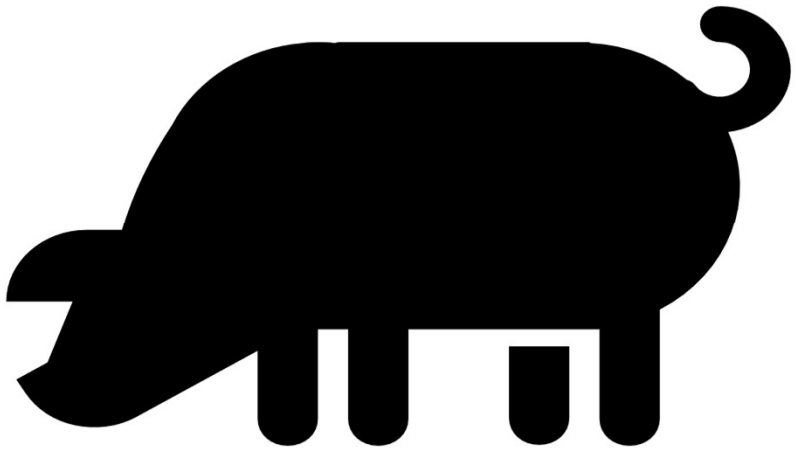
Tail-biting: a multifactorial challenge

Maggie Henry, PhD

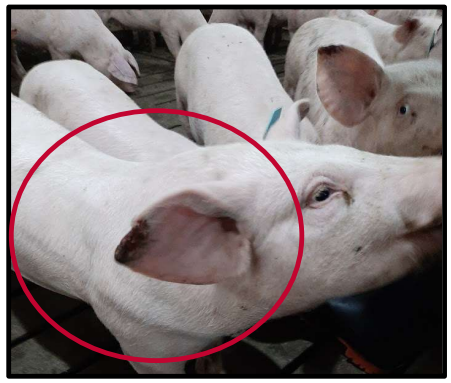
December 8th, 2021

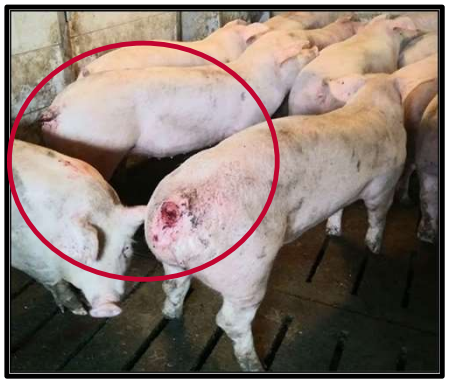


Oral abnormal behaviour

- Abnormal behaviour, **particularly tail-biting**, has been recorded on commercial farms **since the 1960's**, yet the issue persists

- Decreased **health**, diminished **welfare** and **perception of poor management** surround abnormal behaviour





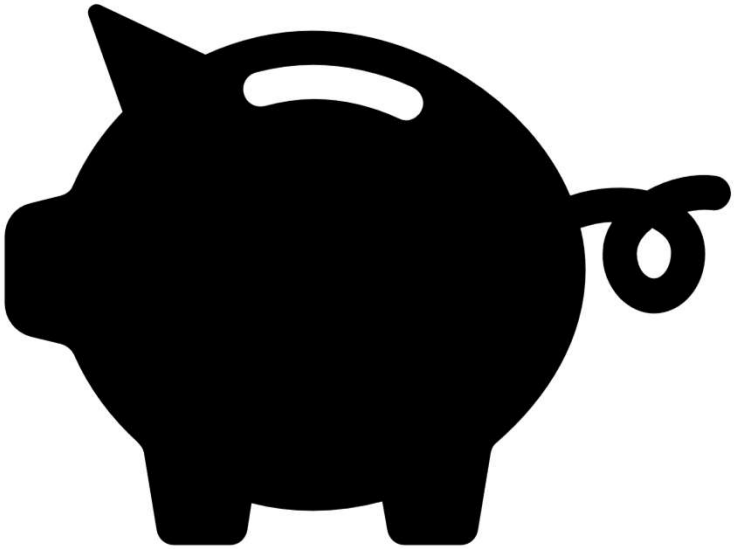
Tail-biting

- Oral **manipulation of a pig's tail** by pen mates, **resulting in injuries**

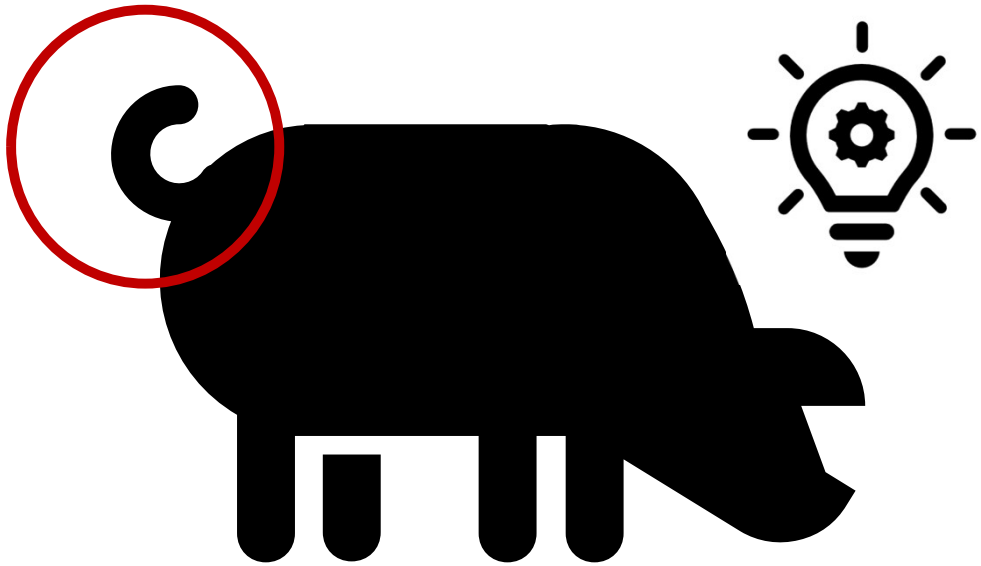
- Common on commercial farms
  - Estimates of **3 – 30% of commercial pigs will experience tail-biting**

Tail-biting

- Direct and indirect **economic impacts**
  - Reduced growth rate
  - Increased days to market
  - Increased feed costs
  - Increased labour
  - Increased medical costs
  - Higher cull rates
  - Increased trims and condemnations



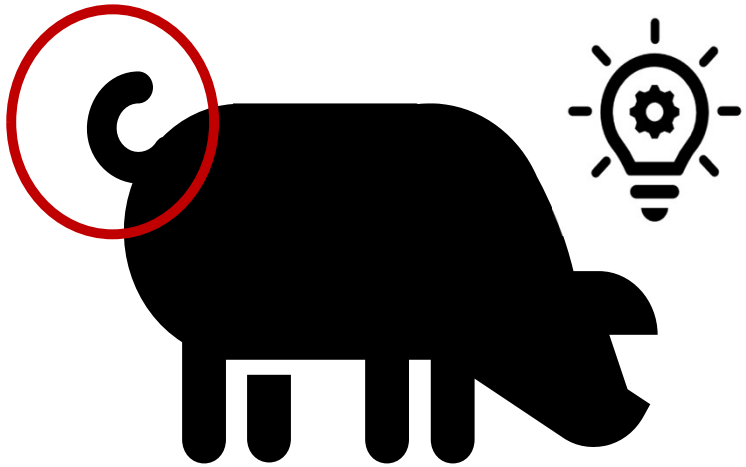
Tail-biting in pigs: a scoping review

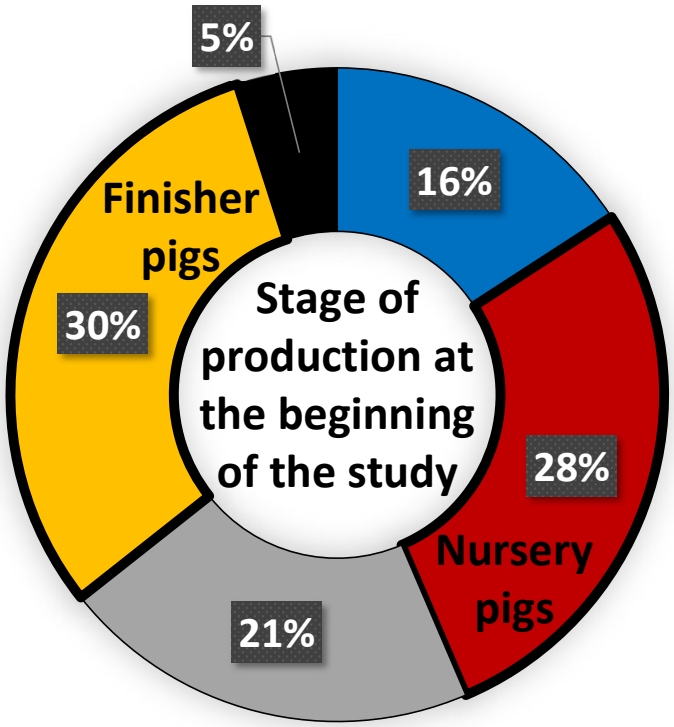


Henry et al., ***Animals***, 2021

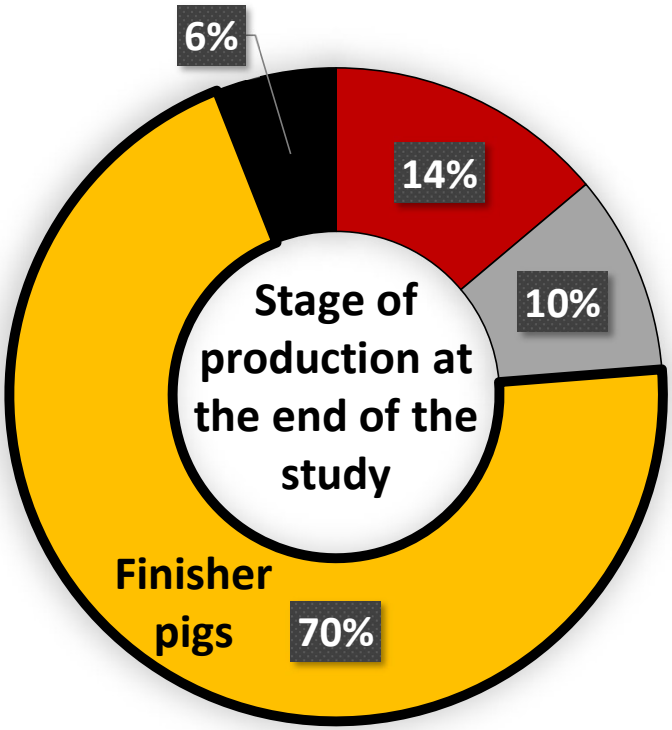
- To chart all available literature and determine if a **consensus on risk factors and successful intervention strategies** existed for tail-biting (TB) in swine operations

- To discover **existing gaps** in the current TB literature

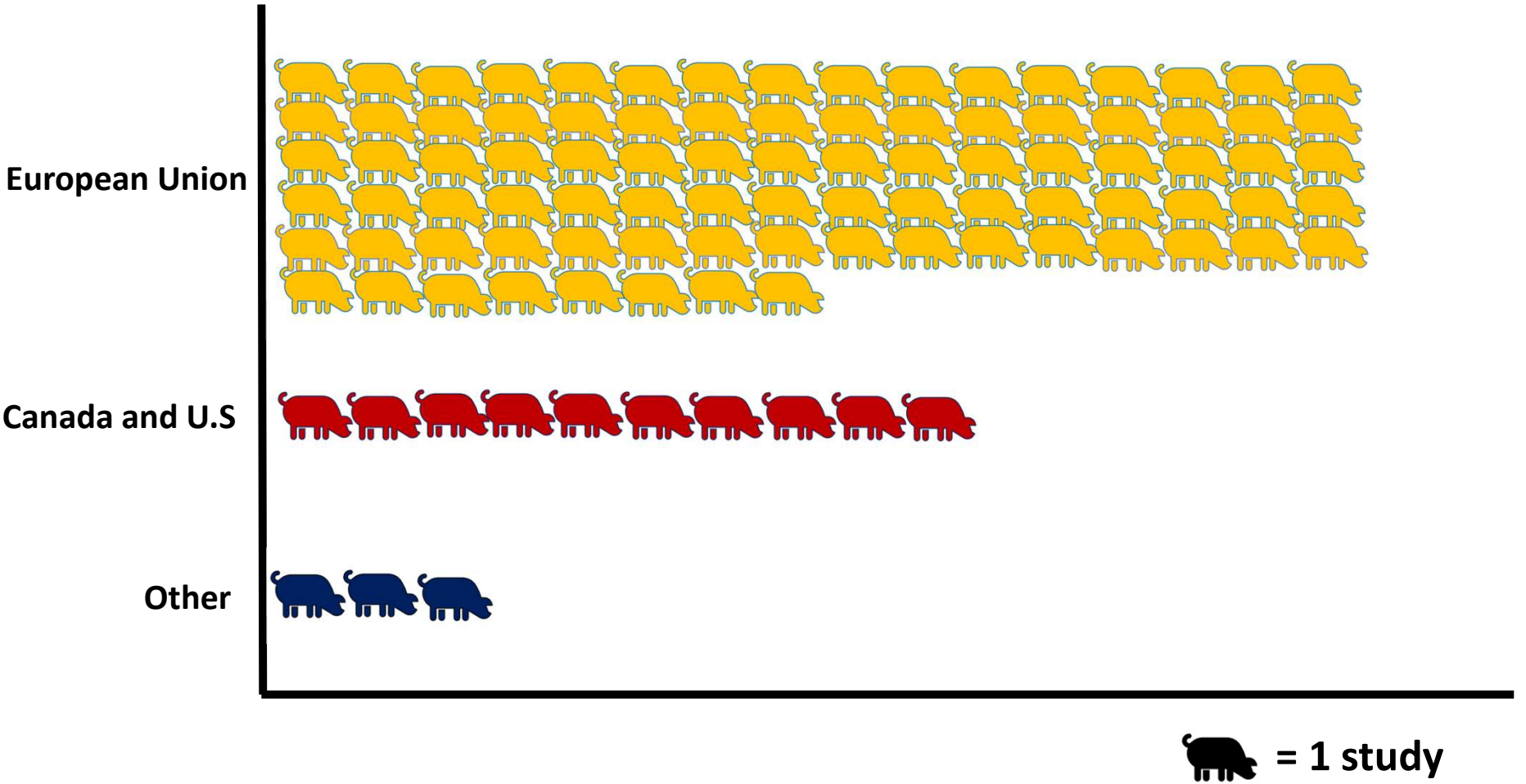


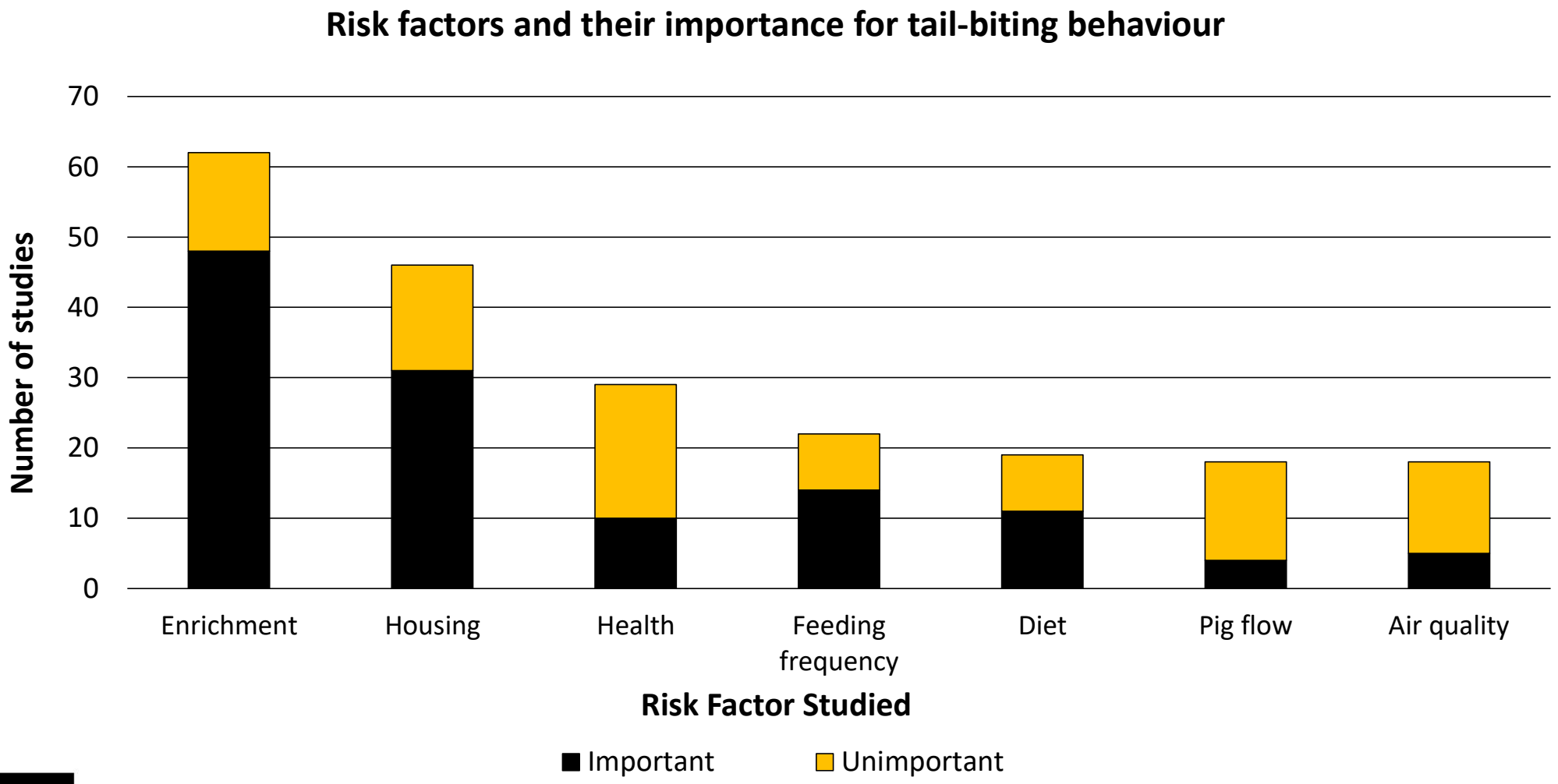


Nursing Nursery Grower Finisher Adult

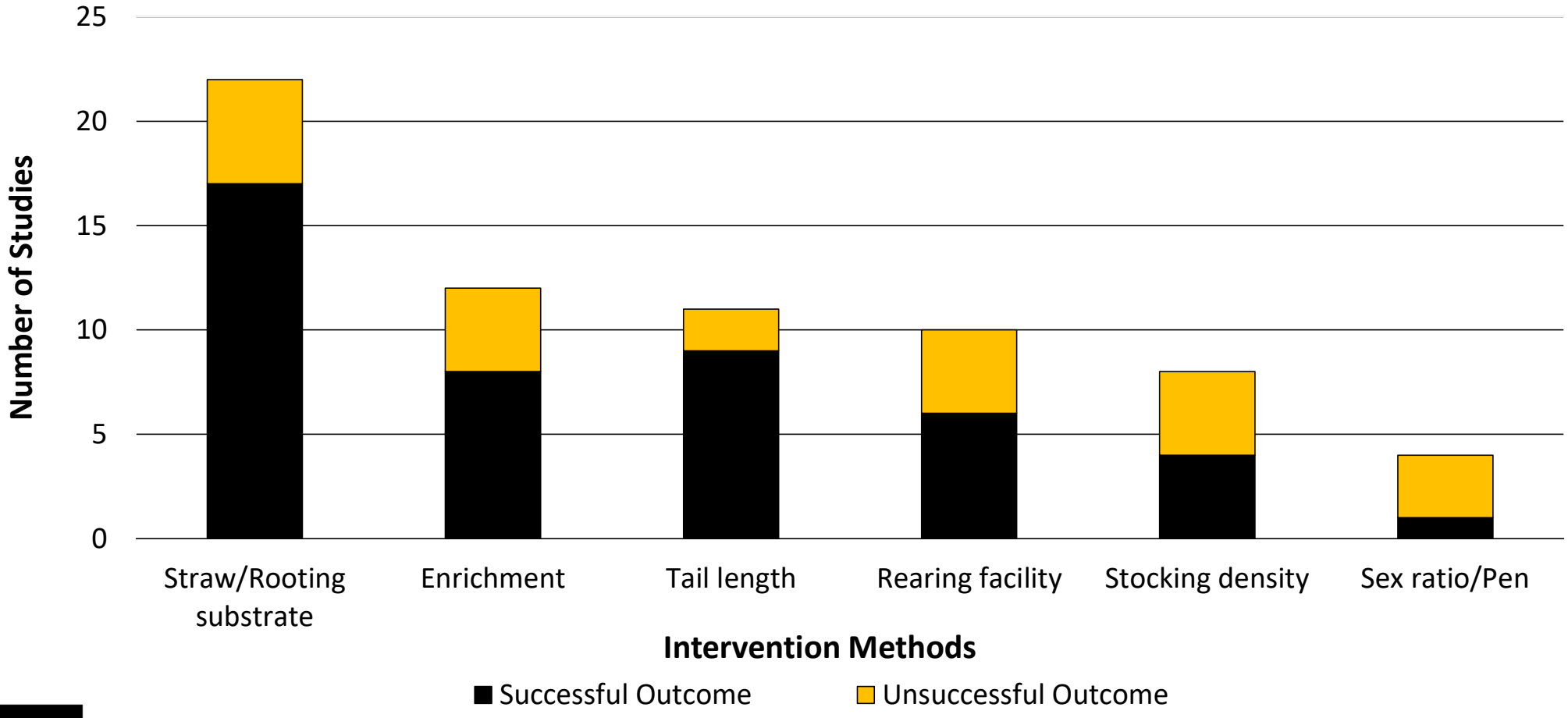


Nursery Grower Finisher Adult


European Union
Canada and U.S
Other
= 1 study


Risk factors and their importance for tail-biting behaviour
70
60
50
40
30
20
10
0
Number of studies
Enrichment
Housing
Health
Feeding frequency
Diet
Pig flow
Air quality
Risk Factor Studied
Important
Unimportant

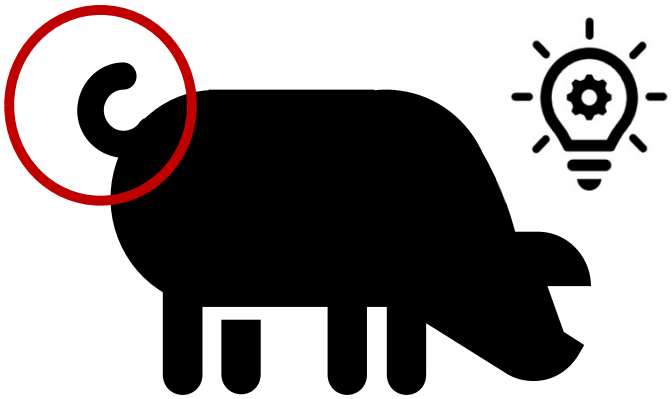
Intervention methods and the number of successful and unsuccessful outcomes



Risks and interventions

- Long-tailed pigs/tail-docking
- Rooting substrate/species-relevant enrichment

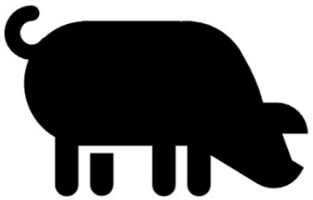
- Difficult to accurately classify risk factors and interventions
  - The timing of intervention was not always stated



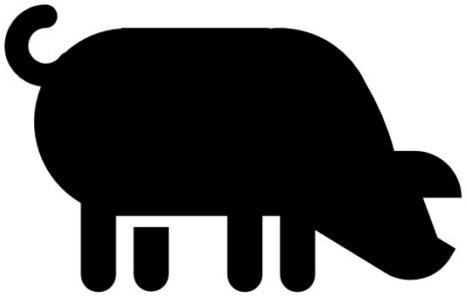
Stage of production

- Defining risks and interventions for each stage of production

Nursery

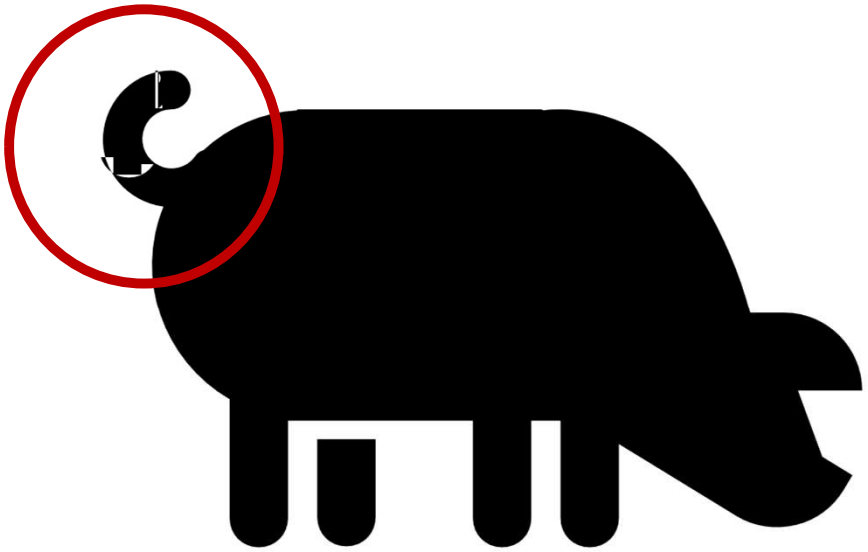


Grower



Finisher

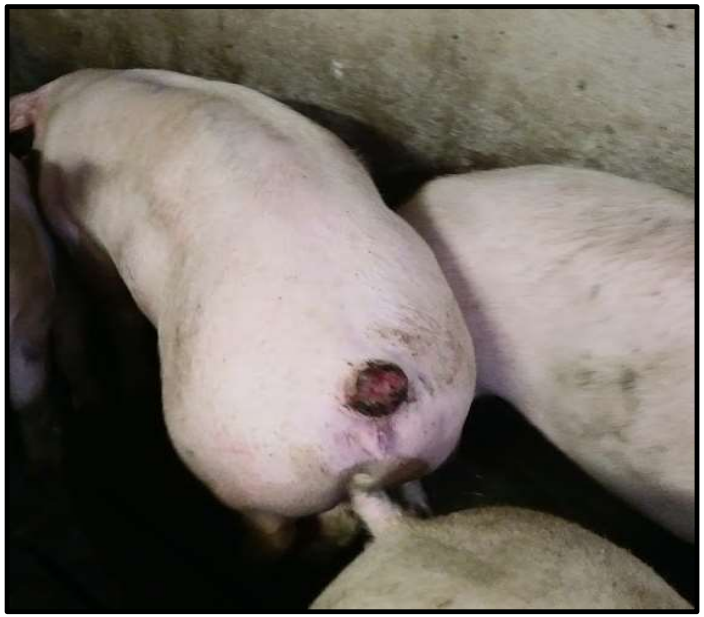
Description of an outbreak of tail-biting in an Ontario pig farm



Case History

- Farmer had 8 finisher barns
  - **3 barns had TB outbreaks**
  - Farmer **suspected mycotoxins** in the corn and wheat as triggering factor
- Pigs entered the finisher barns with no TB
  - Bitten tails began **roughly 6 weeks after entry**
- Self-described outbreak: **>50% of pigs with severe/cannibalistic wounds**
  - Mortality attributed to TB was 23.5 %

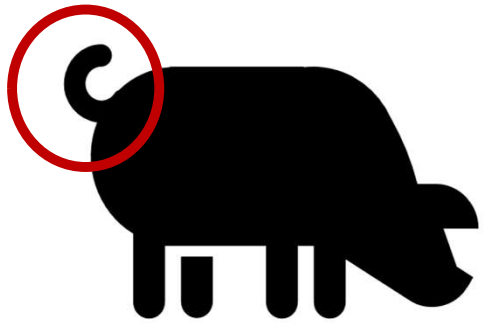
Wound Severity



- **No single factor was discovered** as a cause for Cohort 1 pigs

- Cohort 1 pigs experienced TB outbreak over the **warmest months** of the year (August – September)

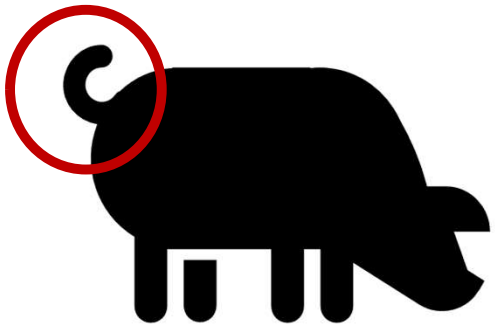
- **Possible that mycotoxins were a triggering factor** in Cohort 1
  - Feed testing records confirmed **high levels at 2.3 – 2.7 ppm**
  - Mycotoxins were high in 2018 across Ontario



- Cohort 2 pigs **did not have TB outbreaks** recorded
  - Mild tail-biting did occur, but was distributed across pens and barns

- Cohort 2 pigs were followed over the **coldest months** of the year (November – March)

- **Mycotoxins were low** in Cohort 2 feed
  - Feed testing records at **acceptable levels (<1 ppm)**
  - Mycotoxins were low in 2019 across Ontario



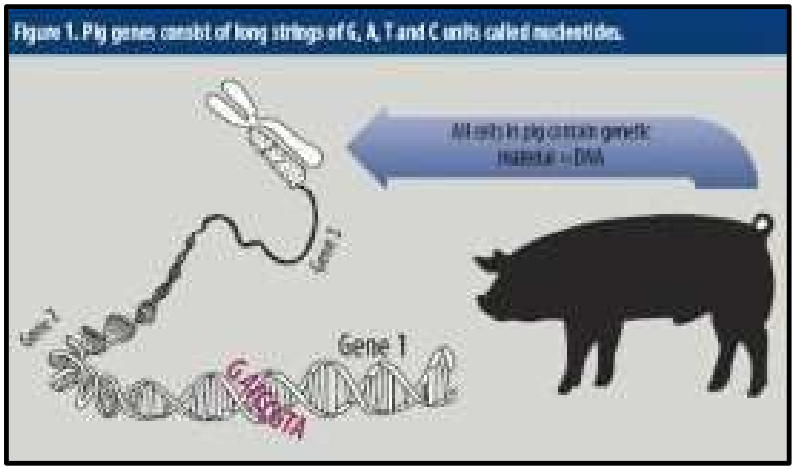
Rooting/Enrichment

- **Compatible with liquid manure** management system
- **Species-relevant**

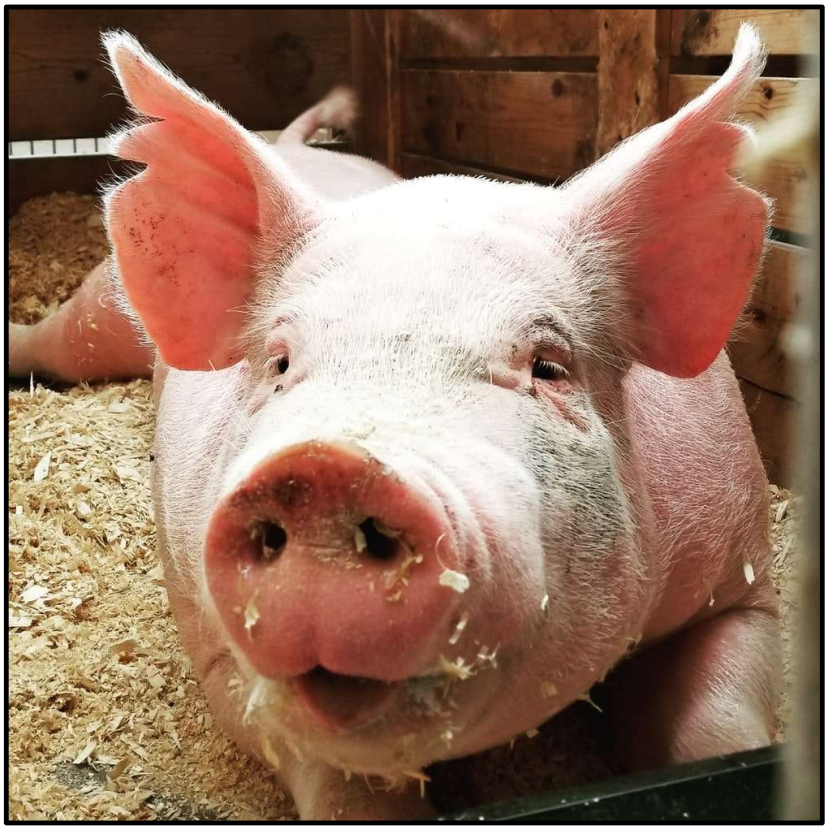
Future Research

- **Influences of diet** on abnormal behaviour
- **Influences of genetics** on abnormal behaviour

National Hog Farmer



Pig Progress



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Thank you!