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

Subgroup on the Welfare of Pigs, 16 January 2023
1. Introduction
2. Responsible and balanced breeding
3. Contributions to animal welfare
4. Perspectives on the current proposals for Animal Welfare legislation
5. Conclusions
1. Introduction
The voice of Animal Breeders in Europe
FABRE TP

Research institutes and academia + EFFAB members
- 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

- 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
2. Responsible and balanced pig breeding
Modern Animal Breeding

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

- Improved animal health and welfare
- Ensured food security
- Better production and quality of the products
- Better use of resources
- Reduction of environmental impact
- Keeping genetic diversity
Modern Animal Breeding

1970’s - 1980’s

- Production
- Other traits

2000’s - Today

- Improved animal health and welfare
- Ensured food security
- Reduction of environmental impact
- Better production and quality of the products
- Better use of resources
- Keeping genetic diversity

EFFAB European Forum of Farm Animal Breeders
FABRE TP Farm Animal Breeding & Reproduction Technology Platform
Modern Pig Breeding

- Better use of resources (feed use, fertility, longevity of the sow...)
- Disease resistance and robustness, reducing use of antibiotics
- Meat quality and quantity
- Reducing emissions (ammonia...) and carbon footprint
- Improving piglet survival (at birth, weaning, rearing), maternal and milking abilities, litter weaning weight, number and quality of the teats, reducing boar taint...
- Improving positive social behaviour to reduce tail biting, improving leg and back strength...
- Maintaining genetic diversity

EFFAB
European Forum of Farm Animal Breeders

CODE EFABAR
The commitment to responsible breeding

FABRE TP
Farm Animal Breeding & Reproduction Technology Platform
Breeding sows of tomorrow: robust, long-lived and feed-saving
Development of Code EFABAR: 3 EU Projects

EC-ELSA Funded Project
4th Framework Programme for RTD
1998-1999
Farm Animal Breeding Society

SEFABAR
2000-2003

EC-EU Funded Project
Food Quality and Safety
2004-2005
Code EFABAR

2008-2020

Code EFABAR v2023
2023

EC-EU Network Funded Project
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
# Code EFABAR: Responsible and Balanced Breeding

Current list of animal health and welfare criteria for pigs

<table>
<thead>
<tr>
<th>Breeding Element</th>
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<tbody>
<tr>
<td>Fertility</td>
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<tr>
<td>Maternal ability</td>
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<tr>
<td>Teat number &amp; quality (related to piglet health &amp; welfare)</td>
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<tr>
<td>Milk production/availability for piglets</td>
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<tr>
<td>Decrease of congenital defects with a genetic component (like Atresia Ani,</td>
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<tr>
<td>Cryptorchidism, Splayleg, Hermaphroditism and Hernia)</td>
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<tr>
<td>Disease resistance</td>
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<tr>
<td>Leg and back problems (skeletal, injuries, infections)</td>
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<td>Castration of piglets</td>
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<td>Misbehaviour: tail biting, ear biting, flank chewing</td>
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<td>Elimination of stress susceptibility</td>
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<td>Ability to perform in lose housing gestation and farrowing pens</td>
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<tr>
<td>Positive sociability / interaction among animals within the group</td>
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<tr>
<td>Monogenic traits/defects</td>
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![Diagram showing the commitment to responsible breeding](Image)
Two examples of genetic improvement of welfare-related traits in paternal lines.
Code EFABAR: Monitoring Progress

Litter size and welfare
Pig Breeding sector

Nucleus farms
(Breeding of pure lines)

Multiplication farms
(Crossing of pure lines)

Commercial Farms

Maternal lines ♀

Paternal lines ♂

Breeding goals of pure lines are different and complementary

Breeders improve entire populations

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

Pig Breeding sector

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Meat and carcass quality
Better feed efficiency
3. Pig Breeding Contributions to Animal Welfare
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*
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 ...
Larger litter size goes together with lower piglet survival (negative genetic correlation) 

**BUT...**
3a. Pig Breeding and piglet survival

Balanced breeding goals → joint selection for piglet survival and litter size

Breeding can increase litter size AND piglet survival

We have been doing that for 20 years now
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*
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")
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

Genetic correlations: litter size × sow longevity

Survival analysis: % extra lifetime per extra piglet/litter

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*
3c. Pig Breeding and number of teats

Teat number has been included in many breeding programmes for several decades now.
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*
4. Perspectives on the current proposals for Animal 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.
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
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

- That's 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.
12 - 14 piglets total born/ litter = piglets weaned/ sow & year

21.4 - 24.8

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
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
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.
Thank you
Questions?

www.effab.info
www.fabretp.eu