

Mutilation procedures: welfare implication and new strategies

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Content

- Castration
- Tail docking



Castration

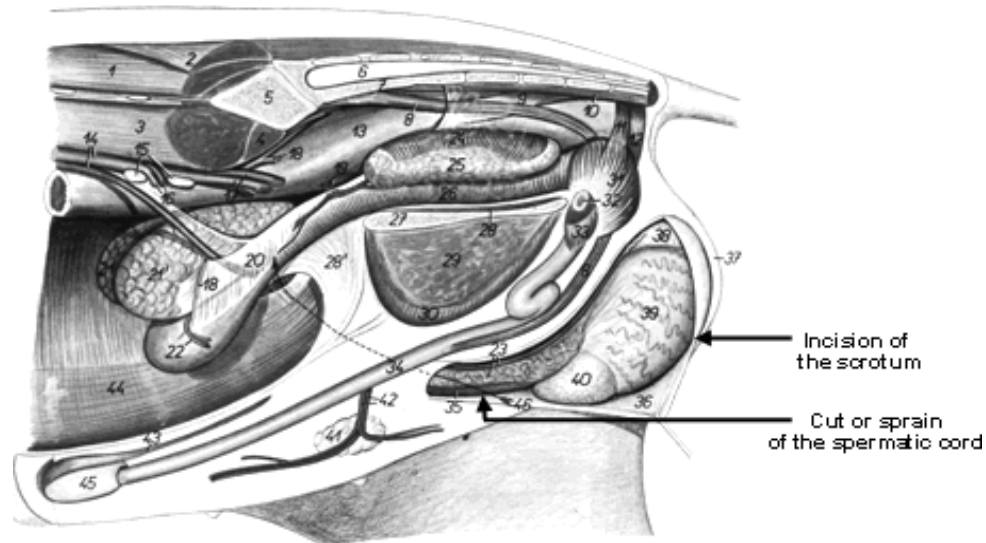
- 80% of male piglets (100 million) are castrated in EU each year
 - Aggressions and sexual activity
 - Avoid boar taint

An unpleasant taint perceived through a combination of sensory odour, flavour and taste in pork and pork products during cooking and eating.

It has been described as 'animal', 'urine', 'fecal' and/or 'sweat' like in character.

(androstenone/skatole)

Surgical castration without anaesthesia



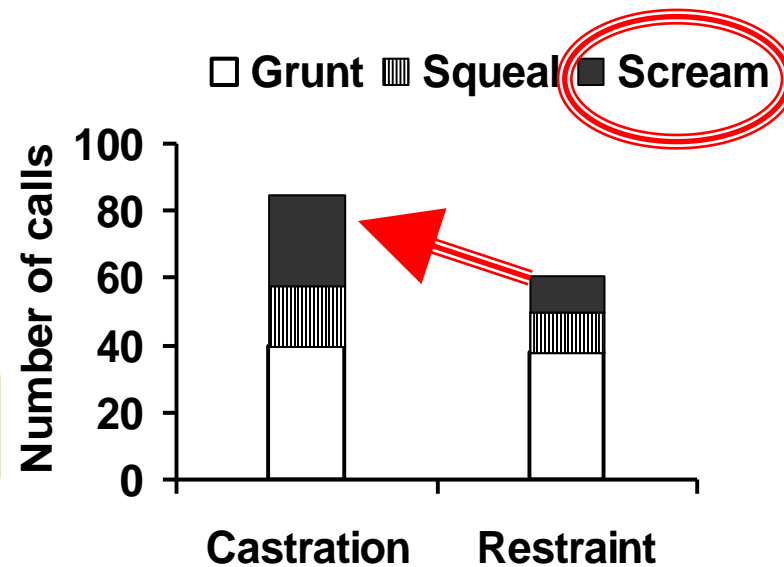
(Prunier et al 2005)



- Behavioural indicators
- Physiological indicators

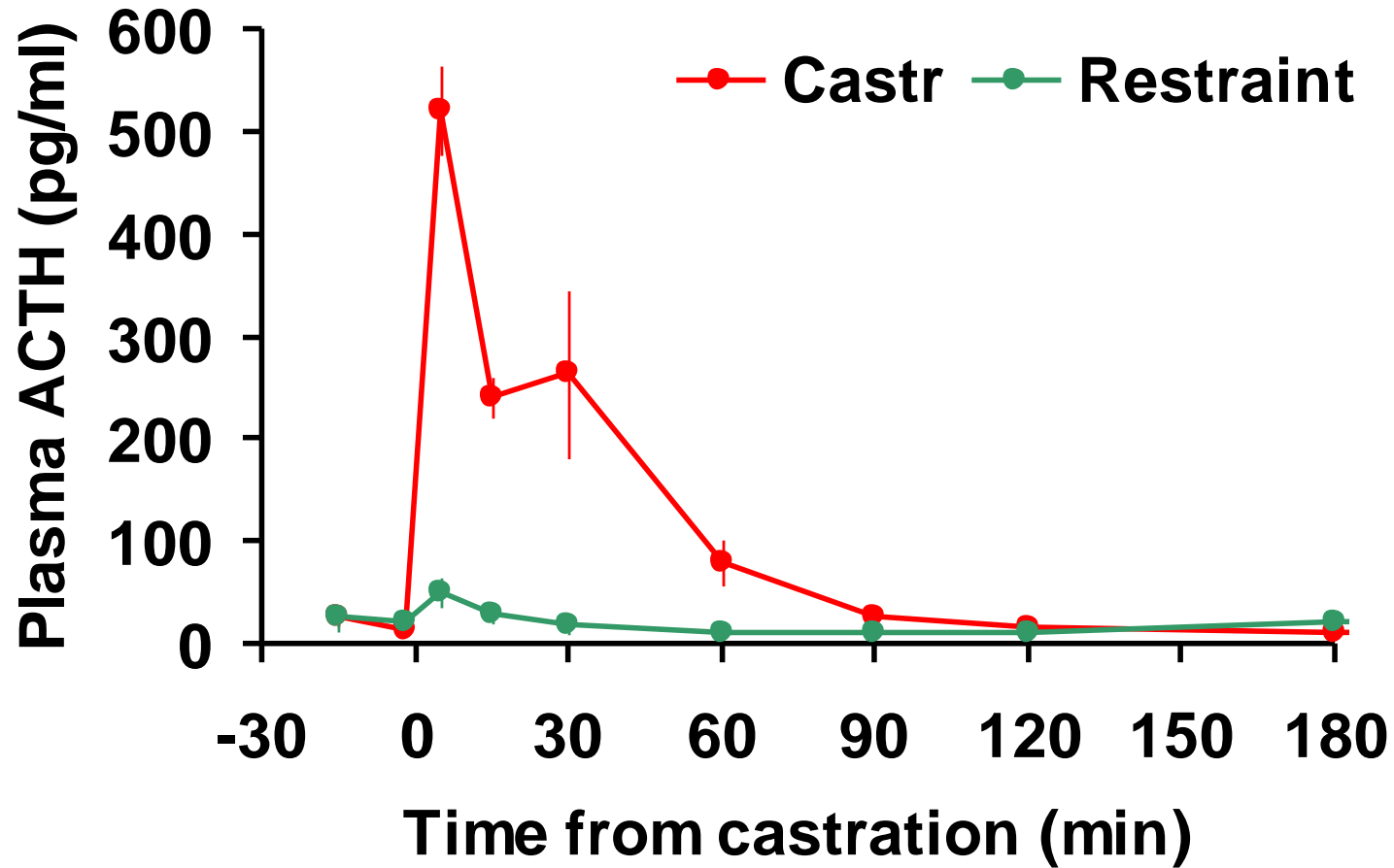
Behavioural indicators

- Physical resistance
- Vocalization
- ↑ Cardiac frequency



Marx et al 2003

Physiological indicators



After castration

Post-surgical pain can last for 5 days.

Behavioural alteration:

- ↓ Activity
- ↑ Huddling up, tail wagging, scratching the rump, desynchronization
- Possible long-term effects on immunity & health

New strategies

- Surgical castration with anaesthesia
- Production of entire male pigs

Control of boar taint

Assessment on slaughter line

- Immunocastration
- Sperm sorting

Surgical castration with anaesthesia

General anaesthesia

- **Intravenously: Ketamine (+xylazine)**

induce long periods of sedation which increases the risk of death by hypothermia or crushing

- **Inhalation: halothane, isofluorane, CO₂**

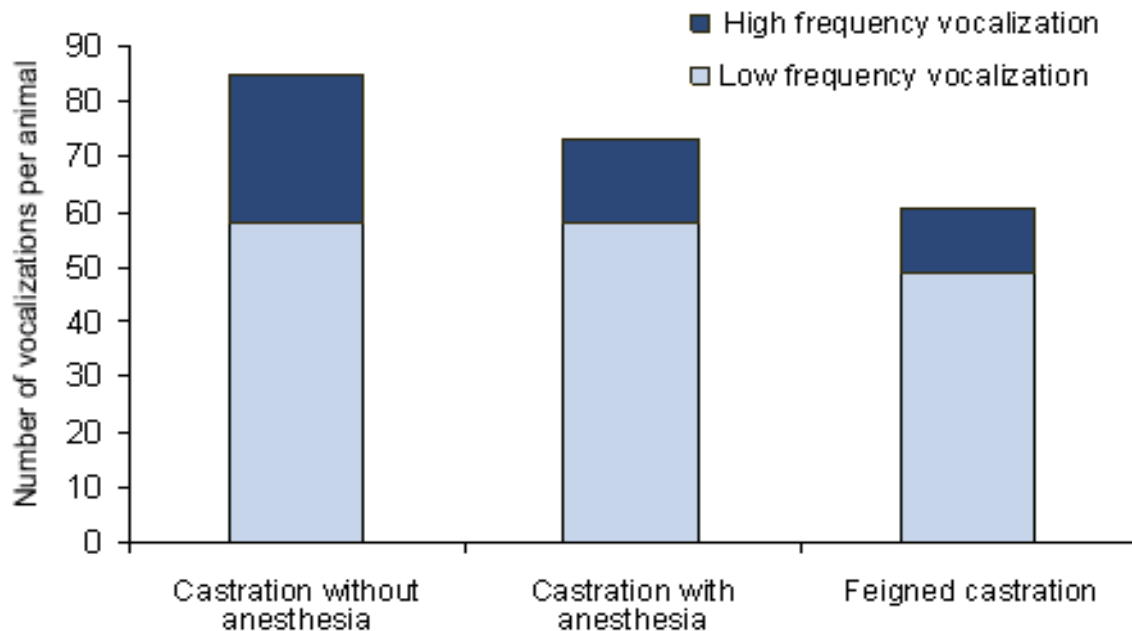
- Suitable ventilation system
- Malignant hypothermia
- CO₂ causes irritation of the mucous membrane



Surgical castration with anaesthesia

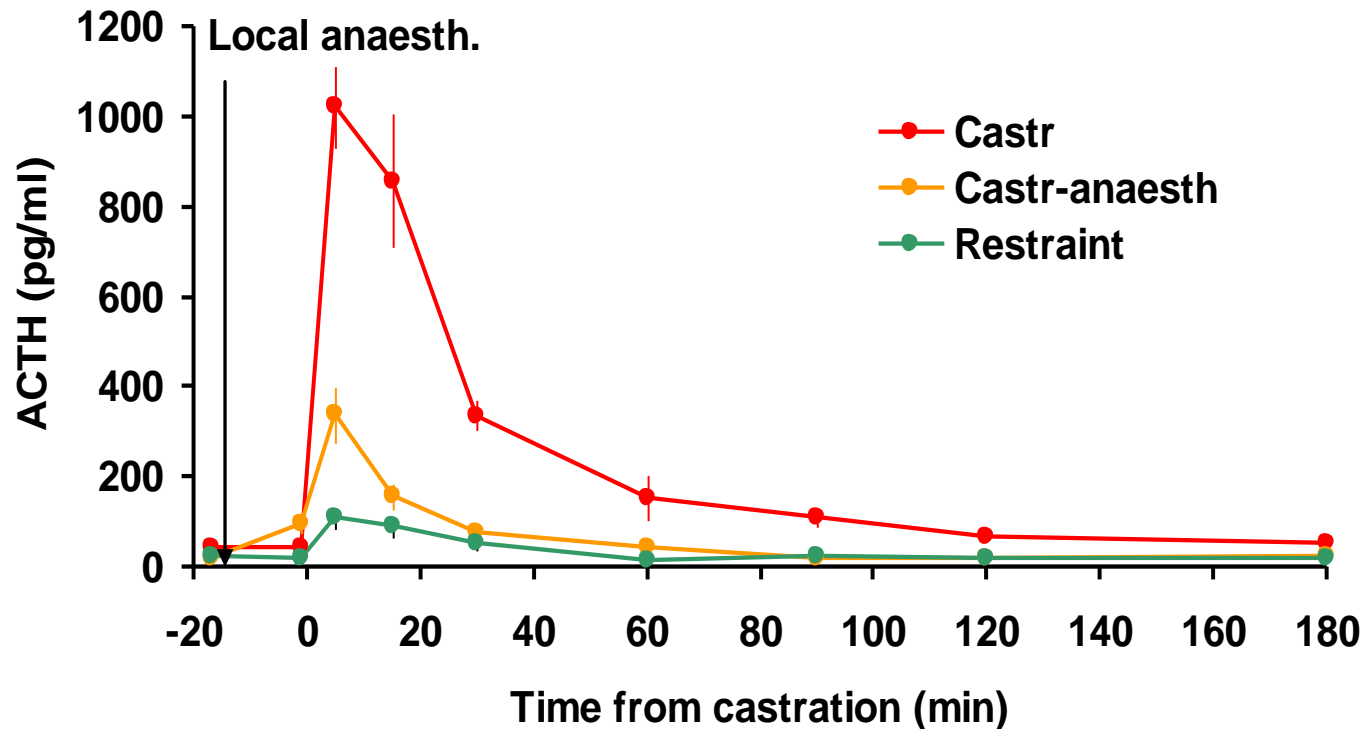
Local anaesthesia

- Injection of lidocaine inside the testicle and the scrotum



Surgical castration with anaesthesia

Local anaesthesia



- Disappears after 3-4 h

Production of entire males

Advantages	Disadvantages
Greater alimentary efficiency	Increase of aggressions and mountings
Leaner carcasses	More damage in the carcass
Higher content of unsaturated fatty acids	Greater incidence of DFD
Lower excretion of nitrogen	Blander fat
Lower production costs	Greater incidence of boar taint

Control of androstenone levels

- **Slaughter at lower slaughter weight**
- **Genetic selection:**

- High heritability: 0.25 a 0.87
- ↓ Production
- Delay sexual maturity

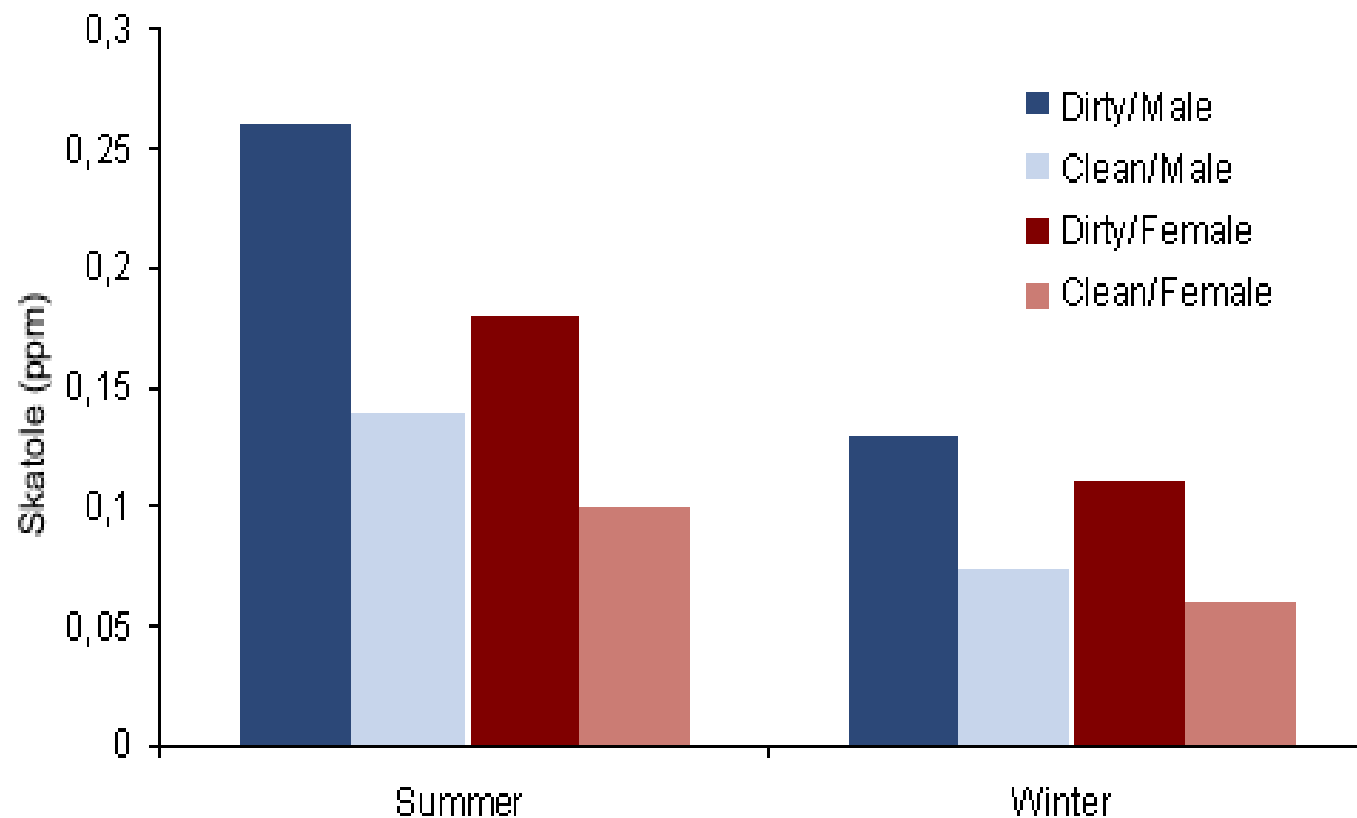
Control of skatole levels

- Nutrition

- Energy
- Carbohydrates of low digestibility (pectin, starch potatoes ..)
- Fiber
- Wet Food

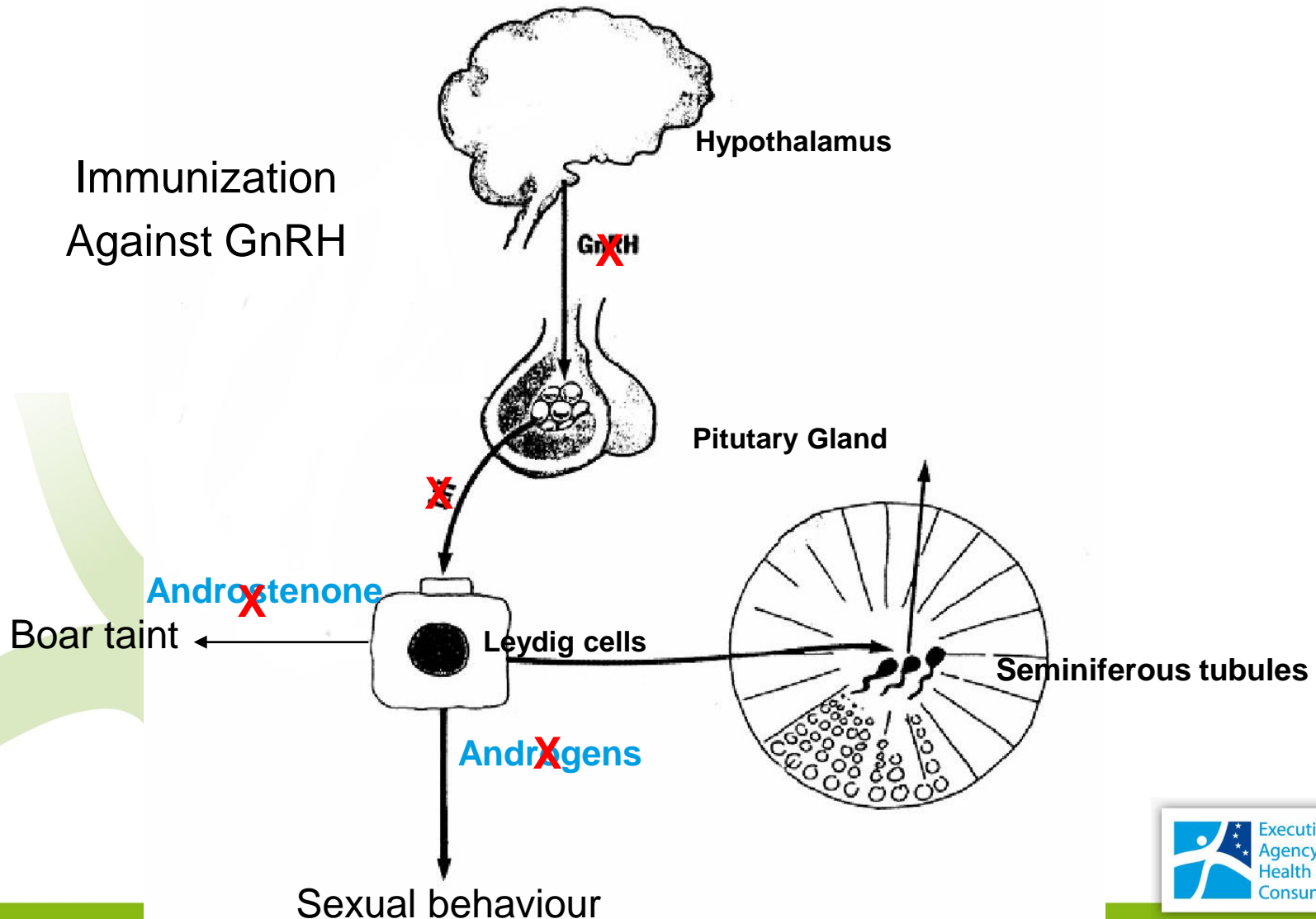
Control of skatole levels

Housing conditions



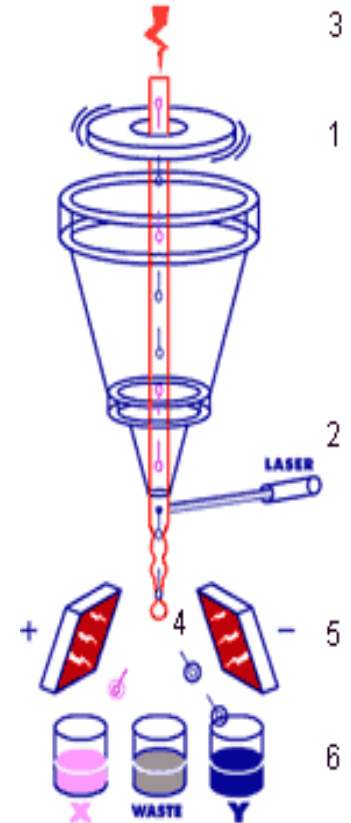
Immunological castration

Immunization
Against GnRH



Spermatic selection

- Sexing of the spermatozoids with the objective of producing only females
- Flow cytometry (difference in size of the DNA of both chromosomes)

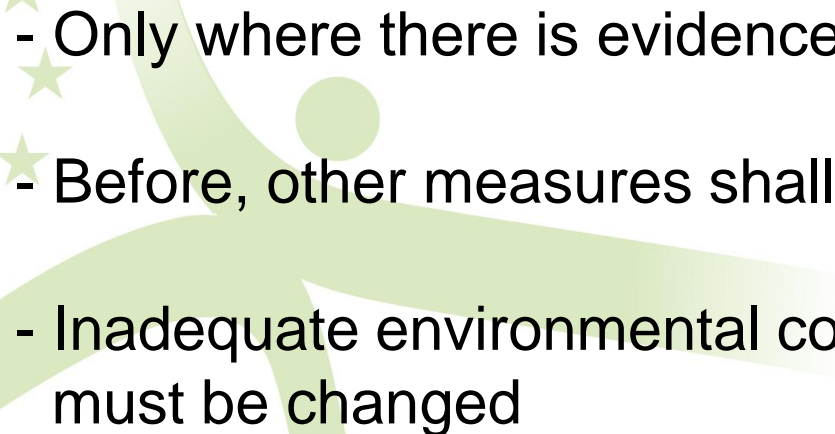


Tail docking

Is likely to cause

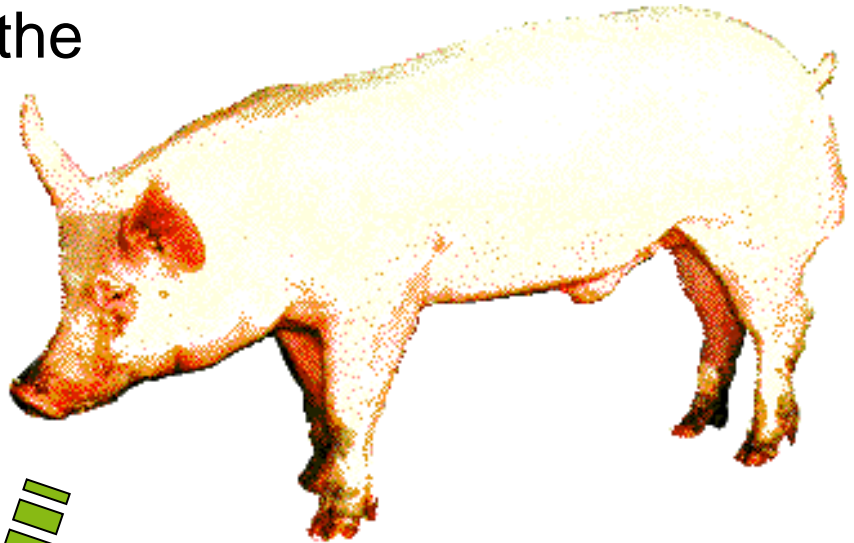
- immediate pain
- prolonged pain from neuroma formation

Is detrimental to the welfare of pigs

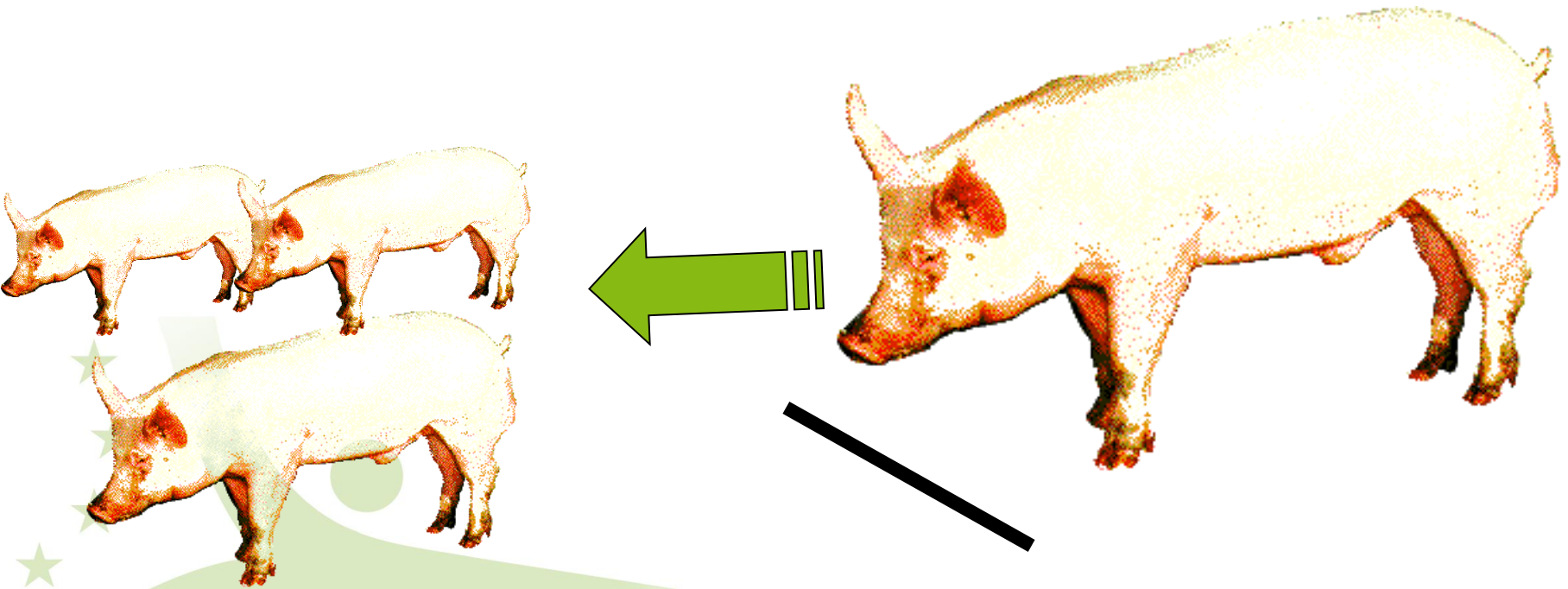
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- Only where there is evidence of Injuries to other pigs' tails
 - Before, other measures shall be taken to prevent tail-biting
 - Inadequate environmental conditions or management systems must be changed

Exploratory behaviour

Pigs spend, in natural conditions, up to 50% of the time performing exploratory behaviour.



Exploratory behaviour



In pens with concrete or slatted floor pigs could not perform foraging behaviour

Tail biting

(Redirected exploratory behaviour)

Absence of straw or similar substrate

↓
Redirected behaviour (initial phase)

- Slatted floor
- Competition for feed
- High density
- High temperature

- Deficiency of dietary essential amino acids
- Imitation
- Inadequate ventilation


↓
Serious tail biting

Tail biting

- Is not an aggressive behaviour
- Tail biting pigs are likely to be frustrated and impairs health and welfare.
- Those whose tails have been injured are likely to be in pain and distress.
- Associated with a variety of pathological changes (spinal abscesses or pyaemia)

Before tail docking

- Permanent access to a sufficient quantity of material to enable proper investigation and manipulation activities (straw, hay, wood, sawdust, mushroom compost, peat)
- Review the composition of the feed
- Review environmental conditions (ventilation, handling etc)
- Separate animals with tail wounds

A scenic view of a small town with a large green field in the foreground and a forested hill in the background. The town features several buildings, including a prominent red brick building with a white roof. A parking lot filled with cars is visible in front of the buildings. The background is dominated by a dense forest of trees, with mountains visible in the distance under a clear sky.

Thank you for your attention

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