



TOPIGS NORSVIN

BREEDING FOR NATURAL ROBUSTNESS

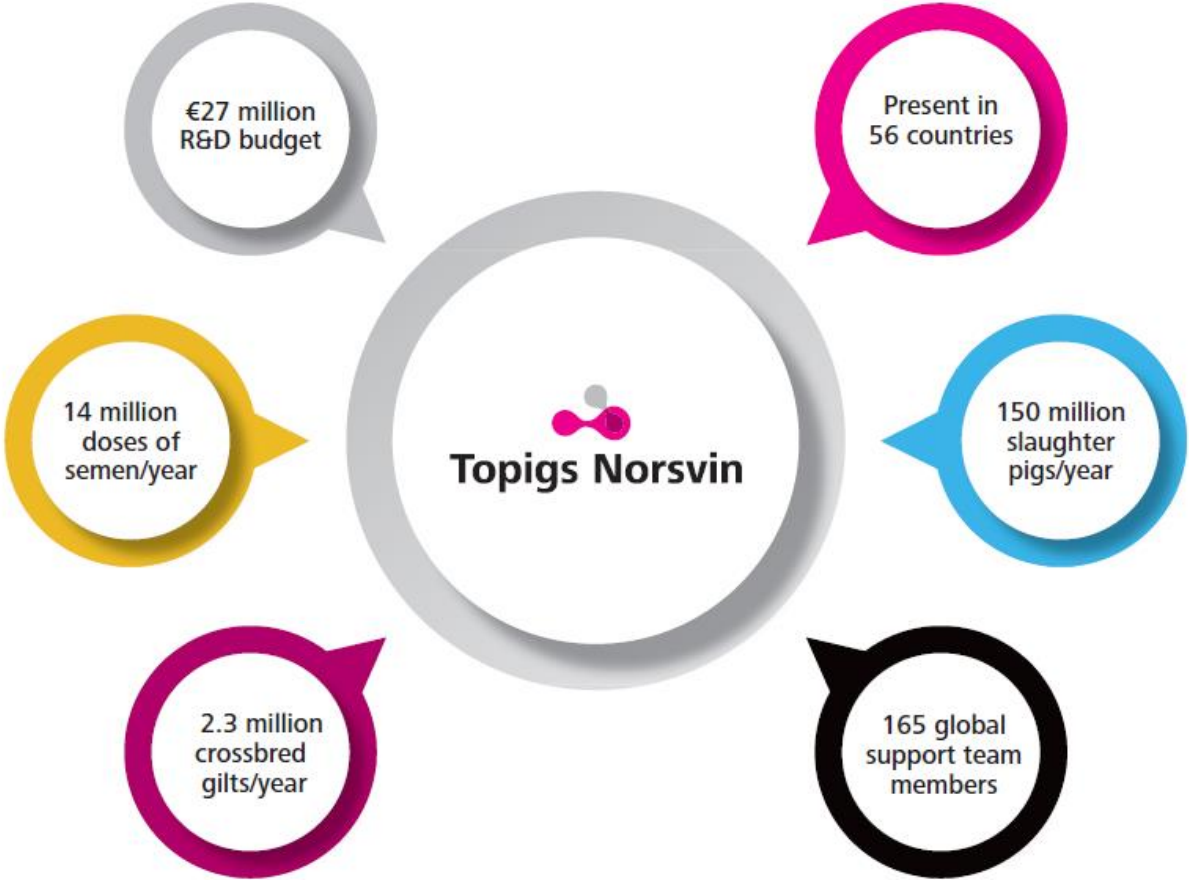
23 October 2023 | Jonas Žultauskas | Key Account Manager | Šlokenbėkas pils

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Key figures of Topigs Norsvin



#1
SOWS

#2
BOARS

Challenges & Opportunities

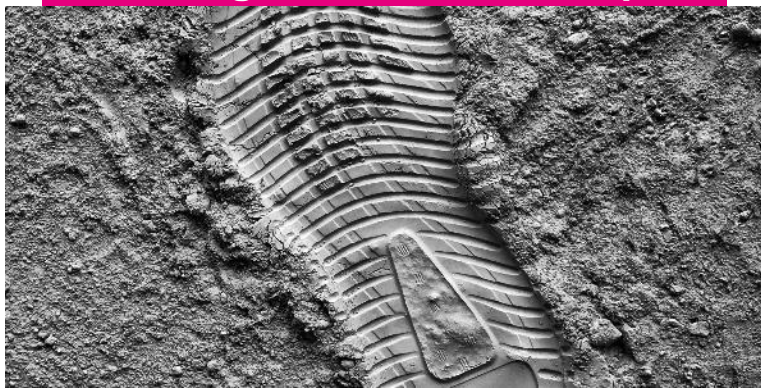
Reducing antibiotics



Free farrowing¹



Reducing environmental impact



Group housing



Our solution:
Pigs that thrive in
these type of
production
environments

¹picture courtesy of Brummelhuis

The image shows a pig farm with several piglets. Overlaid on the scene are several large, stylized virus particles in a teal color. The virus particles have a spherical core with numerous protruding spikes and some internal circular structures. A semi-transparent pink banner is positioned across the middle of the image, containing the text 'Trend 1 – Emerging diseases'.

Trend 1 – Emerging diseases

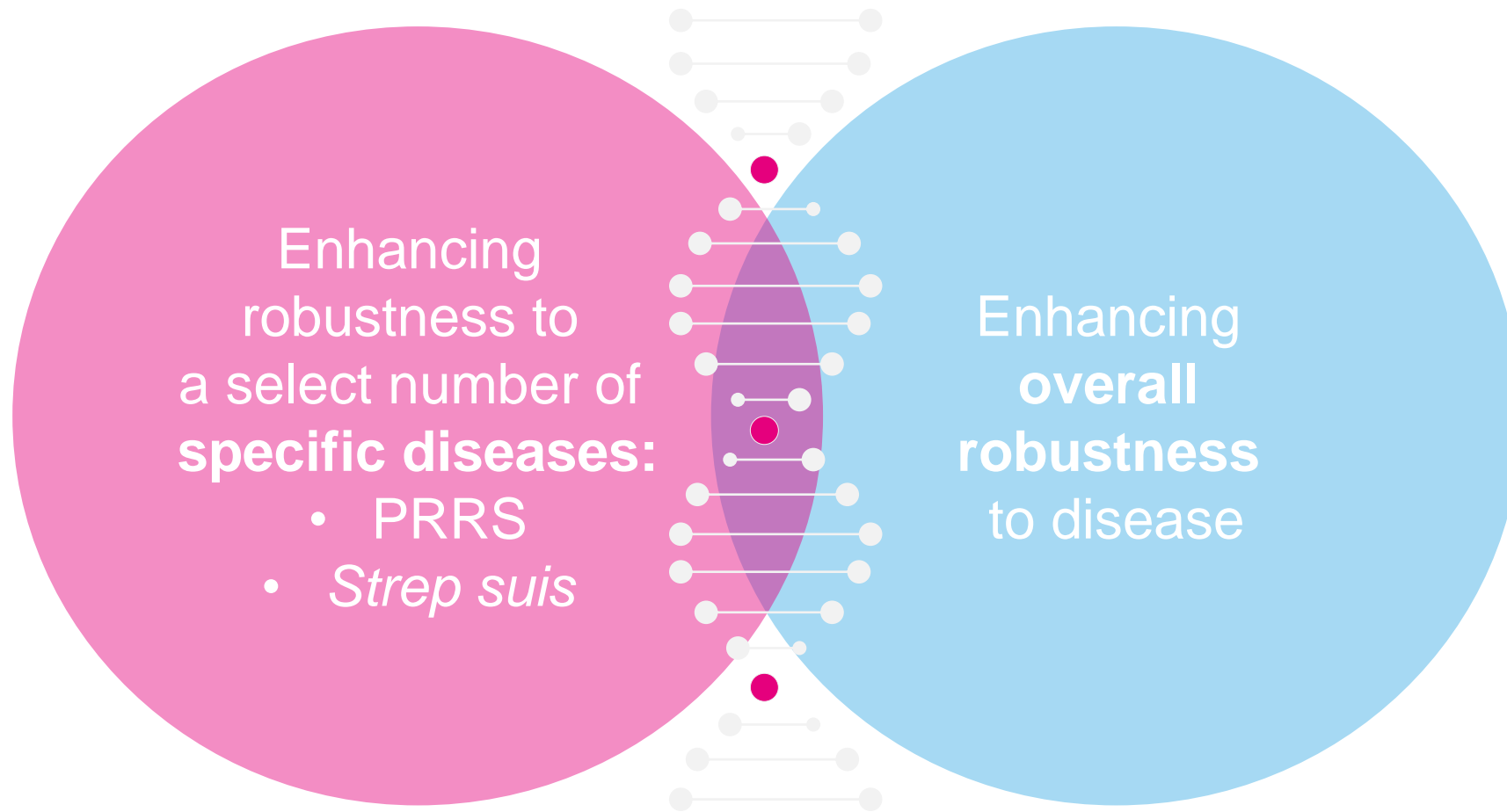
Challenges for producers

- Production losses
- Increased costs
- Lost revenues
- Shifting export markets
- Damage to industry image



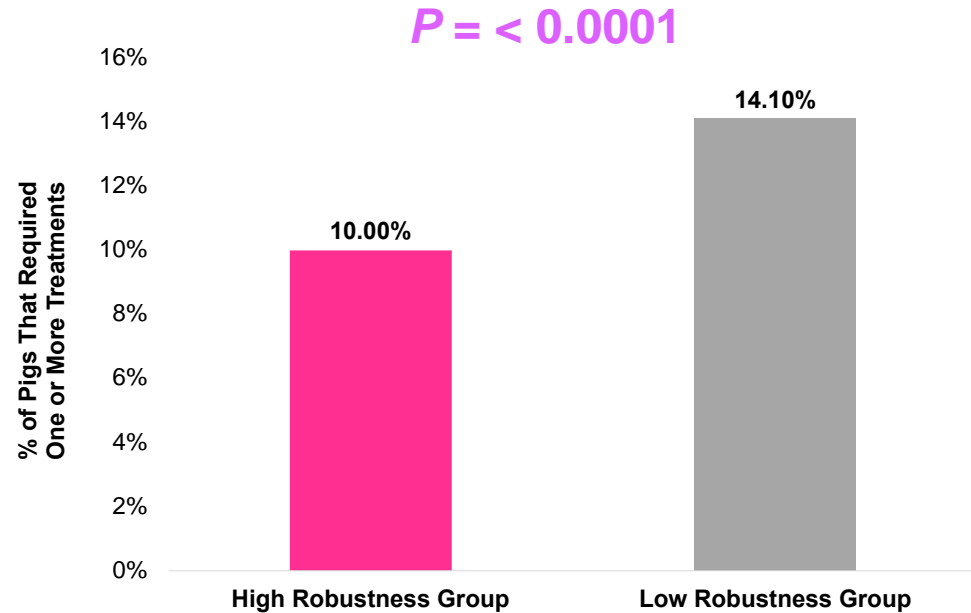
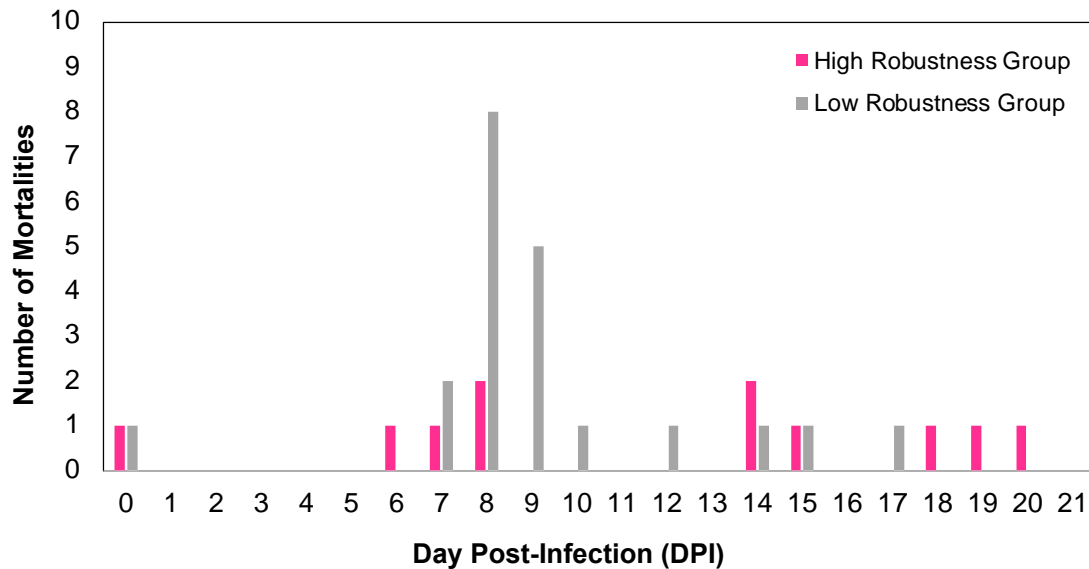
Topigs Norsvin's Approach to Enhancing Robustness to Disease

Facilitated by genetic selection for naturally occurring genetic variation



Validation Study Shows: Breeding for Robustness Works!

Sires selected based on high vs. low **breeding values for robustness** to produce two progeny groups of 648 pigs each



Twice as many **Low Robust** pigs died between 0 and 21 days post-PRRS challenge than **High Robust** pigs...

...and **High Robust** pigs also required significantly fewer antibiotic treatments!

A close-up photograph of several pig ears, showing the texture of the skin and the shape of the ear flaps. The background is blurred, suggesting a group of pigs in a farm setting.

Trend 2 – Increasing concerns about animal welfare

Challenges for producers

- Adapt production management
 - (no tail docking; group housing; free farrowing; non castration)
- Higher costs
- Risk for production losses
- Pressure to reduce mortality/defects



We believe in **Balanced Breeding**

■ **Production**

- More piglets born
- Faster growth rate
- Higher carcass value

■ **Welfare**

- Lower mortality
- Better disease resistance
- Stronger constitution

Balance

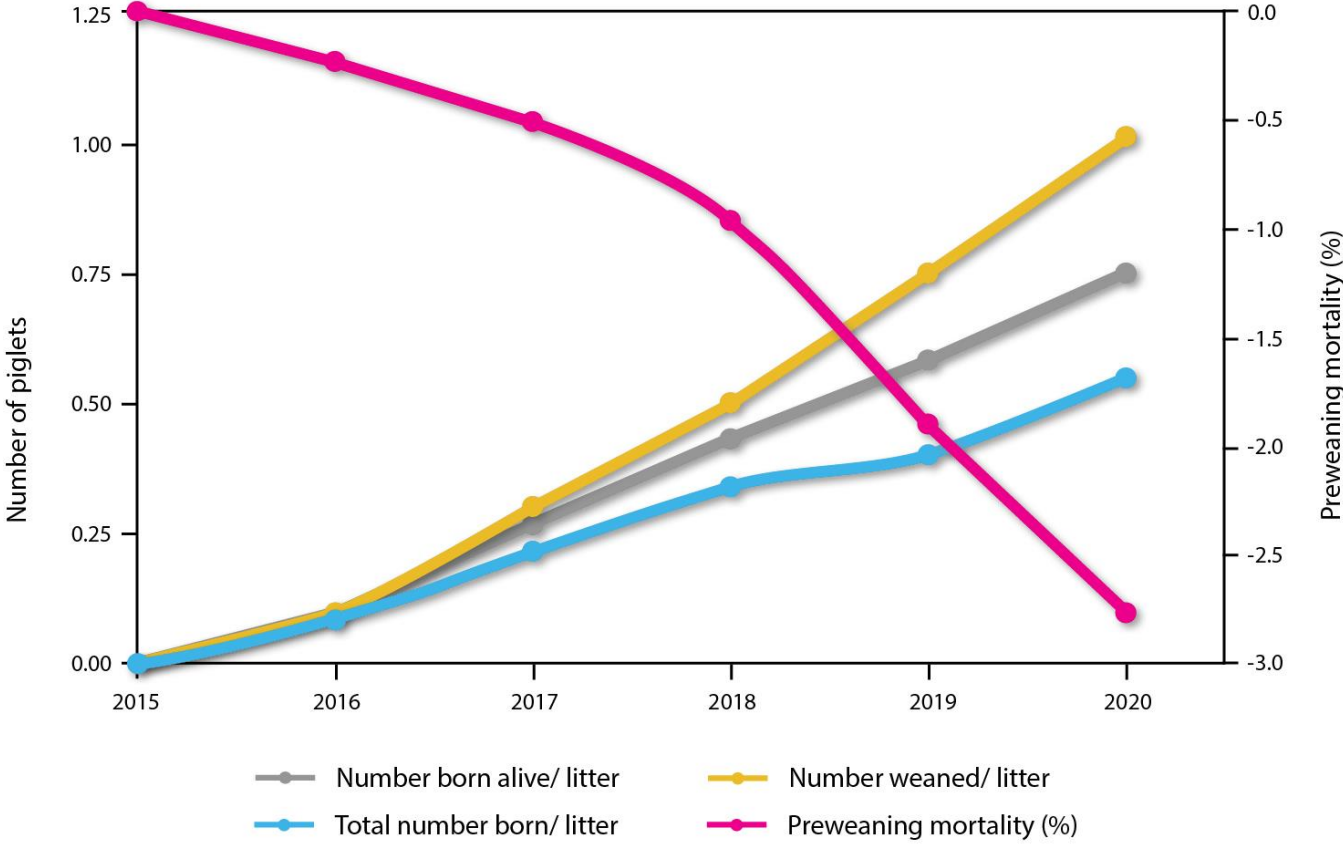


Balanced breeding a hot topic?

We started this way of breeding.

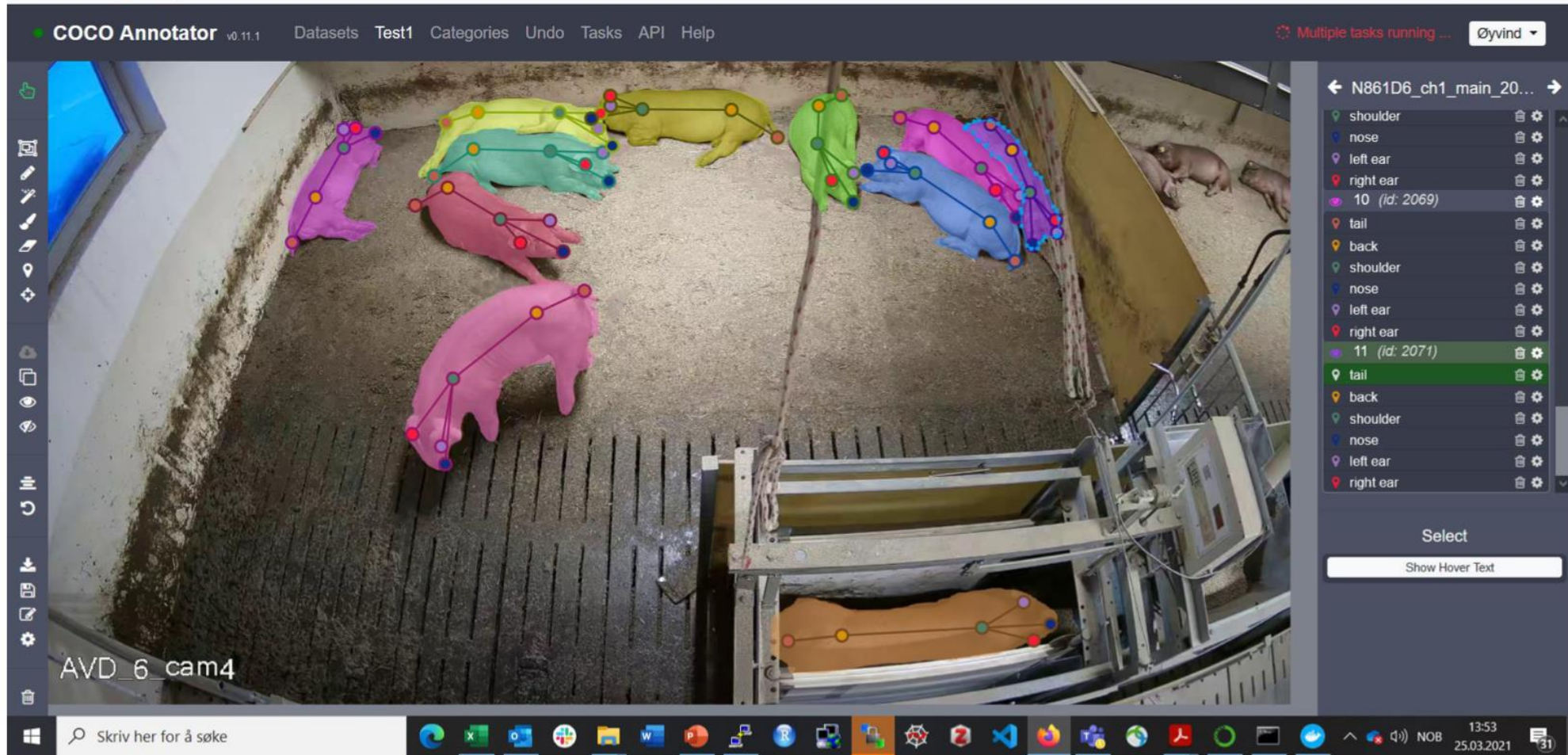
Genetic progress

Genetic trend TN70 at nucleus level



Where Are We Going?

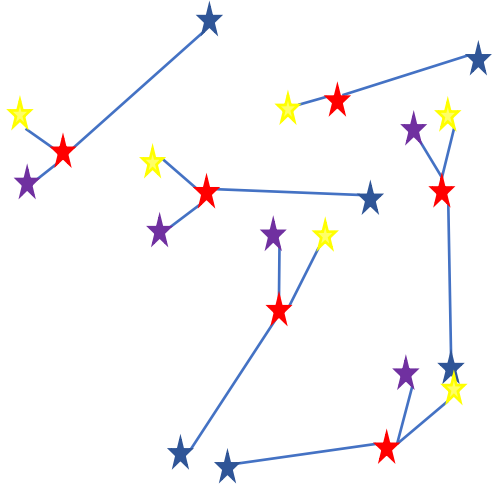
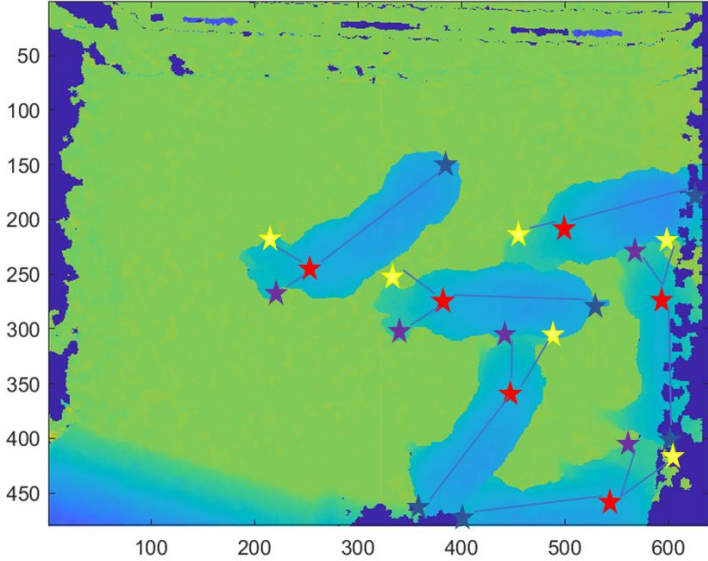
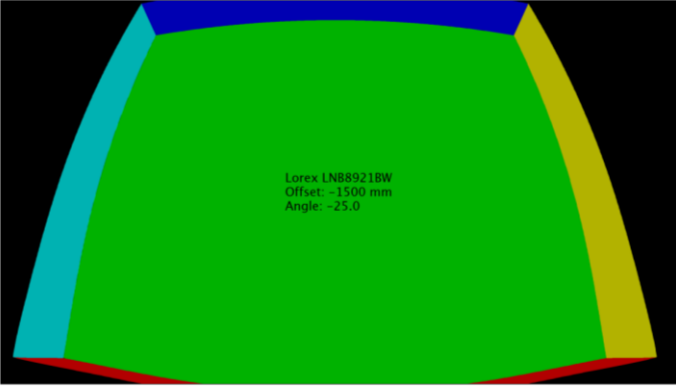
- Camera technology



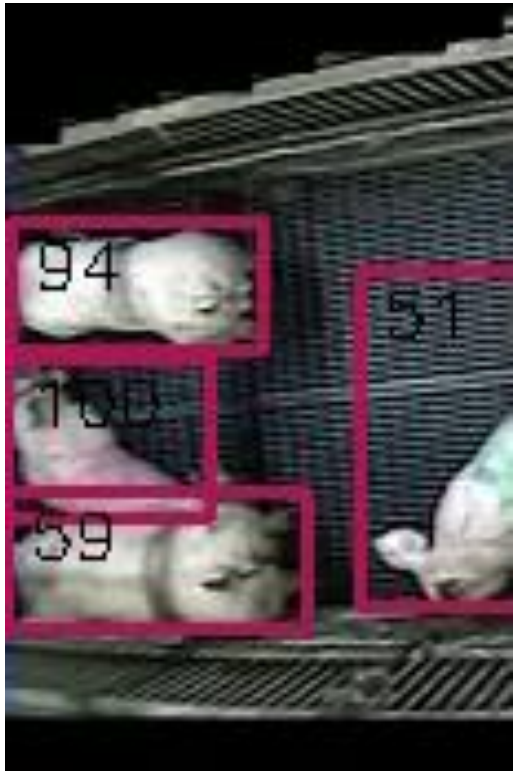
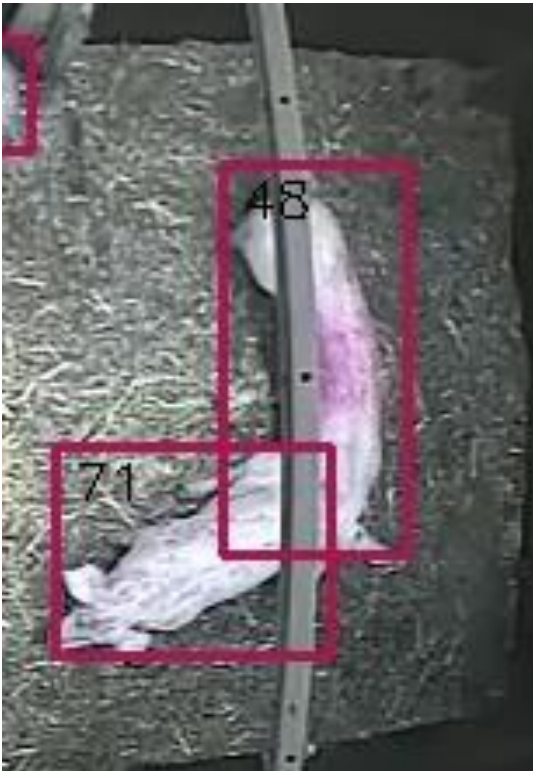
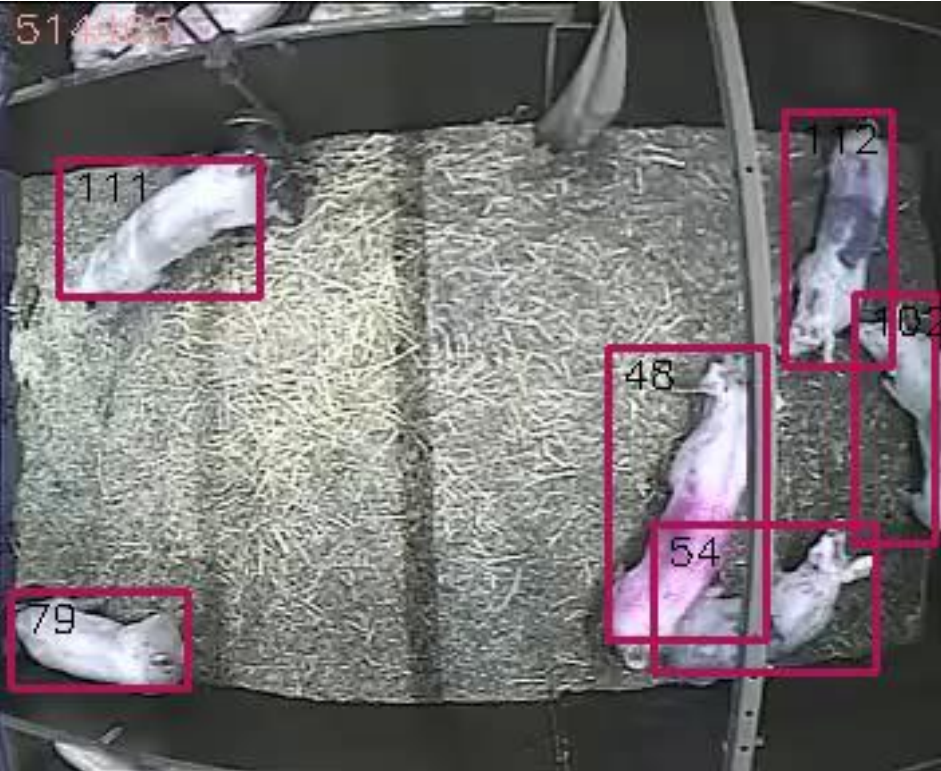
Surveillance cameras for tracking and behaviour analysis

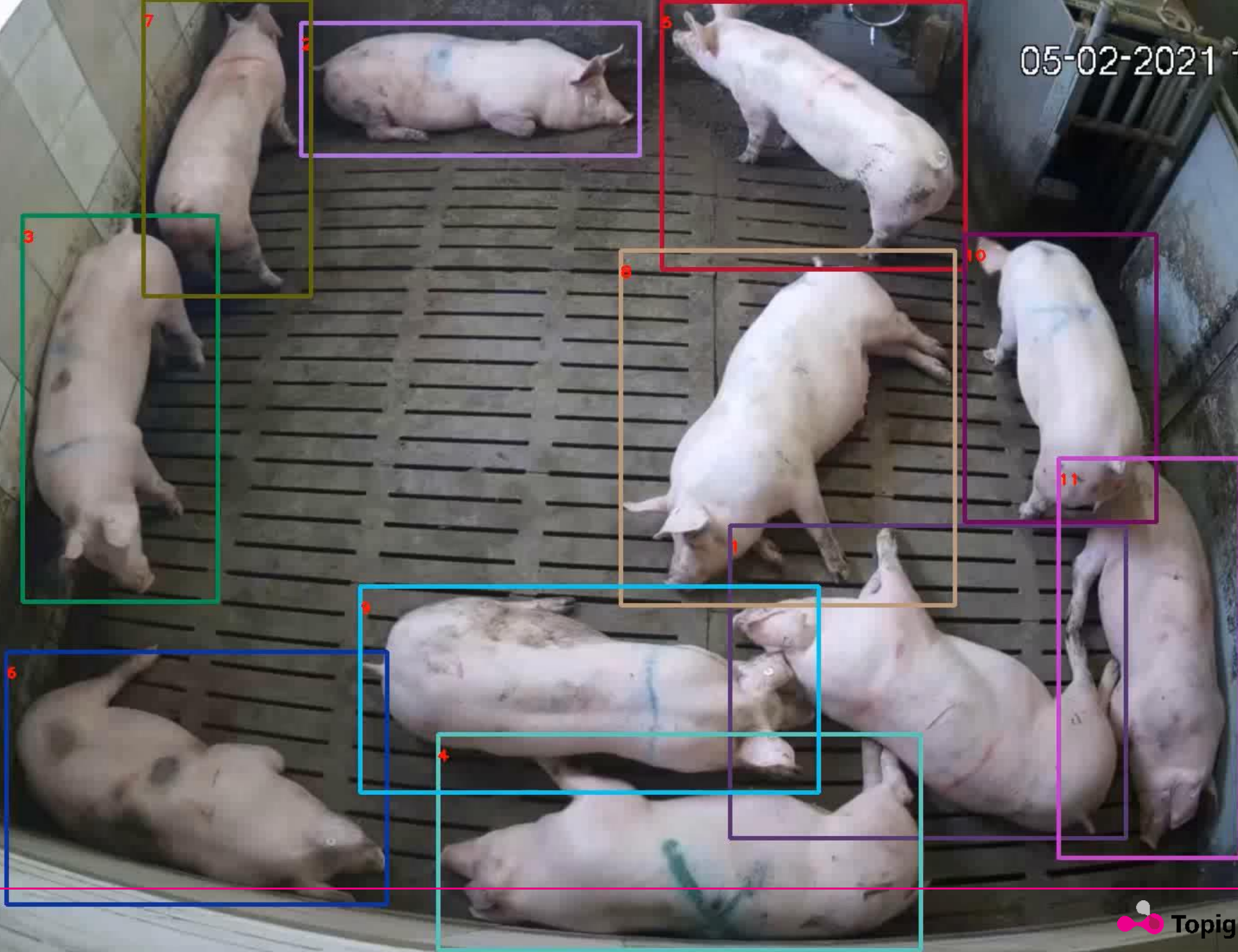


Tracking by detection



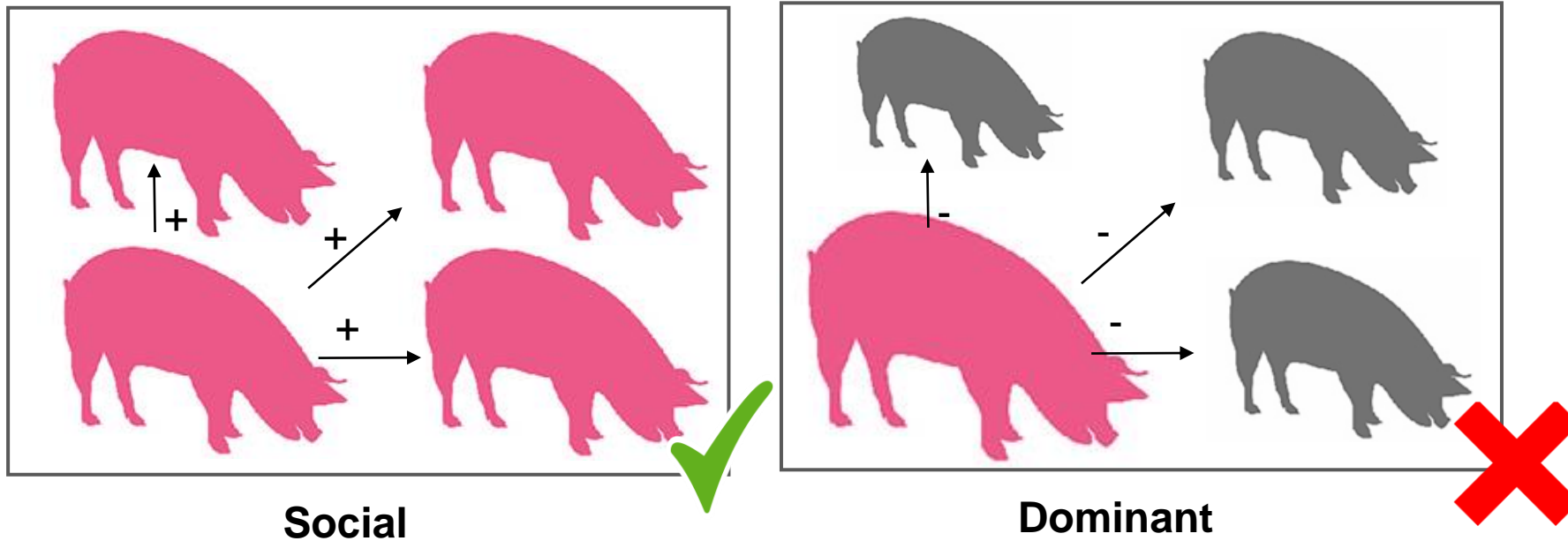
Know the location of each individual in the pen over time



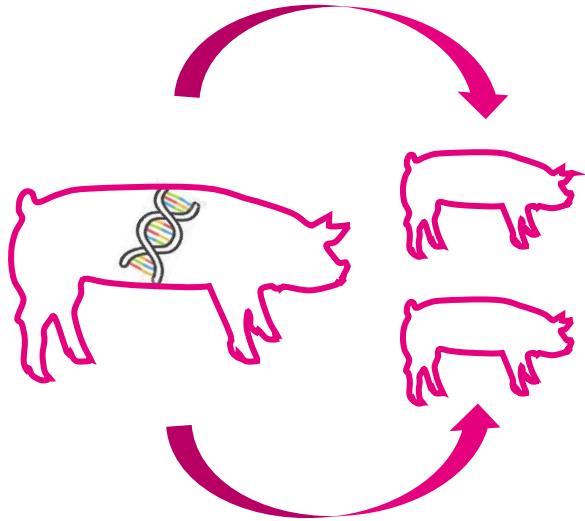


Selection for social animals

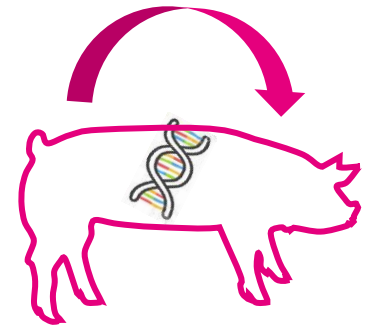
In-direct genetic effect of growth rate



Chaser
Indirect genetic effect

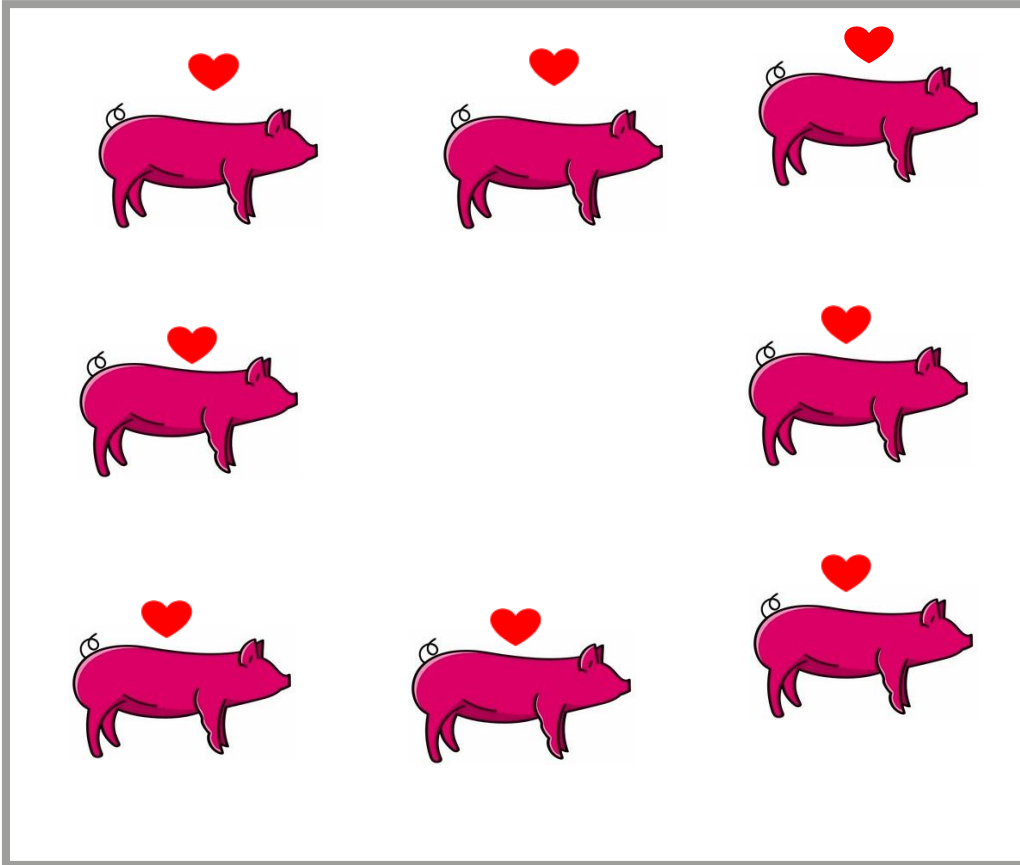


Victim
Direct genetic effect

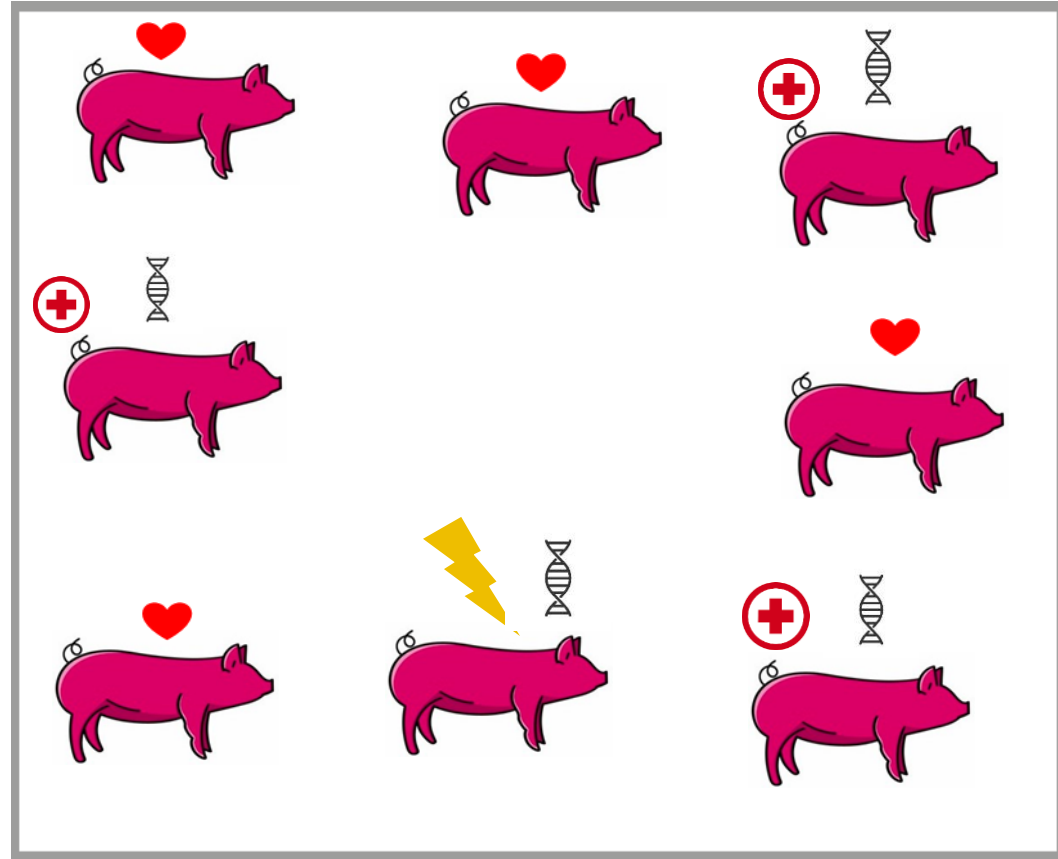


With social interaction models we can estimate both!

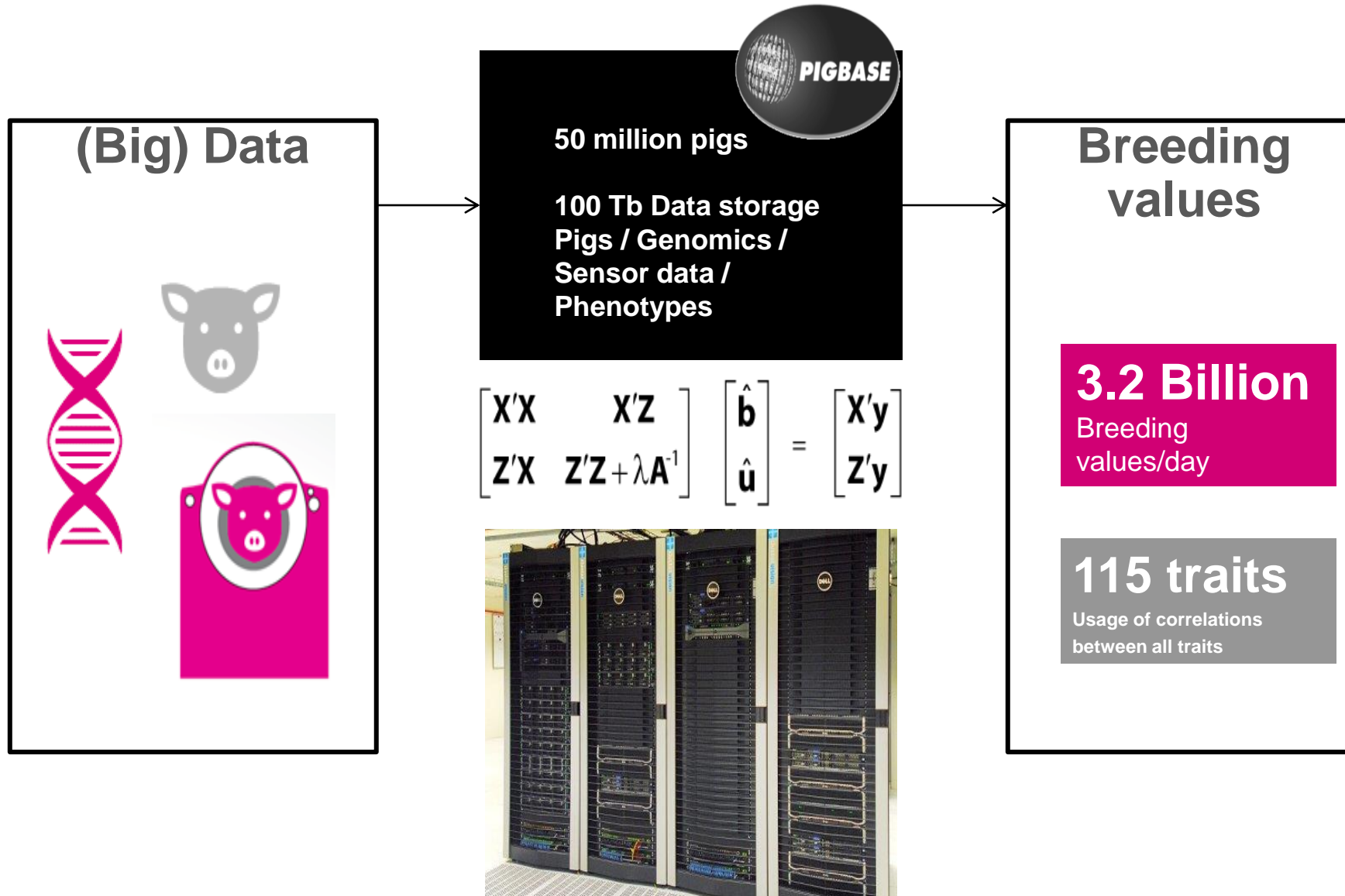
Positive group



Negative group



Information technology



Innova Canada Site 1 April 2023
Camera – collecting sow and piglets behaviour data
Breeding sow for future sow friendly production systems



Innova Canada Site 1
May 15th 2023
First farrowings





First experience:

- same results (litter size and mortality) as traditional farrowing crate
- Heavier piglet weaning weights
- Workers like to work with the system
- Sow enjoy to be in free farrowing: natural behaviour!





Farrowing Section

05-19-2023 02:53:44



LOREX

05-22-2023 02:22:23



LOREX





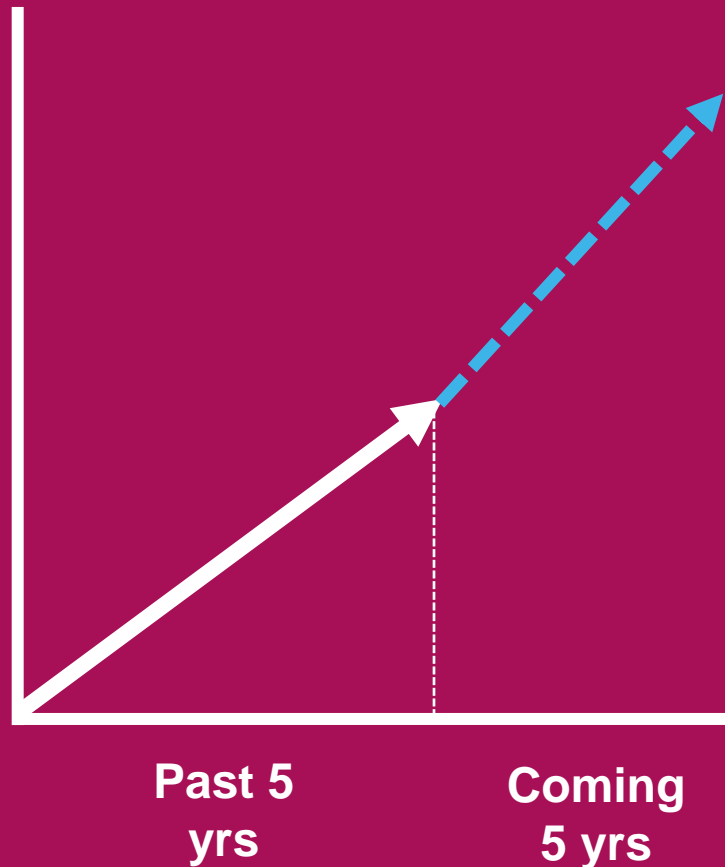
Trend 3 – Rising feed prices

Challenges for producers

- High feed costs
- High costs of production



Genetic progress in feed conversion



-0.20
feed conversion / finisher

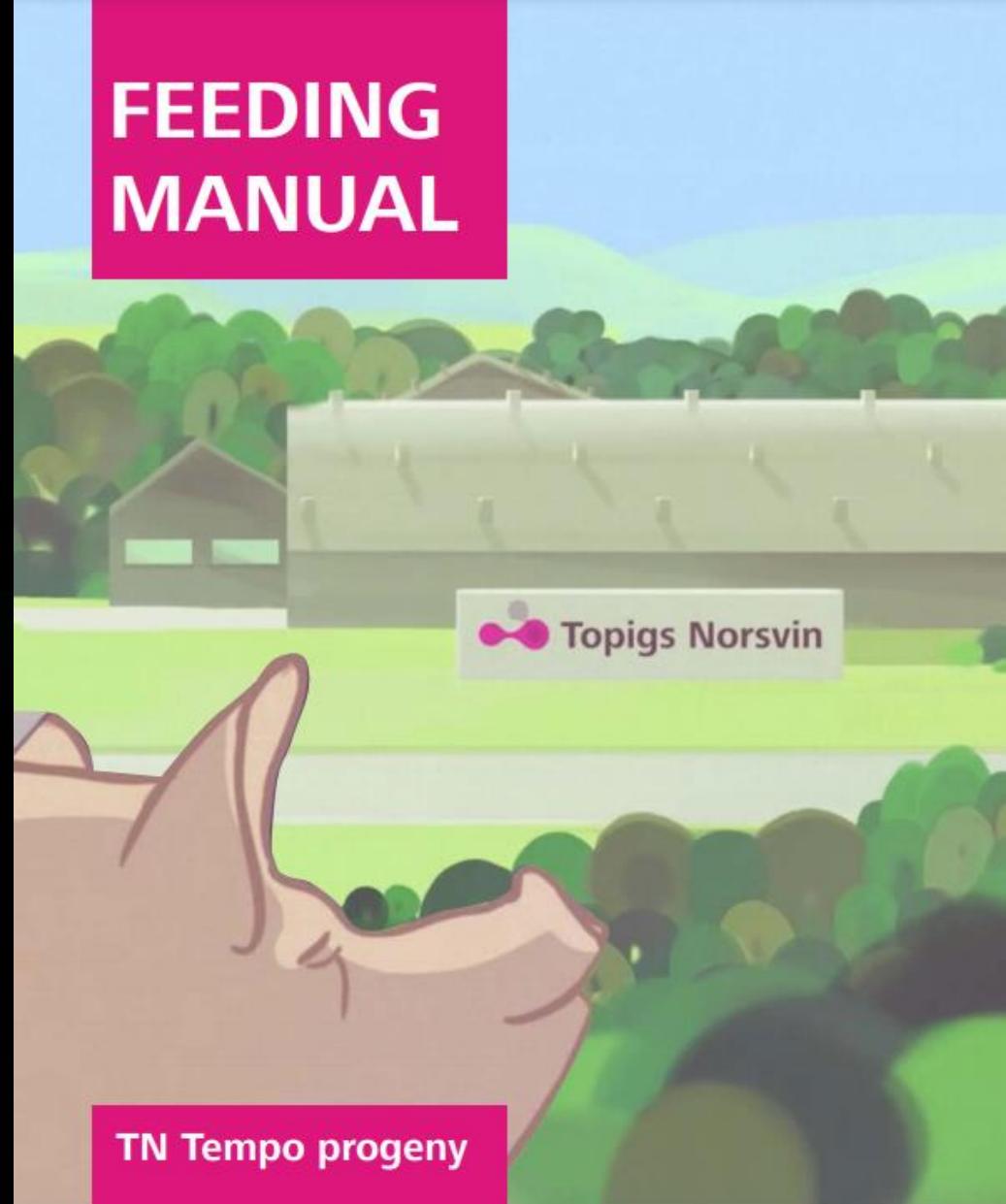
-\$6 / finisher
cost price / finisher

Feed manuals



5 TIPS TO FEED TN TEMPO

CHRIS OPSCHOOR



FEEDING MANUAL

TN Tempo progeny

Topigs Norsvin Global Nutrition Service
Updated: 02-04-2020 © Copyright Topigs Norsvin

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Total Feed Efficiency

Over the last 5 years, Topigs Norsvin achieved a reduction of over 20 kg feed used per marketed finisher.

We can save up to 9000 acres per year*

Trend 4 – Increasing labor shortage in agriculture



Source: <https://mkkbelangen.nl/algemeen/millennials-wie-zijn-dit-precies/>



Source: <https://www.dasym.com/the-third-urbanization-wave/>

Challenges for producers

- Shortage of labor on farms and in packing plants

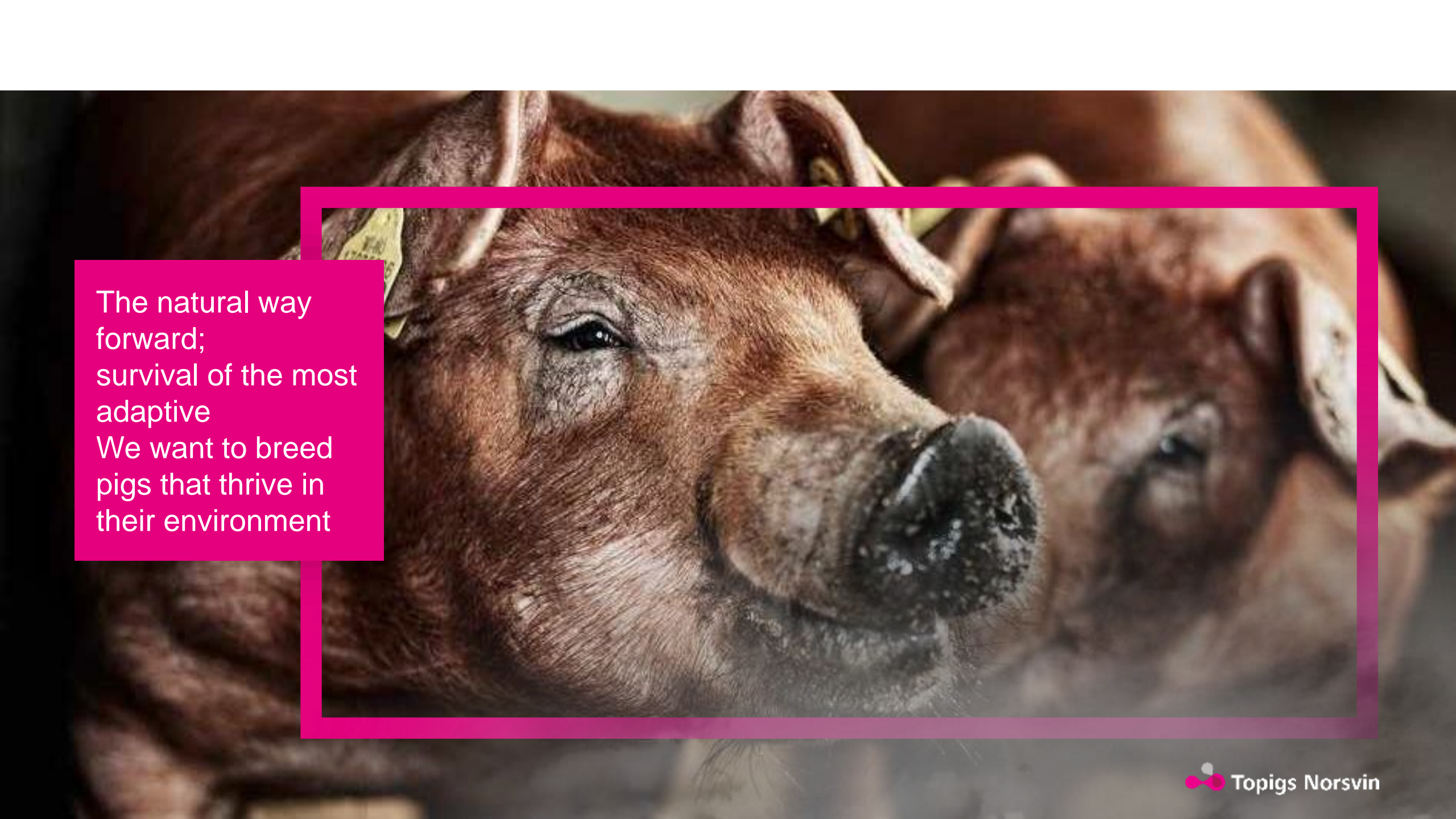


Self sufficient sows



Uniform pigs





The natural way
forward;
survival of the most
adaptive
We want to breed
pigs that thrive in
their environment

PROGRESS IN PIGS. EVERY DAY