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JSR Genetics and Topigs Norsvin Agree to a Genetic Partnership

JSR Genetics and Topigs Norsvin have reached an agreement to form a genetic partnership for Great Britain. JSR Genetics will become the exclusive distributor of Topigs Norsvin genetics in Great Britain, and the AI activities of AIM UK in Great Britain will be integrated into the JSR AI network. AIM UK is part of the Topigs Norsvin AI network. In addition, JSR Genetics and Topigs Norsvin will combine their research and development programs. The international activities of JSR are not included in the partnership.

The sow line breeding of JSR will now be “powered by Topigs Norsvin” which means Topigs Norsvin will be responsible for breeding value calculations and other technology related to the JSR breeding program in Great Britain.

Chairman of JSR, Bernard Hoggarth, commented, “With this agreement, two leading companies in the world of pig genetics are joining forces to achieve faster genetic progress. Both companies retain their independence and it allows JSR to offer

their customers in Great Britain more choice and a world class range of competitive products. We look forward to offering our clients in Great Britain the very best of both company’s extensive portfolios.”

CEO of JSR, Tim Rymer, added, “For the British market it means that pig producers get access to the latest genetic developments in pig breeding supported and driven by one of the largest research and development programs in the world. Pig genetics are moving at a fast pace; this gives JSR Genetics instant access to the world of genomics.”

Martin Bijl, CEO of Topigs Norsvin, commented, “We are delighted to have reached this agreement with JSR Genetics. As the most innovative and leading pig genetics company in the world, we can supply world-class research and development and products to JSR, while JSR offers significant infrastructure and reputation, which gives us a great opportunity to develop and grow in Great Britain.”

Leading in R & D

By Hans Olijslagers | Chief Technical Officer



The Topigs Norsvin Research team is a world-leading group of scientists in swine genetics. We cover the pork production chain: from reproduction, health and the environment to feed, meat quality and processing.

The Research & Development (R&D) group consists of over 25 people, 80 % of whom have a PhD. Topigs Norsvin's yearly R&D budget is \$20 million USD and growing.

Our R&D plays a leading role in core research in international scientific publications and congresses in the field of genetics and genomics. Topigs Norsvin has joint projects with universities and research institutes all over the world, linking current farm performance with state-of-the-art technology to generate future profit.

Pork Chain Approach

Topigs Norsvin's breeding program is built to cover the entire value chain. This integrated approach has two dimensions: optimizing cost throughout the chain and maximizing added value at the end of the chain. By way of optimal breeding, every trait can be genetically improved by 2%-3% per year. Topigs Norsvin's ambition is to push this up to 4%. Our ambition of doubling the annual genetic improvement delivered to our customers and partners is the core aspect defining us as the most innovative swine genetics company in the world.

"Four per cent added value per year in genetic progress throughout the chain makes \$4.50 - \$5.50 USD per pig per year. This is a high value in the big and growing integrated production structures."

Genetics make a huge and often underestimated contribution. Our innovations are changing the game. Topigs Norsvin's cooperation with integrated systems as well as independent farmers provides us with the knowledge needed to deliver more added value in the end. Sharing fairly between partners can really strengthen the value chain and be profitable to both integrator and genetic supplier. Setting goals together, defining phenotyping and genotyping programs throughout the value

chain and tracing back results to nucleus level all lead to win-win deals between partners. Topigs Norsvin is open to this partnership.

Scientific Approach

Nothing is more practical than a good theory. This seems contradictory but it is not. This is why Topigs Norsvin invests so much in human resources and joint venture projects with universities and research institutes worldwide. Every year several of Topigs Norsvin's PhD candidates defend theses contributing to the scientific development of pig genetics.

A state-of-the-art development team implements new technology in breeding programs and new concepts in the value chain. A support team consisting of breeding program managers, veterinarians and nutritionists help customers in the value chain to harvest the genetic potential of Topigs Norsvin breeding stocks.

Applying the right theory in practice on customer farms is the key to achieving top results and maximum added value. Production manuals, auditing procedures and management protocols are developed by the support team and available to customers. Profit-sharing according to output-related royalty systems is driving the financial revenue of the breeding company. Topigs Norsvin reinvests more than 15 % of the revenue into new R&D for the future. The investment comes full circle.

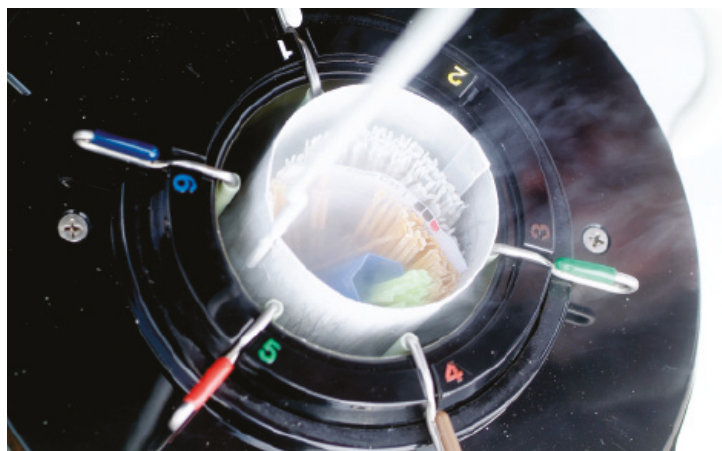


Genomics speeding up genetic progress by 40%

Huge investments are being made in the development and implementation of genomics technology in the Topigs Norsvin breeding program. By implementing genetic markers and the genomic relation matrix, the reliability of breeding values increases dramatically. At this point in time, Topigs Norsvin researchers are moving toward understanding the genomics of crossbreeds and heterosis, and toward using full-sequence information in the breeding program.

The next step in genomics will be the use of DNA patterns for precision farming and genomic management. By using this genomic technology, the customer is able together with Topigs

Norsvin to improve the margins and stay profitably in business in the future.



Reproduction

Topigs Norsvin is one of the leading companies in AI stations all over the world. Research is continuously being applied to high precision technology to assess semen cells, maximize semen dose storage and maximize the number of inseminations per AI boar per year. This dramatically improves the genetic contribution of the top 10% of AI boars. As for the female, we strive for every pig born to be weaned.

Health and the environment

Animals should perform even under challenging conditions related to climate, disease, feed or labor. Quality of feed as well as of water can strongly limit technical results in the production chain. Furthermore, labor is growing more limited in both quality and price. Animals need to be self-sufficient and easy to manage. Resilience and disease resistance are traits that will become more selectable through the introduction of newly developed genomic tools. Customers will experience an easier and more constant production flow with less input of resources.

Total Feed Efficiency

Almost 70% of the cost of a kg of pork is feed. That is why Total Feed Efficiency is the number one trait in the breeding goal of the Topigs Norsvin breeding program. In Topigs Norsvin terms, Total Feed Efficiency is not only feed conversion, but also the avoidance of leakages such as death loss or inefficient sows. Genetic progress improves the genetic potential of Topigs Norsvin animals year on year. Topigs Norsvin provides customers with monitoring tools for the feeding of sows, piglets and finishers to let the animals show their maximal genetic potential on customer farms. On customer farms, Topigs Norsvin animals will show more output with less input. That is efficiency.

Meat quality and processing

The last step in the costly chain of meat production is bringing the meat to the plate of the consumer. Topigs Norsvin delivers specialized terminal lines to meet differentiated markets. Meat quality traits such as drip loss, intramuscular fat and color are monitored and improved. Topigs Norsvin also contributes by facilitating interactions with meat processors on product quality. Here we can mention the sorting of boars for boar taint, skin or tail damage and carcass defects. Experiencing more sustainable meat quality will push consumers to keep on eating delicious pork for dinner. People consuming pork is the final driver of our entire value chain.

Future demand

Consolidation is occurring in both the genetic company and pork production sectors. This will continue in the future. Topigs Norsvin R&D is turning out to be the perfect partner for world-leading pork-producing integrators. Having a total value chain approach will bring professional integrators and genetic companies in closer cooperation. Feed efficiency, high production levels and survival rates and low labor input management will be key. A win-win partnership at a high scientific level will be the future standard customer relationship. As the most innovative swine genetics company, Topigs Norsvin is eager and ready to serve.

Topigs Norsvin CCPS Program

In the Topigs Norsvin breeding program, a key component of improving predictability in breeding lines is the use of a Combined Crossbred and Purebred Selection (CCPS). Topigs Norsvin has several CCPS farms around the world where they test product performance under multiple environmental and management conditions.

The objectives of a CCPS farm are:

- To gather individual information on crossbred finishers which contributes to the breeding value estimation of the pure line nucleus animals.
- To objectively compare terminal sire lines in multiple environments.
- To evaluate product performance under (anticipated) market conditions of the future.
- To gather technical information for marketing purposes.
- To function as a model for evaluating total production economics.

At CCPS test farms, finishers with known pedigrees are produced and identified using RFID transponder tags. Once identified, all



Recording the image and data

activity (especially growth and mortality), at any stage of production, can be recorded easily using a hand-held RFID reader. At 22 weeks of age, all CCPS candidates are off-tested. A quick scan of the RFID tag records all information pertaining to the individual including its ID, pedigree and weight. Back fat and loin depth are measured using an Aloka SSD-500V scanner and recorded in the individual pig's unique database. Individual animals may also be tracked through slaughter to gather data on carcass composition and meat quality traits.

Topigs Norsvin Canada is proud to have one of the top CCPS farms in the world. Blumengart Colony in Manitoba is a modern 600-sow farrow to finish production unit. Using the Topigs Norsvin InGene program, all Great Grandparent, Grandparent and Parent replacements are produced internally (only maternal and terminal semen enters the farm). Levi & Daniel Waldner, along with their barn team, have been key components in making this program successful. They produce pedigreed Tempo x Topigs 20 market hogs for the CCPS program. Typical Canadian commercial barn designs are used to grow the pigs from weaning to slaughter.

A four-stage wean-finish system is used at Blumengart. Pigs are weaned into the nursery at an average of 21 days and grouped in pens of 85 pigs per pen. Upon entering the finisher stage, groups are combined and mixed. The large group feeding design will accommodate 600 - 650 hogs from a start weight of 28-34 kg to a slaughter weight of 128 kg. Each room contains a single Auto-sort scale with 3 food courts to allow feeding of multi-phases based on pig weight. Upon arrival, pigs undergo a 3 - week training program to ensure all pigs are familiar with entering the scale to access the wet/dry ad lib feeders and water points.

Special off-test penning and equipment has been installed in the Blumengart facility. Pigs are moved into a central hallway for weighing and probing of individuals. A probe scale with a stainless steel, hydraulic pig lift is used to raise each pig off the ground allowing the technician to measure loin and back fat accurately while the pig is suspended.



Uniform CCPS Tempo Pigs

A unique feature at Blumengart is the use of RFID reader panels in the Auto-sort scales. This allows Topigs Norsvin to monitor and analyze individual pig activity such as frequency and time of feeding through its lifetime. Such information will be very useful in establishing accurate growth curves linked to feeding patterns. Once all data has been collected in a group, the information is sent to the Topigs Norsvin Research Centre for recording in Pigbase and analysis.

As a top production farm, Blumengart results are some of the best in the world. In the most recent quarter this herd is weaning almost 32 pigs / sow per year.

Customers of Topigs Norsvin will reap the benefits of the data collected from CCPS farms around the world including the Blumengart herd. Accurate measures of performance for family lines within specific product lines, such as the Tempo, will result in superior performance at the commercial level for Topigs Norsvin customers.

For more information on the CCPS program please contact Topigs Norsvin or a representative in your area.



Aloka scanning while pig is suspended

Producer Profile - Crider Farms

Crider Farms (Mayfield, KY) is the newest addition to the Topigs Norsvin family of multipliers in the USA.

In July 2014, Kevin and Sonya Crider began the conversion of the 12,000 head finishing operation in to a 3,200 sow breed-to-wean multiplier. When considering a genetics partner for this new venture, Kevin did his due diligence. "I spoke with numerous Topigs Norsvin customers during our decision-making process," reflected Crider, "and listening to their descriptions of Topigs Norsvin product performance, as well as to their experiences dealing with the Topigs Norsvin company, definitely influenced our decision."

Now that Kevin has his own experience with Topigs Norsvin products, he knows that he made the right decision. "The Z-line female gives lots of pigs and lots of milk," commented Crider, "and she's an excellent mother. But her best quality may be that she is such a pleasure to work with."



The Crider Family (left-to-right) - Lawson, Sonya, Dallas, and Kevin

Today, Crider Farms is managed by Great Plains Management and utilizes large-pen gestation with ESFs and turn-around farrowing crates in the production of Topigs Norsvin 70 gilts. Crider noted, "The Z-line is calm and easy to train and move through the farm. I can't believe that we have only experienced gilt litters so far." The best is yet to come.



First litter at Crider Farms (March 9, 2015)



Docile Z Line females at Crider Farms

New Employee at Topigs Norsvin USA



Adam Campbell

Adam Campbell has joined the Topigs Norsvin USA team in the role of Sales and Business Development Manager for the Eastern Corn belt. Adam comes to Topigs Norsvin USA with many years of experience in managing large-scale, integrated swine production and, most recently, was a representative for an equipment manufacturer. Adam is a graduate of The Ohio State University (AgriBusiness and Applied Economics) and resides near Wilmington, OH along with his wife, Jess, and his son, Lane. The Campbell family also raises grass and grain-fed cattle for a CSA (community-supported agriculture).

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Carlo Genetics Inc.

Ste. Anne, MB
George Goossen
(204) 355-4012

Total Swine Genetics Inc.

Tillsonburg, ON
Stuart De Vries
(800) 844-9913

C & M Genetics

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Dutch Sires

New Carlisle, OH
Stacey Voight
(937) 313-1138

Ai Partners

Morris, MN
Bruce Zierke
(320) 760-3504

Whole Hog AI

Hartington, NE
Ron Brodersen
(402) 254-2444

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@topignorsvin.ca

Entries are to be received by July 31, 2015. The *first 10 entries drawn with the correct answers* will receive a \$20.00 Walmart gift card. The Topigs Norsvin rep in your area will deliver the prize. Employees of Topigs Norsvin and their subsidiaries are not eligible.

By what per cent does Genomics speed up genetic progress? _____

How many sows are in the Crider Farms multiplier? _____

Which sire line is used in the CCPS program at Blumengart? _____

What per cent of revenue does Topigs Norsvin reinvest into R&D for the future? _____

Name: _____

Farm Name: _____

Address: _____

Phone #: _____ Fax #: _____ Email: _____

Topigs Norsvin INSIDER Quiz Winners

Here are the winners from the last issue: Matthew D. Wipf, Oaklane Colony, SD; August Salher, Samaterra Inc., ON; Martin Wipf, Willow Creek Farming, AB; Len Streicher, Harriston, ON; Paul J. Wipf, Milford Colony, AB; Frank Glanzer, Clearfield Colony, SD; Joe J. Hofer, Midway Hogs, MT; Uriah Kleinsasser, Huron Colony, MB; Cliff T. Waldner, Tri Leaf Colony, MB; Robert Waldner, Holmfield Colony, MB

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Each winner receives a \$20.00 Walmart Gift Certificate. The Topigs Norsvin rep in your area will deliver your prize. Congratulations!