Topigs Norsvin: From research to successful customer value

Hans Olijslagers, CTO
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All over the world

54 present in 54 countries

2nd largest swine genetics company in the world

€ 22,5 million R&D budget

28 scientists have a PhD degree
Nucleus breeding infra structure

Canada:
- Large White (Z-line)
- Tempo (E-line)

Norway:
- Norsvin Landrace (L-line)
- Duroc (D-line)

Europe:
- Large White (A-line)
- Pietrain (P-line)
Topigs Norsvin Delta Norway and Canada

> 10,000 boars per year scanned
Boar testing facility Manitoba $ 15 Million opened
Balanced breeding

- Society demands:
  - Low environmental impact
  - High level of animal welfare

- Economic production:
  - Low costs
  - High value

Farming conditions

Highest quality genetics

Balanced breeding
- Robust & Strong
- Efficient & Quality
TN70 breeding goal

- Norsvin Landrace
- Z-line (Large White)

Pie chart:
- Mothering ability: 23%
- Sow longevity: 9%
- Robustness: 9%
- Finisher efficiency: 29%
- Carcass quality: 12%
- Litter size: 22%
- Meat quality: 4%
**Breeding goal Anno 2019**

- Important change in breeding goal implemented in 2010 and 2016, focusing stronger on finishing and carcass traits in Z-line and on piglet survival & robustness on Norsvin Landrace

- Genomic selection implemented in 2013/2014

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
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<tbody>
<tr>
<td>Finisher efficiency</td>
<td>Daily gain, 0-40 kg</td>
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<tr>
<td></td>
<td>Daily gain, 40-120 kg</td>
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<tr>
<td></td>
<td>Feed intake, 40-120 kg</td>
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<tr>
<td>Carcass value</td>
<td>Loin depth, mm</td>
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<td></td>
<td>CT Lean meat percentage, %</td>
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<td>CT Carcass yield, %</td>
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<td>Meat quality</td>
<td>Drip loss, %</td>
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<td>Boartaint</td>
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<tr>
<td>Litter size</td>
<td>Total number born</td>
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<td></td>
<td>Stillborn piglets</td>
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<tr>
<td>Mothering ability</td>
<td>Mothering ability, survival till weaning, %</td>
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<tr>
<td></td>
<td>Dead piglets 21 days</td>
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<tr>
<td></td>
<td>Litter weight 21 days, kg</td>
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<tr>
<td></td>
<td>Number teats</td>
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<td>Number inverted teats at 120 kg</td>
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<tr>
<td>Sow longevity</td>
<td>Interval weaning – insemination</td>
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<tr>
<td></td>
<td>Shoulder sores at weaning, points</td>
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<td></td>
<td>Body condition score at weaning, points</td>
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<tr>
<td></td>
<td>Sow longevity, cycles</td>
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<tr>
<td>Robustness</td>
<td>Leg quality (5 different traits), points</td>
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<td></td>
<td>CT Score Osteochondrosis, points</td>
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<tr>
<td></td>
<td>Umbilical hernias, %</td>
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<td></td>
<td>Scrotal and inguinal hernias, %</td>
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<td>Cryptorchids, %</td>
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Sows Balanced Breeding Goal
Every piglet extra should be weaned at the sow

Piglet weighing protocol:
- Weighing of newborn piglets and piglets at 21 days
- Individual teat counting
- For strong piglets and good mothering abilities.
- Worldwide 750,000 measurements per year
Good mothers:
Optimizing efficiency of farrowing houses

Farrowing houses most limiting and expensive part

Good feed intake capacity

Lots of heavy piglets stimulate milk production

Lots and heavy piglets with good finisher performance characteristics
Robust sows: Mothering abilities help the piglet for life

Piglet activity related to the breeding value for mothering abilities
Power piglets - Sustainable survivors

- Good immunity
- Cope with different climate
- Digest various feeds
- Active and social

→ High health
→ High performance
→ Low antibiotic use
→ Low-maintenance
Robust finishers: social & boar taint free

- Uncomplicated
- Undisturbed
- High performance
- Efficient

Breeding on:
- Robustness
- Immunity
- Social behavior (tail biting)
- Being active
Thanks for attention

See more at www.topigsnorsvin.dk