Surgical castration and possible alternatives
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- Surgical castration of male piglets is a very long-standing practice and is carried out in order to avoid boar taint.

- Surgical castration is painful, however, Directive 2008/120/EC still allows this to be carried out without analgesia or anaesthesia until the seventh day of life.

- A number of initiatives have been taken to move away from surgical castration, including:
  - The Brussels declaration on alternatives to surgical castration (2010)
    - The declaration aimed at stopping surgical castration by 2018
    - This aim was not reached due to a number of constraints e.g. complex market barriers and the need for certain production types to continue castration.
Surgical castration and possible alternatives

- The Commission (DG SANTE)
  - In 2018 commissioned a study ‘Establishing best practices on the production, the processing and the marketing of meat from uncastrated pigs or pigs vaccinated against boar taint’
    - The aim was to contribute to a decrease in the need for surgical castration of piglets in the EU through knowledge transfer
    - The final report was published in 2019
  - A number of fact sheets

- Surgical castration without anaesthesia and analgesia is still practised

- Inception impact assessment
  - Option 1: Prohibition of castration
  - Option 2: Additional restrictions on castration e.g. mandatory anaesthesia and analgesia.
Surgical castration
Additional restrictions e.g. mandatory anaesthesia and analgesia.

- Surgical castration with anaesthesia – different methods
  - Local anaesthesia
    - Lidocaine with adrenaline
      - Not authorised in the EU for pig castration
    - Procaine
      - Seem to be inferior to lidocaine with regard to effect
  - For both
    - Minor pain during injection
    - Waiting period from injection to castration
    - Farmers must undergo a training course
    - Feedback from farmers is positive
Surgical castration
Additional restrictions e.g. mandatory anaesthesia and analgesia.

- Surgical castration with anaesthesia – different method (continued)

✓ Total anaesthesia
  
  - Inhalation - isofluran
    
    • Anaesthesia quickly introduced
    • Little to no piglet mortality during castration
    • Piglets need to be kept away from the sow until recovery from anaesthesia
    • Machine
      
      • maintenance important,
      • need for certification and regular checks?
    • Climate negative gas
    • Human safety issue
Surgical castration
Additional restrictions e.g. mandatory anaesthesia and analgesia.

- Surgical castration with anaesthesia – different method (continued)
  - Total anaesthesia
    - Inhalation – CO₂ and oxygen
      - No aversive reactions reported, although CO₂ is aversive to some extent
      - Loss of consciousness after approx. 60 seconds
      - Safety margin rather low
      - Piglets regain consciousness rather quick and can come back to the sow
      - Muscle spasms – welfare issue?
      - Machine – maintenance important, need for certification and regular checks?
      - Climate negative gas
    - Injection - ketamin – possibly in combination with azaperone
      - Indications of a pain reaction
      - Slow recovery – need to be kept away from the sow
      - Recovery often with excitations
Surgical castration

- Both for local or total anaesthesia
  - Analgesia must be administered prior to castration
  - The provision that castration by the producer must be carried out up to the seventh day of life should be continued
  - Castration should not be performed before the second day of life

All the methods have limitations
Possible alternatives to surgical castration

- Raising entire males – Immunocastration - Slaughter at a very young age

  ✓ Raising entire males
  • Better feed conversion rate and leaner carcass
  • Feeding regime to reduce occurrence of boar taint
  • Skills to manage entire males – on farm and in lairage at the slaughterhouse
  • Slaughter age rather than weight
  • May be breed differences and a genetic element

  ✓ Immunocastration
  • Two (three) vaccinations needed – cost
  • Vaccination procedure – protocol available
  • Better feed conversion rate and leaner carcass – but not as good as raising entire males
  • Effectively reduces boar taint, but not totally
Possible alternatives to surgical castration

- Detection of boar taint in the slaughterhouse
  - Boar taint is due to the presence of androstenone and skatol
  - Detection methods
    - Human nose
    - Analytical method – neck / back fat
    - Blood test for testosterone - fast and cheap, negative results occur

- What to do with meat that has detectable boar taint?
  - Dilution
  - Fermentation
  - Smoking
  - Spices
  - Heating – especially for certain sausages
Surgical castration and possible alternatives

- So, how about the future?
  - Raising entire males or immunocastration
    - There is still a number of constraints especially due to complex market barriers but also the need for certain production types to continue castration
  - There is still a need to be able to carry out surgical castration
    - Must be with anaesthesia and analgesia
  - To move towards alternatives
    - Animal welfare benefits should be emphasised
    - Build trust in detection methods and that meat from immunocastrated pigs is safe in the whole supply chain both in the EU and globally
Thank you for your attention

Questions?