The Insider

Topigs Norsvin
PROGRESS IN PIGS

Topigs Norsvin Canada & USA | Summer 2019

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TN Tempo. Bred for Robustness.

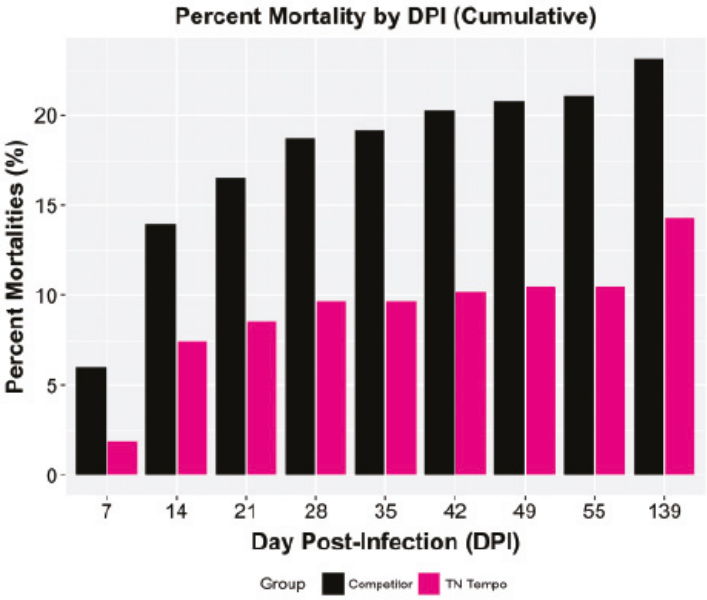
Independent research trial demonstrates robustness advantage

Robustness is an important part of Topigs Norsvin's breeding program. Breeding for enhanced robustness is critical not only to improve health, but also the welfare and productivity of livestock. Over the years, customers from around the world have commented on the robustness of Topigs Norsvin genetics, in particular, the seemingly natural robustness of TN Tempo-sired pigs. Based on this feedback, a study was designed, in partnership with the research group of a Midwest integrator, to assess the robustness of TN Tempo-sired progeny vs. progeny sired by a leading competitor sire in the U.S. market.

Trial pigs were the progeny of TN70 females mated to TN Tempo or the competitor line. All breeding and farrowing events occurred at the same commercial sow farm and piglets were farrowed over the course of two weeks. Pigs were weaned at approximately 21 days of age, then transported to a commercial research facility. Approximately four weeks later, 726 TN Tempo-sired pigs and 729 competitor-sired pigs were experimentally infected with the 1-7-4 PRRS virus (PRRSV) isolate via intramuscular injection. Consistent with PRRSV-infection in commercial settings, pigs became naturally infected with a number of secondary bacterial pathogens, including: *Haemophilus parasuis, Actinobacillus suis, Streptococcus suis, Salmonella, Pasteurella multocida, and Escherichia coli*, as a result of the immunosuppressive effect of PRRSV-infection.

Overall mortality rate post-infection was 18.8%, indicating successful establishment of a severe disease challenge model, for which TN Tempo-sired pigs outperformed the competition across the board. Compared to competitor-sired pigs, TN Tempo-sired pigs had significantly better ADG, ADFI, FCR (on a live weight basis or carcass basis), caloric conversion, days on feed, market weight, hot carcass weight, and carcass yield. No significant difference was detected between genetic groups for backfat or percent lean.

By far, the most remarkable difference between genetic groups was the magnitude of the difference in mortality rate and, subsequently, percent of full-value pigs. Overall, 60% more competitor-sired pigs died than TN Tempo-sired pigs, leading to 84.6% full-value TN Tempo-sired pigs vs. 74.2% full-value pigs for the competitor group. The superior performance and survivability of TN Tempo-sired pigs post-challenge resulted in an economic advantage of $9.23 per pig placed, compared to pigs sired by the competitor line.



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Results from this trial reveal that TN Tempo-sired pigs are naturally more robust to disease challenge than pigs sired by a leading competitor line in the U.S. market. Not only do these results validate observations from the field, but the construct of Topigs Norsvin's breeding program. Topigs Norsvin's breeding program was designed to improve robustness to disease and other challenges by using data collected from commercial environments for genetic evaluation, emphasizing balanced breeding, and selecting for traits such as mothering ability and piglet vitality to produce strong pigs from birth to market.

While we celebrate the already-evident robustness of TN Tempo-sired pigs, with recent updates to the breeding goal, including selection based on WUR genotype (a genetic marker for natural PRRS resistance) and finisher mortality, in combination with on-going genetic analyses of the data generated from this trial, we look forward to breeding TN Tempo pigs for even greater robustness to disease and other environmental challenges. These efforts will not only lead to healthier pigs, but pigs that are easier to manage, have improved animal welfare, less dependence on antibiotics, and increased profitability and efficiency of production.

For more information, and to download the economic impact report from this trial, visit www.tntempo.com

Trial results
Wean-to-finish performance

	TN Tempo*TN70	Competitor*TN70
No. pigs	730	729
Wean age, d	20.4	20.5
Weaning weight	13.7 lbs 6.2 kg	13.7 lbs 6.2 kg
Market weight	**275.0 lbs** **124.7 kg**	269.9 lbs 122.4 kg
Avg daily gain	**1.70 lbs/d** **771 g/d**	1.58 lbs/d 718 g/d
Days on feed, d	**158**	164
Avg daily feed intake	**4.06 lb/d** **1.84 kg/d**	3.88 lbs/d 1.76 kg/d
FCR, live	**2.39**	2.45
Carcass yield, %	**74.2**	74.0
FCR, carcass	**3.22**	3.31
Marketed, %	**84.6**	74.2
Dead/removal, %	**13.3**	22.1
Cull light, %	**1.3**	3.1
Hot carcass weight	**204.6 lbs** **92.8 kg**	201.9 lbs 91.6 kg
Backfat	0.68 in 17.2 mm	0.67 in 17.0 mm
Loin depth	2.50 in 63.6 mm	2.54 in 64.6 mm
Lean meat, %	55.9	55.9
Difference in MOFC1/pig placed (no lean premium)	**+ 8.44 USD** **+11.39 CAD**	-
Difference in MOFC1/pig placed (lean premium)	**+ 9.23 USD** **+12.45 CAD**	-

[2]*Margin over feed costs*
*Values in **bold** indicate a significant difference from competitor-sired pigs (P<0.05)*

Topigs Norsvin USA announces new Meat Scientist

Key appointment enhances Topigs Norsvin Research team

Topigs Norsvin USA is pleased to announce the appointment of Dr. Dustin Boler as Meat Scientist. Dr. Boler's responsibilities will encompass research and development activities, sales and marketing support, customer technical service, and allied industry support. His focus will be on the North American market. .

Previously, Dr. Boler was Associate Professor in the Meat Science Laboratory at the University of Illinois. His research activities focused on fresh and processed meat quality of pork, beef, and poultry. Dustin interacted with various industry partners to evaluate the effects of on-farm practices on carcass characteristics, cutability, and quality.

Additionally, he investigated further processed meat quality, especially issues relating to fat quality and bacon production.

Dr. Dustin Boler

Organic Swine Production in Denmark with Topigs Norsvin

In early May, staff and guests of Topigs Norsvin Canada traveled to Denmark to observe organic pork production. Topigs Norsvin entered the Danish market in the fall of 2015 by exporting 900 Norsvin Landrace gilts from Norway. Production of TN70 parent females followed, and the effects of this maternal genetics change were quickly observed including decreased pre-wean mortality, heavier and more uniform pigs at both birth and weaning, lower sow mortality, and improved maternal contribution to finishing traits.

The Hestbjerg Farm http://hestbjerg.dk/ is a 1450 sow farm that uses TN70 sows sourced from the Bovbjerg Økologi https://www.bovbjerg-okologi.dk/ multiplier. The sows are all kept outside, except during the breeding period. At the Bovbjerg Økologi multiplier, gestation fields hold groups of 45 sows, with an ESF station for each group and bedded, steel shelters to provide the sows with a place to sleep and to take shelter in poor weather conditions. At Hestbjerg Økologi commercial farm, sows are kept in groups of 10 – 20 sows, sorted by size.

An electric fence surrounds the farrowing fields to keep the sows in their respective pens. A 6 foot steel fence with electric wires surrounds the perimeter to keep foxes out. The farrowing field is divided into rows of small paddocks, each having a shelter for the sow and her litter, and a feeding station and water bowl for the sow. Fencing around each paddock keeps the sow in but allows the piglets free range of the entire farrowing field and access to the creep feed. Rows of trees provide shade and cover for the sows and piglets and the fields are rotated each year to allow for leveling and reseeding.

Piglets are retained near the shelter for ten days after farrowing. The piglets stay on the sows for 70 days and are over 30 kg (66 lbs.) at weaning. The long lactation length eliminates the nursery and some of the problems that go with it. For example, some conventional feedstuffs for the nursery cannot be sourced organically, so the 70-day weaning eliminates this. With a 70-day weaning period, producers expect 1.8 litters per sow per year.

What about added labor? The need for labor is the same summer and winter. In summer time is spent cutting grass and providing mud holes for the sows. In winter, extra straw bedding is required and chipping ice out of the drinking water bowls occasionally. During a typical Danish winter, there is approximately one month during which the water freezes in the field.

Finisher outdoor access

TN70 and Litter

TN70 Gilts

Organic finishers

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Finisher happy place

Feeding sows

Sugar Beet Buffet

Sow with litter

On the finishing side, the producers we visited had converted bankrupt dairy units into swine finishing units. All of these units provide a sleeping area with bedding, a food court with sorting, and outdoor access. The finishing pigs are also provided with a "happy place"-- a small area that contains rooting materials (mulch from mushroom operations, clippings from heather fields, etc.). Also, there are also feeders which provide chewing material such as sugar beets and mushroom mulch.

Topigs Norsvin has made strides in the Danish market due to demand for the TN70 female and her maternal characteristics. The TN70 produces large litters of heavy, uniform pigs that results in large numbers of heavy pigs weaned. As a more robust sow, she has lower sow mortality and lower unplanned removal rates. The breeding goal is fundamentally different between TN70 and the Danish sow: the TN70 is bred to rear the piglets herself (e.g., focus on increasing number and quality of teats and milk production), while the Danish breeding goal relies on application of technology (milk cups, motherless rearing) and use of on-farm labor to rear the piglets.

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Topigs Norsvin Canada Inc. Announces New Ontario Business Development Representative

In August of 2017, Veronica Anderson joined the Topigs Norsvin team on a part-time basis as the Ontario Logistics Coordinator. After excelling at this position, she has now joined the Ontario Business Development team. She will continue to provide the Ontario logistics services, while also focusing on managing customer relationships.

Veronica gained experience in swine production while in high school, but has spent the majority of her career focusing on client services in both the financial and insurance industry. "Veronica has done well in representing Topigs Norsvin. The relationships that she has built with both Topigs Norsvin Ontario multipliers as well as customers make her a great asset to the Ontario team," said John Sawatzky, Sales Manager for Canada.

"Topigs Norsvin has provided me with an excellent opportunity to learn and grow. I'm looking forward to continuing to build relationships with both new and existing Topigs Norsvin customers," said Veronica. In her spare time, Veronica is busy running her two young sons to baseball games, while sneaking in a yoga class now and again.

Veronica can be reached at 519 440-6226 or at veronica.anderson@topigsnorsvin.ca

Topigs Norsvin Canada Inc. Announces New Alberta Business Development Representative

Topigs Norsvin Canada announced that Sheldon Friesen has joined its staff as Alberta Business Development Representative, based out of the Central Alberta region. In his new role, Sheldon will be focused on Business Development and customer support in Alberta.

Sheldon has gained considerable experience in our nucleus farms in Manitoba including working at the new Delta Canada Research Centre & Boar testing facility. "He will be a valuable asset to the Topigs Norsvin Canada team and Sheldon is eager to meet customers and prospects from the pork production sector," said John Sawatzky, Sales Manager for Canada.

In addition to pork production experience, Sheldon was employed for seven years with Bayer Crop Science and holds a Bachelor of Science degree (Geography).

"Growing up in Alberta has given me a passion for the people, land and industry of this great province. I am excited about growing my career with Topigs Norsvin. In my spare time I enjoy camping, hiking and barbeques," said Sheldon.

Sheldon can be reached at (403) 331-1109 or sheldon.friesen@topigsnorsvin.ca

Topigs Norsvin
PROGRESS IN PIGS

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Topigs Norsvin Insider Quiz

How to Play

Please answer the questions in our Insider Quiz. All the answers are in this newsletter. Then fax, mail or email your answers, along with your name, address, and phone number to:
Fax: 204-489-3152
Email: info@topigsnorsvin.ca

Entries are to be received by **July 31, 2019**. The *first 10 entries drawn with the correct answers* will receive a $20.00 gift card. The Topigs Norsvin rep in your area will deliver the prize. Employees of Topigs Norsvin and their subsidiaries are not eligible.

1. Under the PRRS challenged trial, what percent of full-value TN Tempo sired pigs were marketed?

_____

2. What was the economic advantage per pig placed of the TN Tempo sired pigs?_____

3. In what year did Topigs Norsvin enter the Danish market?_____

4. In the Danish Organic production at what age are piglets weaned?_____

Name:_____

Farm Name: _____

Address: _____

Phone #:_____ Fax #:_____ Email: _____

Topigs Norsvin INSIDER Quiz Winners
Winners from the Spring 2019 issue will receive a $20.00 gift card. Here are the winners from the last issue:
Ruthy Hofer, New York Farming, AB; Adam Wipf, Bluegrass Colony, AB; Travis Wipf, Vanguard Colony, SK; Lukas Hofer, Pembina Colony, MB; Richard Waldner, Eagle Creek Colony, MB; Lenora Maendel, Hidden Valley Colony, MB; Gideon Entz, Cascade Colony, MT; Myron Wollman, New Elm Spring Colony, SD; Joe Wipf, Twin Hills Colony, MT; Maaike Campbell, Burnam Pork, ON. The Topigs Norsvin rep in your area will deliver your prize. Congratulations!

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