · GENE-SWitCH · HoloRuminant · PIGWEB · ROADMAP

2. Responsible and balanced pig breeding

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Modern Animal Breeding

A breeding program
=
a balanced and responsible combination of many traits

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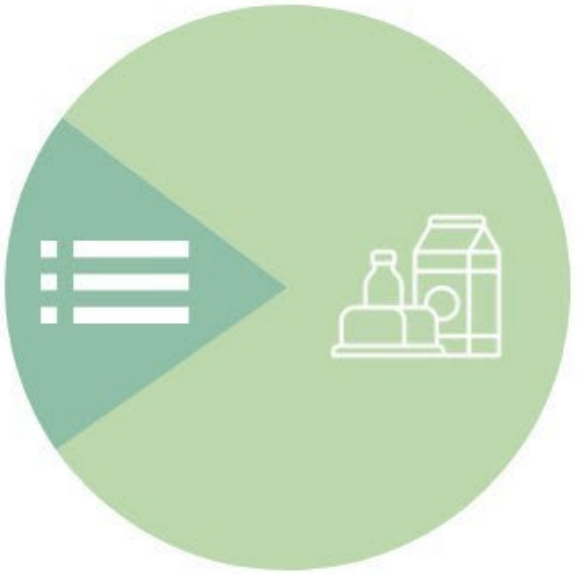
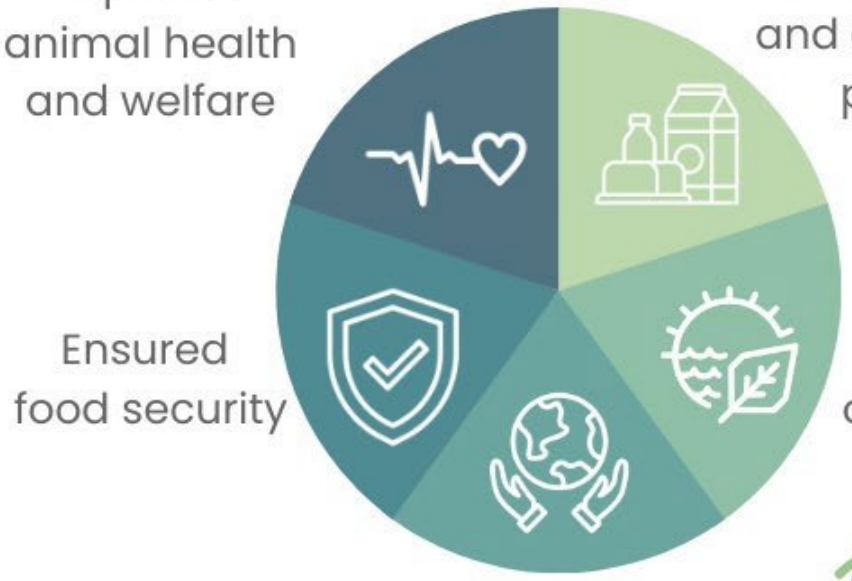
Modern Animal Breeding

1970's - 1980's



2000's – Today



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Modern Pig Breeding

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Better use of resources (feed use, fertility, longevity of the sow…)

Disease resistance and robustness, reducing use of antibiotics

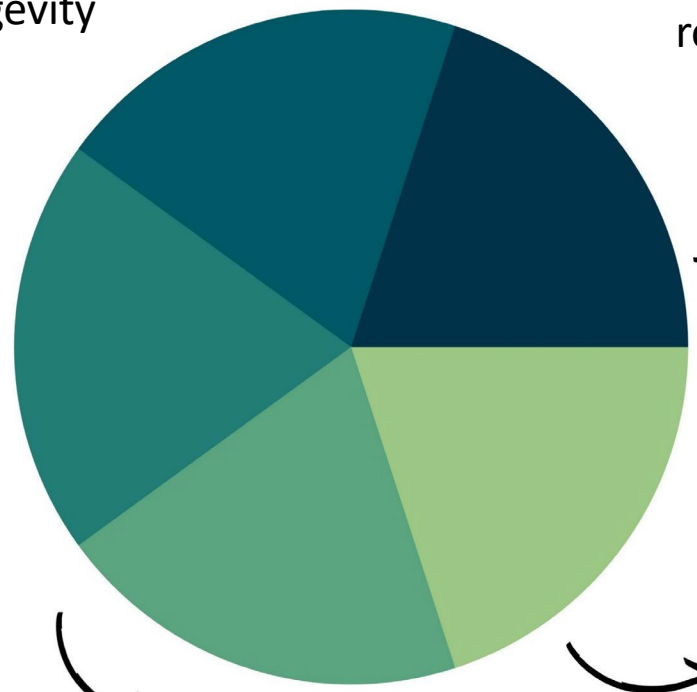
Maintaining genetic diversity

Meat quality and quantity

Reducing emissions (ammonia…) and carbon footprint

Improving positive social behaviour to reduce tail biting, improving leg and back strength…

Improving piglet survival (at birth, weaning, rearing), maternal and milking abilities, litter weaning weight, number and quality of the teats, reducing boar taint…



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Menu Article search agrarheute

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Beef Pig

agrarheute > Animal > Pig > Breeding sows of tomorrow: robust, long-lived and feed-saving

Pig breeding

Breeding sows of tomorrow: robust, long-lived and feed-saving

Translation from German.
Original Version:
https://www.agrarheute.com/tier/schwein/zuchtsauen-morgen-robust-langlebig-futtersparend-601729

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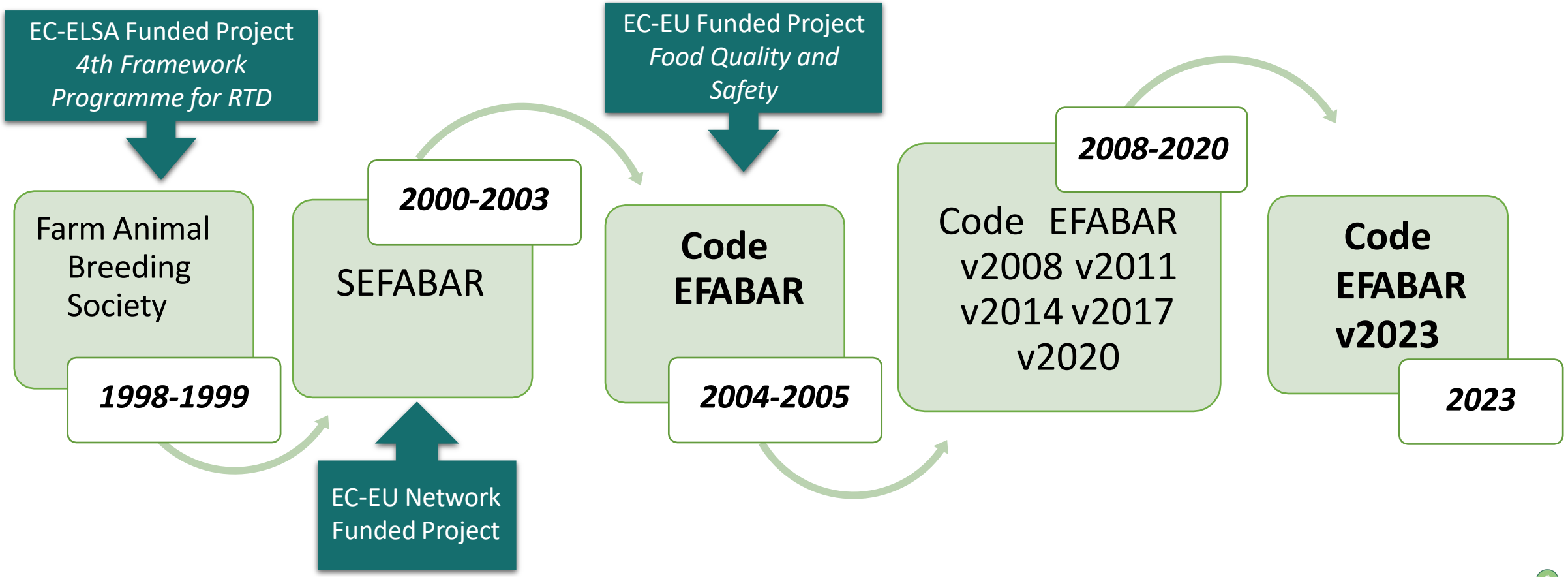
Development of Code EFABAR: 3 EU Projects



Code EFABAR: Responsible and Balanced Breeding

Code of good practices for the sector; based on recent developments

- Working system for the last 17 years
- **EFFAB members adopt Code EFABAR**
- Reviewed every **3 years**
- 6 updated versions since 2005; currently working on **version 2023**

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Code EFABAR: Responsible and Balanced Breeding

Current list of animal health and welfare criteria for pigs

Breeding Element
Fertility
Maternal ability
Teat number & quality (related to piglet health & welfare)
Milk production/availability for piglets
Decrease of congenital defects with a genetic component (like Atresia Ani, Cryptorchidism, Splayleg, Hermaphrodism and Hernia)
Disease resistance
Leg and back problems (skeletal, injuries, infections)
Castration of piglets
Misbehaviour: tail biting, ear biting, flank chewing
Elimination of stress susceptibility
Ability to perform in lose housing gestation and farrowing pens
Positive sociability / interaction among animals within the group
Monogenic traits/defects

Code EFABAR: Monitoring Progress

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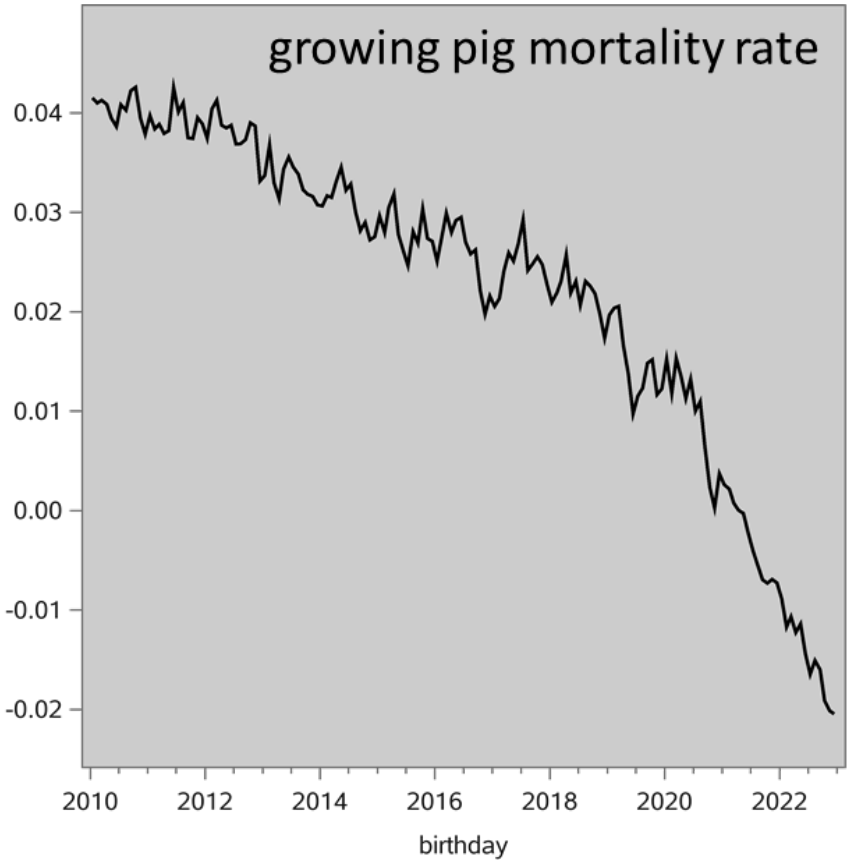

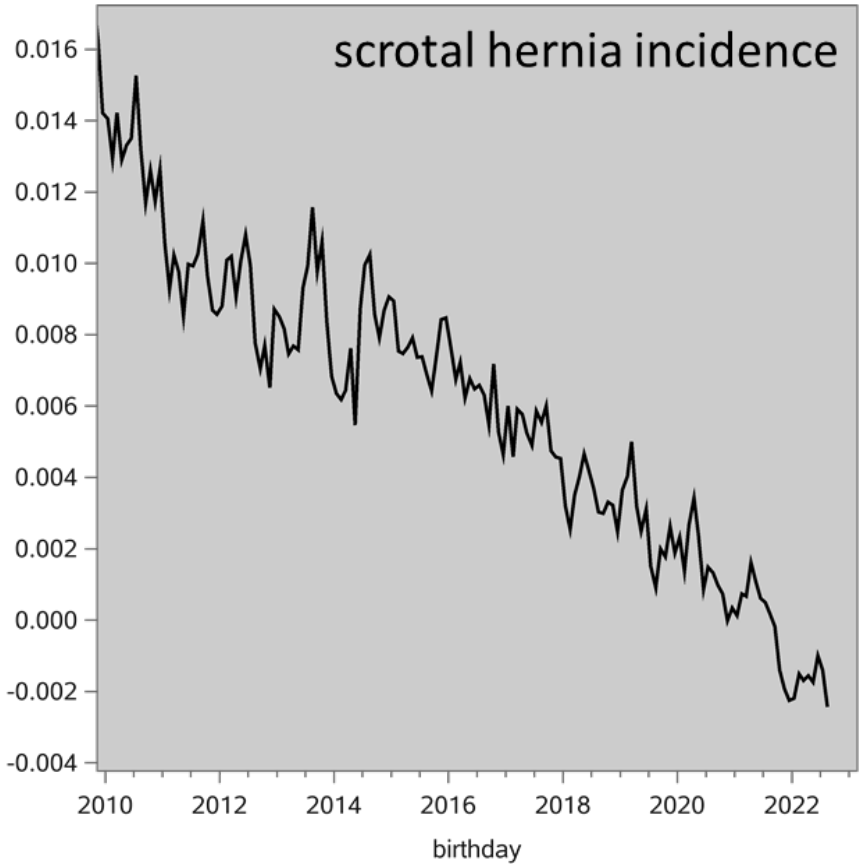

Two examples of genetic improvement of welfare-related traits in **paternal lines**

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Code EFABAR: Monitoring Progress

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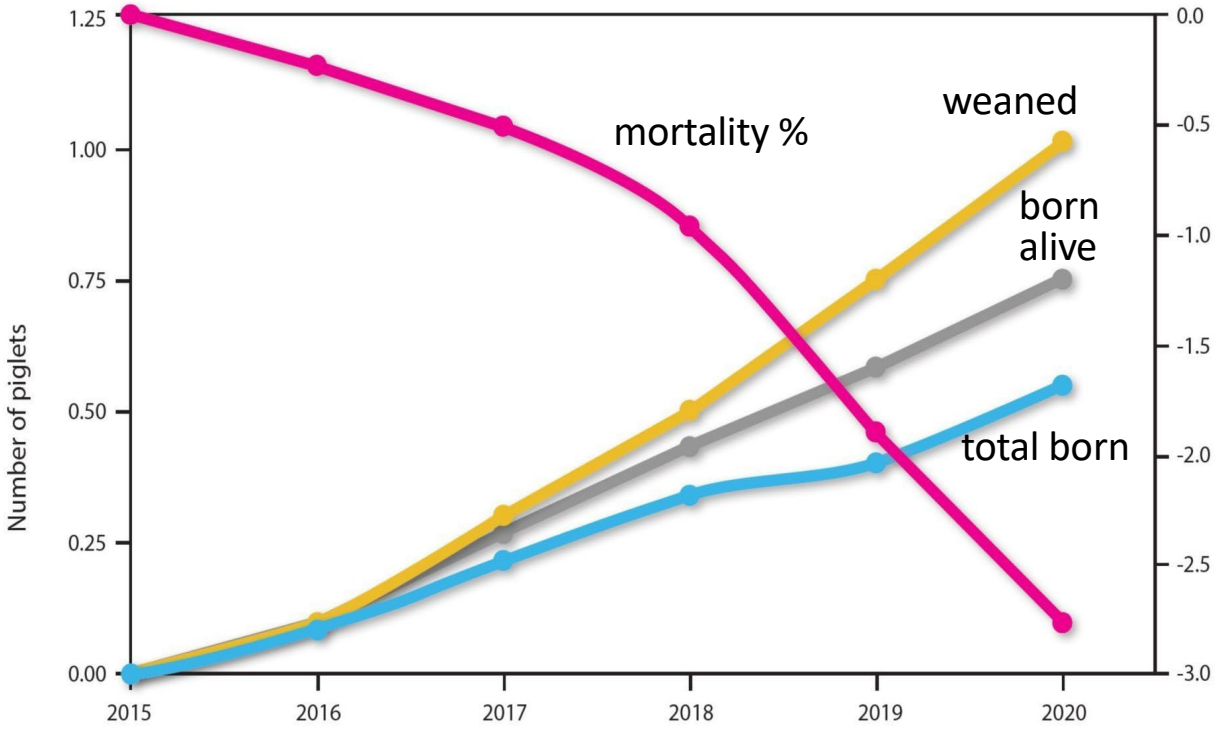
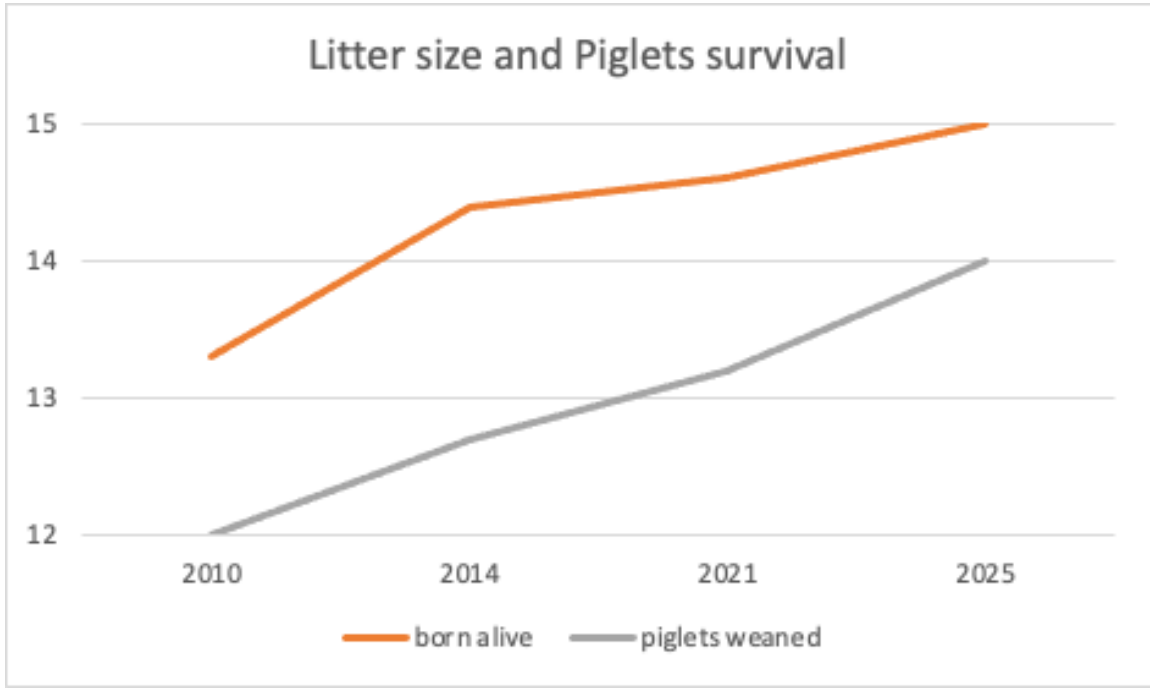
Litter size and welfare





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Pig Breeding sector

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Nucleus farms
(Breeding of pure lines)

Maternal lines ♀ ✖ Paternal lines ♂

Multiplication farms
(Crossing of pure lines)

Commercial Farms

Litter size, longevity of the sow, piglet survival (at birth, weaning, rearing), maternal and milking abilities, litter weaning weight, number and quality of the teats

Improving positive social behaviour to reduce tail biting, improving leg and back strength…
Meat and carcass quality
Better feed efficiency

Breeding goals of pure lines are different and complementary

Breeders improve entire populations

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3. Pig Breeding Contributions to Animal Welfare

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3. Pig Breeding and welfare

EFSA Recommendations: To limit litter size, as it compromises...

- **Piglet survival**
- Sow longevity
- Teat number and quality
- Birth weight

This would be reasonable in unbalanced breeding programmes

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Pig Breeding is part of the solution

Breeding companies improve the number of piglets (litter size)

alongside other favourable traits:

- piglet survival,
- sow longevity,
- the number and the quality of the teats,
- maternal and milking abilities …

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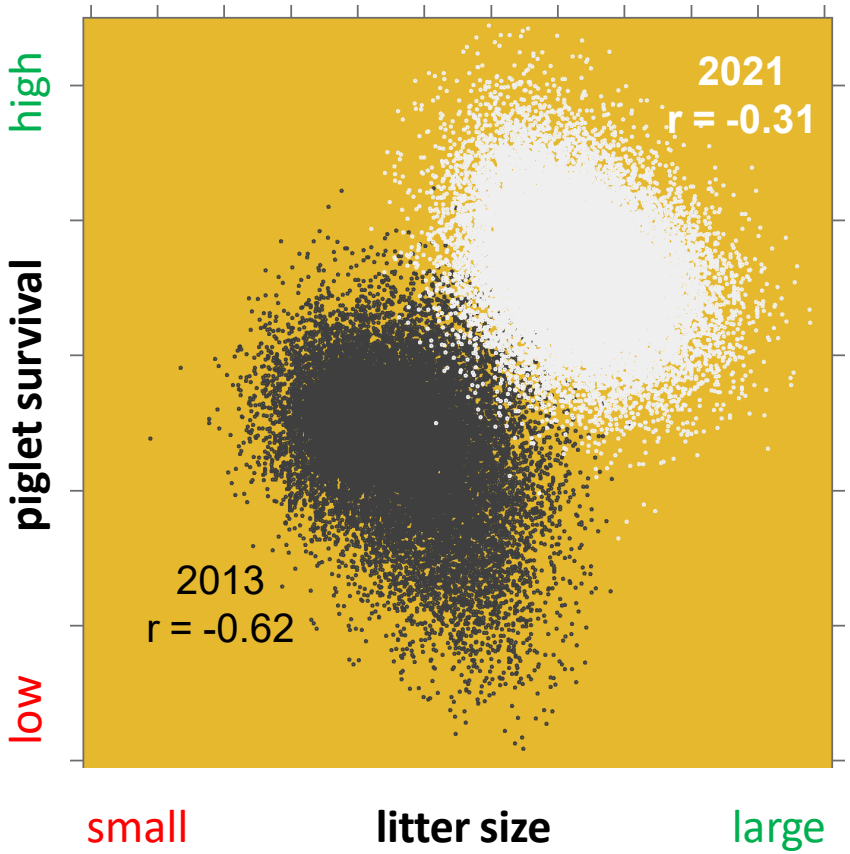
3a. Pig Breeding and piglet survival



Larger litter size goes together with lower piglet survival (negative genetic correlation)

BUT…

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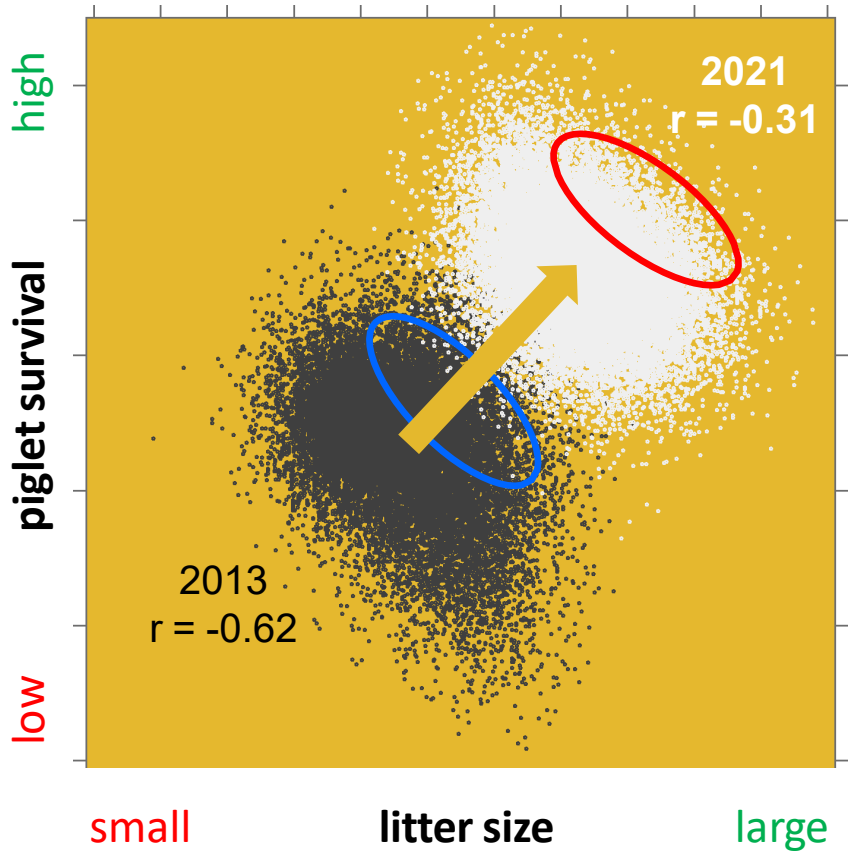
3a. Pig Breeding and piglet survival



Balanced breeding goals →

joint selection for piglet survival **and** litter size

Breeding can increase litter size
<u>AND</u>
piglet survival

We have been doing that for 20 years now

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3. Pig Breeding and welfare

EFSA Recommendations: To limit litter size, as it compromises...

- Piglet survival
- **Sow longevity**
- Teat number and quality
- Birth weight

This would be reasonable in unbalanced breeding programmes

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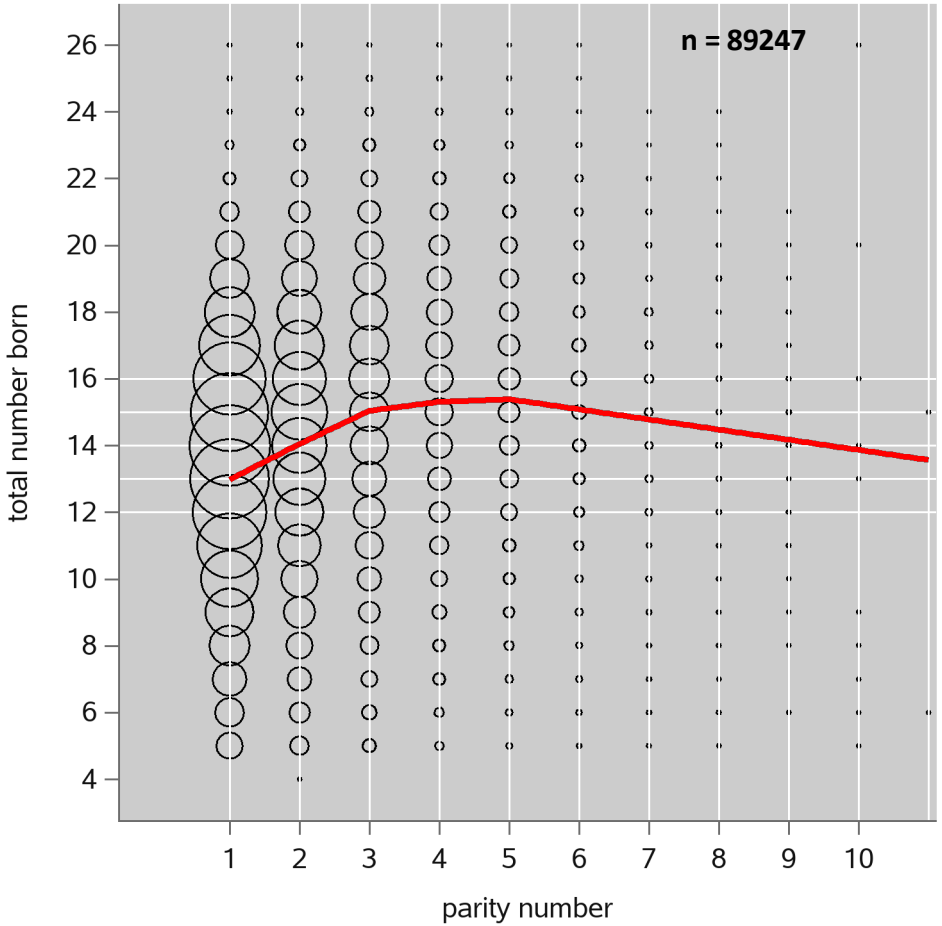
3b. Pig Breeding and sow longevity

- On average, litter size goes up from parity 1 to parity 5, then decreases ➔ With a huge variation around it.

- The average sow becomes profitable around parity 3 or 4.

- Farm sustainability: keep the sow on the farm **as long as** possible (healthy and wealthy ➔ ”profitable from an environmental, social and economics perspective”)



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3. Pig Breeding and welfare

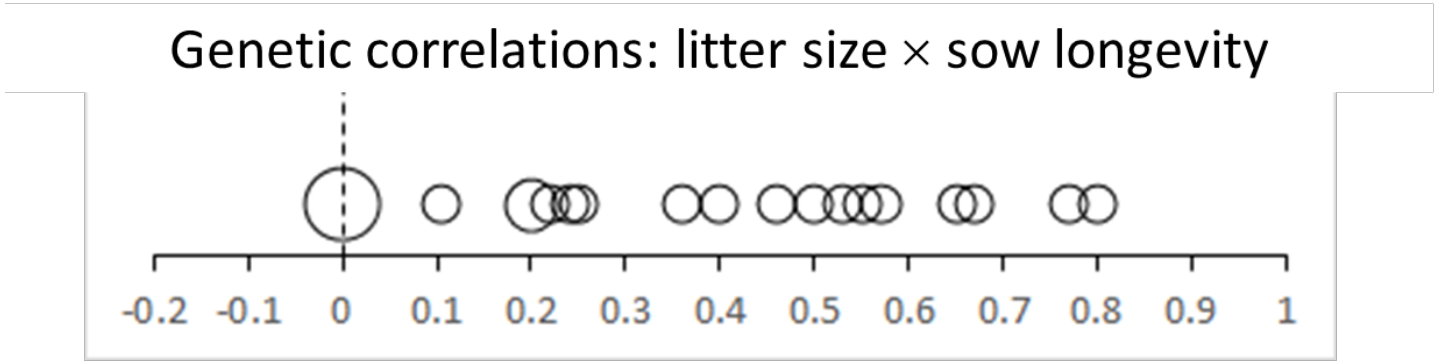
EFSA Recommendation: To limit litter size, as it compromises...

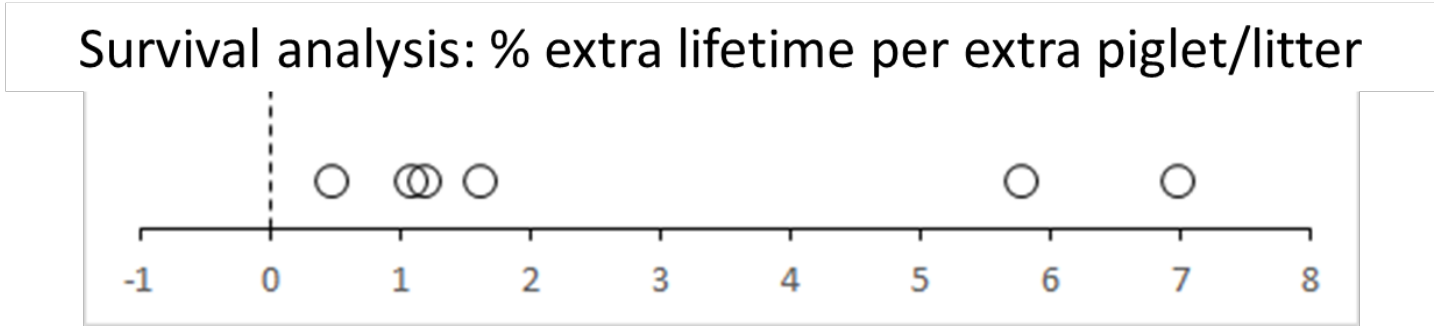
- Sow longevity

Unfortunately, based on **one single study** with ”old data”.

There are at least **17 other studies** pointing out in the complete **opposite direction,** stating that: **larger litters lead to longer sow longevity.**

3b. Pig Breeding and sow longevity





Friendship et al. (1986), Tholen et al. (1996), Brandt et al. (1999), Yazdi et al. (2000) Guo et al (2001)Babot et al. (2003), Serenius & Stalder (2004), Heusing et al. (2005), Engblom et al. (2009), Meszaros et al. (2010), Hoge & Bates (2011), Sobczynska et al. (2013), Engblom et al. (2016), Le et al. (2016), Bergman et al. (2018), Kerssen et al. (2019), Plaengkaeo et al. (2021)

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3. Pig Breeding and welfare

EFSA Recommendations: To limit litter size, as it compromises...

- Piglet survival
- Sow longevity
- **Teat number and quality**
- Birth weight

This would be reasonable in unbalanced breeding programmes

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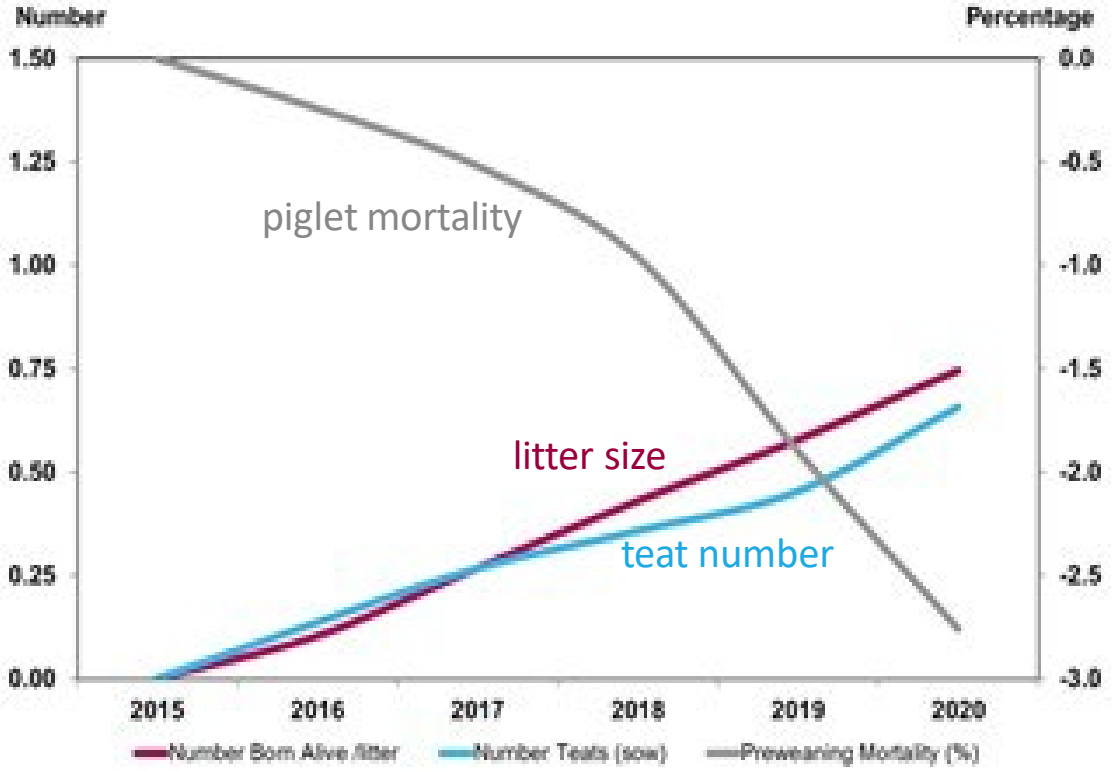
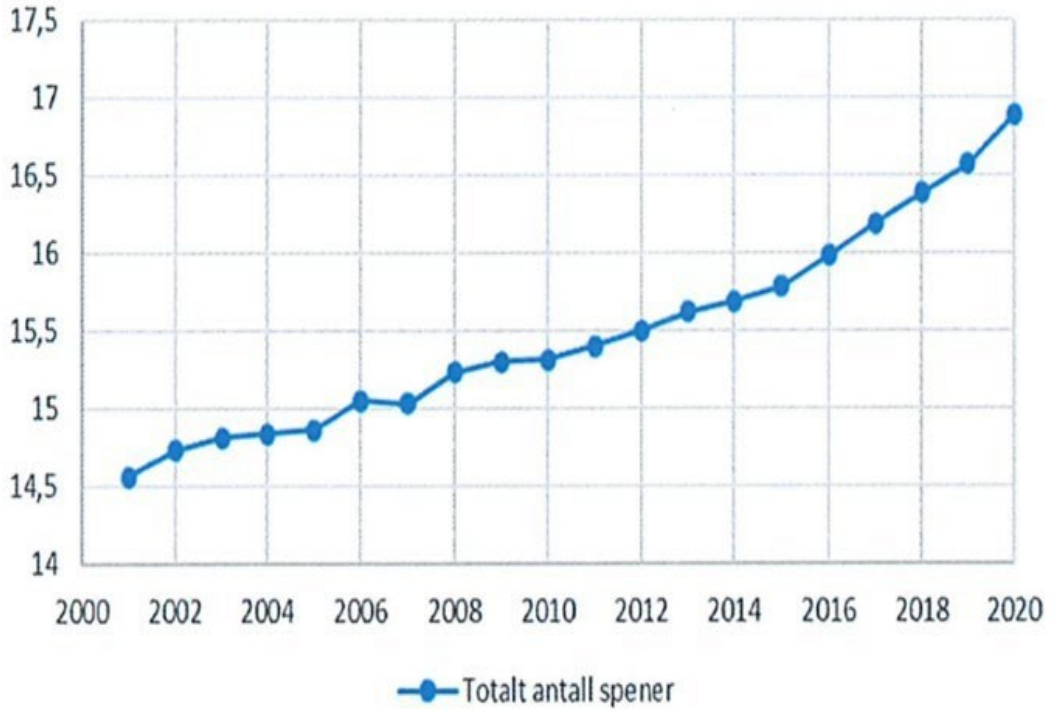
3c. Pig Breeding and number of teats





Teat number has been included in many breeding programmes for several decades now.

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3. Pig Breeding and welfare legislation

EFSA Recommendations: To limit litter size, as it compromises...

- Piglet survival
- Sow longevity
- Teat number and quality
- Birth weight

This is NOT REASONABLE (and not necessary)
in balanced and responsible breeding programs

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4. Perspectives on the current proposals for Animal Welfare Legislation

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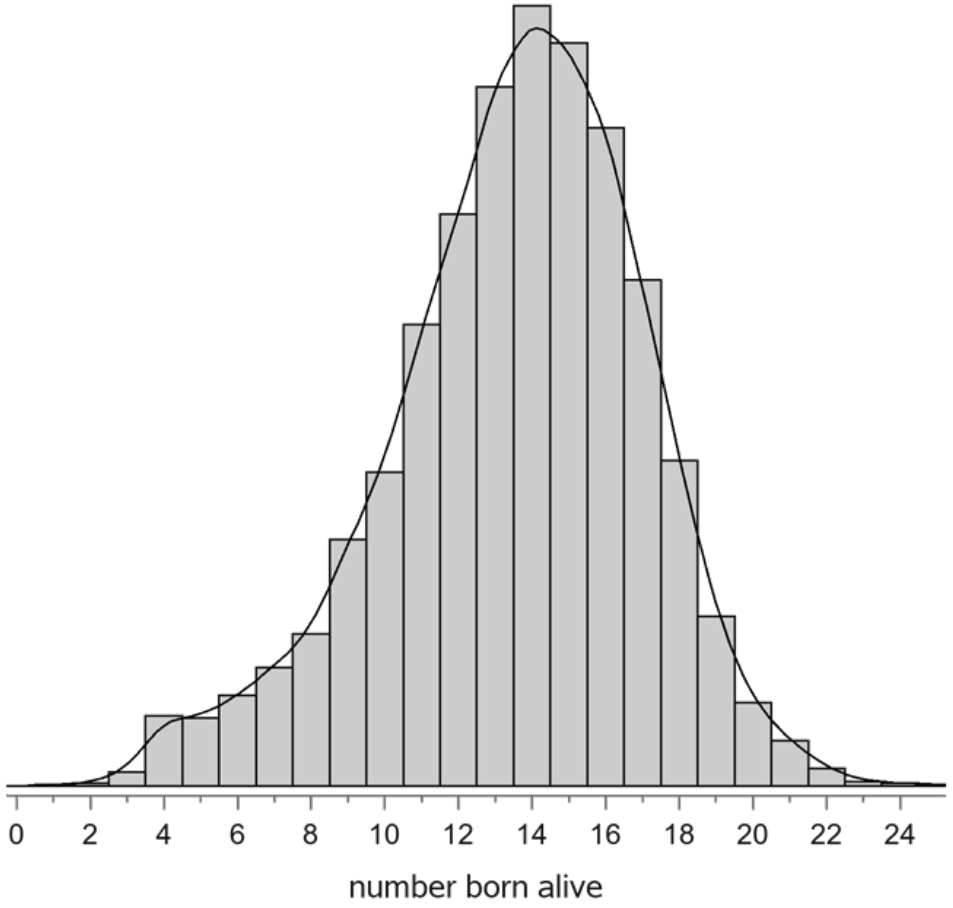
4. Pig Breeding and welfare legislation



- Litter size is a very **variable trait.**

-In this population with average NBA = 13.5, **half of all litters have 14 - 25 piglets born alive.**

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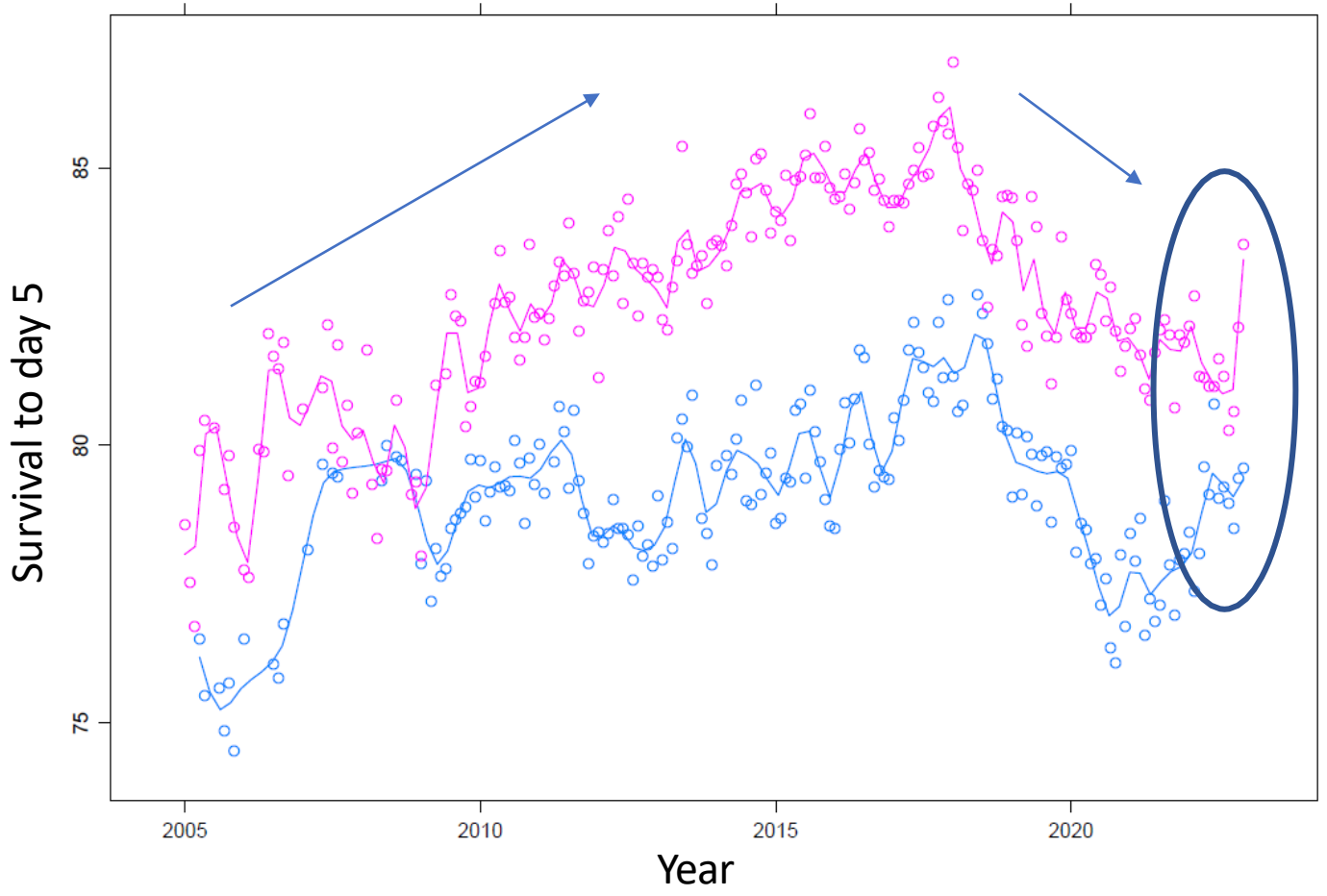
4. Pig Breeding and welfare legislation



Number of live piglets on day 5 in breeding goal since 2005

Survival drops off from 2017

New approach required and implemented in 2021 and 2022

Data from purebred litters
Blue: Landrace Pink: Yorkshire

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4. Pig Breeding and welfare legislation

- Breeders monitor genetic progress in breeding populations. Allowing them to be reactive when they detect a negative trend.

- They work in close collaboration with scientists and farmers

- Thats why they developed balanced breeding programs for better health, better welfare and sustainability.

- Regulation on litter size, not considering the whole picture, will limit entire breeding programmes, and sustainability.

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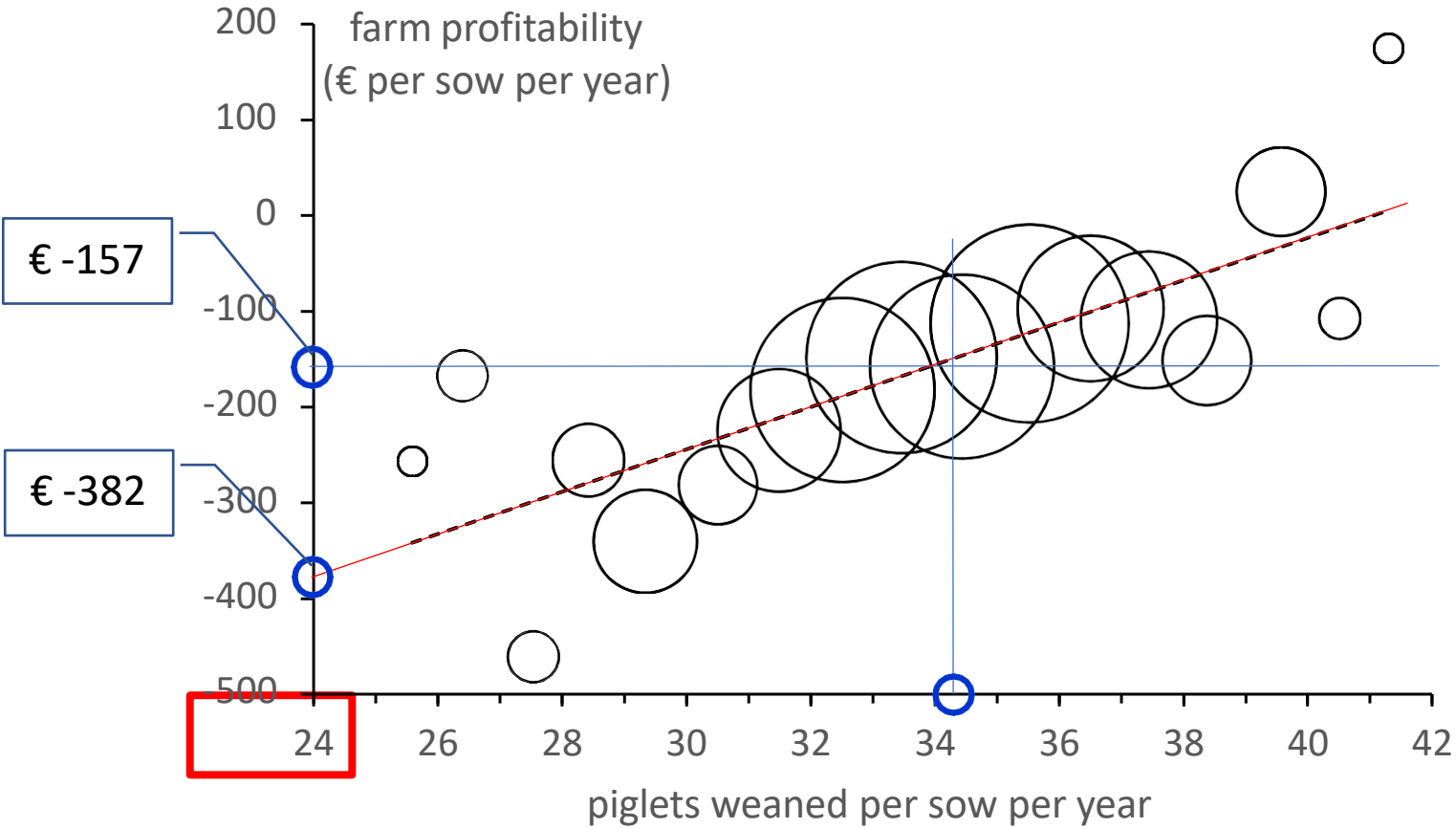
Farm Sustainability



12 - 14 piglets total born/ litter
=
21.4 - 24.8 piglets weaned/ sow & year

While consumption is going down, such measures would only lead to the **decimation of the sector, as economic sustainability would be gone.**

The situation in Denmark, November 2022

Going back to 24 piglets/sow/year will cost the average farm (864 sows, 34.1 PSY) € 194.400 / year

5. Conclusions

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Pig Breeding is part of the solution

- Animal Breeding programs (EU companies) improve the number of piglets (litter size) **alongside other favourable traits**: piglet survival, sow longevity, and the number and quality of teats.
- Legislation on a specific trait is not necessary:
  - Variation between animals (breeders work with entire populations)
  - As long as balanced breeding is performed ➔ AW is ensured

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5. Conclusions

- Self-regulation is in place and can be improved
- Progress is measured and monitored
- Regulation without considering the whole picture of balanced breeding, will only lead to limitations of the entire breeding populations.

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Thank you

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