



The Mogler Family - Four Generations of Family Farming

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Mogler Farms Builds for the Next Generation

It was 1976 when Rodney Mogler (age 19) demonstrated an interest in getting involved with pig production. His father, Howard, a second generation crop farmer and cattle feeder, responded to his interest by building Pig Hill, a 230-sow farrow to finish operation. In time, three of Rodney's brothers joined him as full time partners (Brian in 1980, Dwight in 1991, and Perry in 1992). During the 1990s, younger brothers Dwight and Perry assumed operational management of the swine operation. By 2003, the hog operations had been expanded to 900 sows farrow to finish, and then began expanding again in 2008 – this time via purchase agreements of weaned pigs and contract finishing. Mogler Farms currently markets 85,000 hogs / year.

Today, at age 84, Howard remains active in Mogler Farms, a 90+ year-old family farm that now involves the fourth generation of Moglers in their crop, hog, cattle, grain-handling and trucking operations.

And the tradition continues. With the impetus of aging facilities in need of replacement, along with growing interest from the next generation of Moglers eager to join the family business, Mogler Farms is constructing a 4,400-sow facility (Pig Hill West) near Alford, Iowa. The new facility will enable them to produce all the weaned pigs necessary to fill both their own finishers as well as contract facilities of many neighbors in the community. The first phase (2,200 sows) of the new farm will be fully operational by April 2016. The entire project (4,400 sows) is projected to be fully operational by January 2017. And the Moglers are already preparing for 2017, when they will again be long on weaned pigs and ready to continue expanding their finishing base.



Dwight and Donna Mogler

The new Pig Hill West sow farm includes large group loose housing (300 sows / pen), with six Nedap ESFs per pen, as well as on-site gilt development that includes ESF training stations so that gilts are accustomed to the feeders prior to breeding. The design also includes large farrowing creep areas (6' x 8') to accommodate large litters. All incoming air will be fully filtered to protect the health and welfare of the herd. After weaning, the piglets will be reared on site in intensive care nurseries for 2 to 2 ½ weeks prior to placement in grow-finish barns. The farm's feed delivery system is designed for precision nutrition by delivering multiple diets. The farm will be co-managed by fourth-generation Moglers, cousins Janae and Chet.

In late August, Pig Hill West (still under construction) hosted an open house with over 750 attendees including neighbors, members of the community, and representatives from the swine industry. The open house was a great success and included a meal prepared by the Lyons County Pork Producers.

"We have some pretty lofty goals for this farm," commented Dwight Mogler, "but we also have a high level of confidence in the expertise of the herd health professionals at Swine Vet Center, in the nutritional and manufacturing expertise from J&R Feeds and Jeff Knott (consulting nutritionist, Ideal Animal Nutrition), and in the genetic progress from our swine genetics partner, Topigs Norsvin." Dwight added, "We are very optimistic that the TN70 parent female, in combination with the Tempo terminal boar, will provide the genetic potential to achieve our goals."



Pig Hill West gestation barn near Alford, IA

2015 Topigs Norsvin Canada Inc. Customer Appreciation Night



A record attendance

The annual Topigs Norsvin Customer Appreciation Night for Western Canada was held on November 5th in Winnipeg. This event is held to show appreciation and reward the exceptional achievements of Topigs Norsvin customers. It is a great event for customers and industry partners to meet and mingle. Again this year, the attendance exceeded previous years. The annual event is highlighted by the Production Awards Ceremony.

With the June 2014 Topigs Norsvin merger still being relatively new, much has happened within Topigs Norsvin Canada. Cam McGavin, General Manager, updated the attendees with the developments that have occurred in the past 17 months. Several key achievements that have taken place are:

1. The importation of the Norsvin Landrace and Duroc lines. These boars are already at work in studs in Manitoba and Ontario.
2. The construction and populating of a new 1,200 sow nucleus in Wisconsin was completed. This Genetic Nucleus receives all of its semen requirements directly from Norway to eliminate genetic lag, and will be the source for the Norsvin lines in Canada.
3. Embryo transfers have occurred to bring the Norsvin Duroc lines into Canada for boar production.
4. The purchase of Signature Genes was completed recently. Signature Genes lines will allow Topigs Norsvin Canada to offer two distinct Duroc lines to customers.
5. The first ever annual "We" magazine was launched and released. This magazine presents a very good overview of who Topigs Norsvin is and what technologies are applied in our intensive breeding program.

Cam also went on to thank the many customers in attendance for their business and dedication to being among the best producers in the world.

Awards were presented to the winners and runners up for the best numbers in various production categories. Participation in the awards competition is optional for customers. Awards are presented based on a one- year period of performance ending June 30, 2015 from herds using Topigs Norsvin genetics. This year's data from participants include 63 farms with 65,217 sows from Canada and Montana with herd sizes averaging 1,035 sows per farm. The number of farms participating and the size of the sow herds continue to increase. All data from participating herds are submitted to SMS Swine Smart System Benchmarking (SMS) in Nebraska for data verification and equal calculations between herds.

This year the average for the best 14 herds (22%) exceeded 30 pigs weaned / mated female / year. Of the 63 farms, 97.1% of the farms are weaning more than 25 pigs / sow / year. Topigs Norsvin customer herds continue to achieve better results year on year.

The summary of the 2015 production award winners and runner-up winners are listed by category.

Herds of 500 sows or less category:

Farrowing Rate

Winner with 93.45% – Spring Point Colony of Pincher Creek, Alberta
Runner-up with 92.0% – Tenth Line Swine of Gorrie, Ontario



Blue Ribbon Swine - 92.2% Farrowing Rate



Cool Spring Colony - 31.19 PSY

Born Alive

Winner with 14.39 – A & A Van Ginkel of Leslieville, Alberta
Runner-up with 13.98 – Horizon Colony, of Lowe Farm, Manitoba

Pigs Weaned/Mated Female/Year

Winner with 31.19 – Cool Spring Colony of Minnedosa, Manitoba
Runner-up with 30.83 – Horizon Colony, of Lowe Farm, Manitoba

Herds of 501 – 1,200 Sows category:

Farrowing Rate

Winner with 93.8% – Lakeside Colony of Cranford, Alberta
Runner-up with 91.4% – A-C DeGroot Farms of Gadshill, Ontario

Born Alive

Winner with 13.96 – James Valley Colony of Elie, Manitoba
Runner-up with 13.75 – Arie & Linda Van de Bruinhorst of Clinton, Ontario

Pigs Weaned/Mated Female/Year

Winner with 31.05 – A-C DeGroot Farms of Gadshill, Ontario
Runner-up with 30.86 – James Valley Colony of Elie, Manitoba

Herds of 1,200 Sows or more category:

Farrowing Rate

Winner with 92.4% – Stonywood Farm of Petervale, Ontario
Runner-up with 92.2% – Blue Ribbon Swine of Grunthal, Manitoba

Born Alive

Winner with 13.31 – Adare Pork of Lucan, Ontario
Runner-up with 13.27 – Morris Piglets South of Lowe Farm, Manitoba

Pigs Weaned/Mated Female/Year

Winner with 30.64 – Adare Pork of Lucan, Ontario
Runner-up with 28.80 – Stonywood Farm of Petervale, Ontario

This year the 26+ Club Award was presented to 51 farms! This award is presented to the herds producing greater than 26.0 pigs weaned / mated female / year. The average result from the winners in this year's 26+ Club was 27.9 pigs weaned / mated female / year. The award recognizes the hard work of customers in attaining these numbers and demonstrates the genetic potential of Topigs Norsvin breeding stock. The winners were presented with an award plaque.

The award for Best New Start-Up Herd in 2015 was presented to two herds from Willow Creek Colony near Cartwright, Manitoba. This award is presented to a new herd of any size that has not yet reached an average parity herd and was recently populated with Topigs Norsvin females. Each of these herds are 1,100 sows farrow-wean and piglets are marketed to the USA. In the start-up phase of these herds, they both had exceptional results in the first nine months of production. Willow Creek West had an average parity of 1.29 with an average pigs born alive of 13.24, weaning 12.20 pigs / litter and 30.31 pigs weaned / mated female / year. Willow Creek East had an average parity of 1.15 with an average pigs born alive of 13.194, weaning 12.19 pigs / litter and 29.67 pigs weaned / mated female / year.

In late November, the Topigs Norsvin Customer Appreciation Night for Eastern Canada was held in Stratford, Ontario. Thank-you to all who attended and helped make the evening a great success! We look forward to more great results in 2016.



Horizon Colony - 30.83 PSY



James Valley Colony - 30.86 PSY



Spring Point Colony - 93.45% Farrowing Rate



The Western Canada 26+ Club

Building an Atlas for Pig Breeding

“Moving from general body composition measurements, toward partitioning pig carcasses into different segments, would add information not only from the whole animals, but also from parts such as primal cuts or internal organs.”

Jørgen Kongsro, PhD | Senior Scientist

With the advancement of large-scale computed tomography (CT) in the Topigs Norsvin breeding system, there has been a huge increase in genetic progress in body composition and lameness detection. The focus has been on lean meat percentage and yield (carcass to live animal), which treats the animal as a pool of digital pixels from CT images. This may be similar to putting the whole animal in a grinder and measuring the amount of fat, lean meat, and bone.

Moving ahead, atlas-based segmentation is a framework for performing dissection or cutting in a database of images of live pigs. The construction of a pig atlas, or map for breeding, can be seen as the phenotypic analogue to mapping the genome in genomics.

Understanding anatomy

Anatomy atlases have been used throughout history as templates to understand the anatomy of living things, both humans and animals. Before the advent of non-invasive imaging techniques such as CT, ultrasound, and magnetic resonance imaging (MRI), anatomy involved the invasive post-mortem dissection of the object. By use of non-invasive imaging techniques, the living object can be studied in vivo. Obtaining information from such non-invasive imaging techniques as CT requires relationships between the images and the physical reference to be studied. This relationship can be represented as an atlas by labeling different objects in the CT images based on density (fat, lean meat, bone), anatomy (liver, lungs, muscles) or different cuts of meat (belly, loin, ham, shoulder, etc.). The atlas will allow us to make further advances in the use of the database of CT images and its application in phenotypes that can be used in the Topigs Norsvin breeding system.

Atlas version 1.0. Start with a simple atlas - build a framework

An atlas can have many layers of information. In order to build a framework, a simple atlas may be a good way to start. Separating the pig into segments such as carcass/non-carcass and primal cuts such as ham, belly, loin, shoulder, and head could serve as a basis for building a framework around the atlas. We would then need to build an atlas based on expert knowledge of how we separate the non-carcass (internal organs, etc.) from the carcass part of the live animal, and then on how to segment the carcass part into primal cuts. The labeling of segments is done in 2D, stacking them up into 3D over time. Building the first atlas is laborious and time-consuming, but we would only need one atlas, so time spent here may save time on all the other animals. The key is to sample animals which may represent the whole population in terms of variation in anatomy; we may therefore need one animal or an average of a sampled group. Images from new animals are then registered and aligned to match the atlas template. This registration may be a simple alignment of two images or a more complex alignment of a 3D volume of a segment.

When we have a running pipeline for atlas-based segmentation, we can then add more layers to our atlas, bringing in more details which may be samples. The CT images are stored, which means that new and more detailed atlases can be used retrospectively, adding more data to our existing pool of CT images and animals.

The pig skeleton is used to produce landmarks for the construction of the pig atlas

The skeleton of a pig contains structures which can easily be utilized as landmarks in an atlas. Recognizing structures such as the spine, pelvis, ribs, scapula, femur, and skull, will aid in the construction of a pig atlas, especially with respect to different cuts of meat (i.e., belly vs. ham). Butchers use the skeleton as a reference when producing primal cuts from a pig carcass, and we aim to reproduce this procedure in the virtual carcass produced from the CT images.

More complex atlases require more expert knowledge and labeling of segments. More layers to the atlas require more information. Separating different muscles and internal organs may be examples of more complex features. Labeling different types of bones may also be obtained through expert knowledge.

More complex atlases require more expert knowledge and labeling of segments

An atlas of internal organs can be represented in two dimensions (2D) in the coronal direction. This atlas is a representation of the body cavity containing internal organs in purebred pigs, and this may be adjusted to fit and label the internal organs in future pigs.

The atlas can contain many layers of information, from skeleton to carcass, from carcass to different muscles, and from body cavity to small organs within the pig's body. More complex atlases require more expert knowledge and labeling of segments. This labeling may be done in different ways, either by fully automatic procedures based on pixel values or density (fat, lean meat, and bone segments), or by manual labeling by experts of, for instance, cuts of meat, internal organs, or specific bone studies, such as measuring the level of osteochondrosis in joints. The framework presented in this article, and the retrospective nature of CT images from 2008 until this day, will allow us to build further on the pig atlas, producing new and improved phenotypes which can be applied in our pig breeding program.

Bringing the pig atlas into multi-dimensional space

The atlas of the pig is by default three-dimensional (3D). We observe the anatomy of the pig in 3D, and the images from CT reproduce this anatomy as a digital volume. By adding more information, not only from CT, the atlas can be seen in dimensions beyond 3D. For example, we might add to our 3D CT atlas information from other modalities, such as information on growth (studies over time), meat quality from near-infrared spectroscopy (NIR), ultrasound scans on back fat, loin thickness, and intramuscular fat. In the future MRI, PET scans and images/videos of behavior can be included. All of this together will add to the atlas, making it more multi-dimensional. The aim is to create an atlas which will serve as a framework for the phenotypic data collected from our breeding animals, making data more accessible, detailed, and accurate, and bringing progress to Topigs Norsvin genetics.

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“Construction of a pig atlas or map for breeding can be seen as the phenotypic analog to mapping the genome in genomics.”

Atlas for pig breeding

An atlas for pig breeding is an anatomy map of the live pig from a set of annotations of a reference representation of the anatomy (Fogtmann Hansen, 2010). In our case, the anatomy map is sampled from a volume CT scan of the entire pig.

New pigs are registered to the atlas, and the atlas is adapted or adjusted for the new pig. This adjustment of the atlas will allow the automatic labeling of different structures and the ability to measure the variation between animals.

Randy Leete joins Topigs Norsvin USA

Randy Leete has joined the Topigs Norsvin USA team in the position of Sales and Business Development Manager. Randy brings with him solid experience in the swine genetics industry, most recently having worked for Hog Slat where he managed turn-key projects and interacted with key accounts. Previously, Randy worked for both Waldo Genetics and Genetiporc. At Topigs Norsvin, Randy's responsibilities will include the development of new sales opportunities as well as support for existing customers to ensure ongoing quality customer services to our accounts.

We are excited to add Randy's experience, ideas and passion for the industry to the Topigs Norsvin USA team, which already includes Randy's son, Tyler, in the role of Genetic Technician. Randy and his family live in Elk Horn, IA.



Skylab opens in Minnesota



Left to Right: Bruce Zierke, AiPartners; Mike Terrill, CEO, Topigs Norsvin USA; John Lorst, Chairman, Topigs Norsvin International; Peter van Kemenade, Director Americas, Topigs Norsvin International; Jim Nordquist, AiPartners

Skylab LLP, a new 335-head boar stud partnership between Topigs Norsvin and AiPartners, is now open for business in Morris, MN. The stud will contain both maternal and terminal lines and provides nucleus back up as well.

The new boar stud will operate with the latest state of the art technology and expertise by AIM Worldwide, a global Topigs Norsvin organization that is responsible for the quality and production of more than 8 million doses of semen per year. Semen quality is controlled by CASA systems and production is certified according to the high quality standards of AIM Worldwide.

Skylab is fully-filtered utilizing positive air pressure ventilation. Fresh air is pushed through 3M pathogen filters and all exhaust air passes through a biofilter to reduce odor emissions. Additionally, the stud is fully air conditioned assuring high health and the best environment for the boars. The barn environment is continuously monitored with a state-of-the-art programmable logic control (PLC).

Martin Bijl, CEO of Topigs Norsvin International, sees Skylab as a logical step in the development of the US company. “We see a growing demand of Topigs Norsvin genetics in the market; especially the new parent sow line being introduced at this moment is creating a lot of new clients. With this AI stud we are able to realize the growth in sales now and in the near future.”

Chairman of the Supervisory Board, John Lorst, from the Netherlands, states “The USA is one of the world's leading pork producing markets and, therefore, one of our strategic markets. With the new AI station we are able to provide our customers the best genetics in the best possible way.”



Skylab boar stud, Morris, MN

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AI Stud Stations

Magnum Swine Genetics Inc.

Fort Macleod, AB
Andrew Buesekom
(888) 553-4844

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

Lucan, ON
Dr. Corneliu Oltean
(888) 259-7594

Sunrise Genetics

Amherst, NS
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Eastern Iowa AI

Spragueville, IA
Doug Peterson
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Mar-Ke Semen Service

Sharon, WI
Keith & Marie Rithamel
(262) 736-2345

Ai Partners-Skylab

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 January 31, 2016. 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.

What is the boar capacity for the Skylab stud? _____

How many sows were included in the data for Canada and Montana? _____

What was the Pigs Weaned/Mated Female at Willow Creek West? _____

How many sows in total will the Pig Hill West project be? _____

Name: _____

Farm Name: _____

Address: _____

Phone #: _____ Fax #: _____ Email: _____

Topigs Norsvin INSIDER Quiz Winners

Here are the winners from the last issue: Marylynn Stahl, Bon Homme Colony, SD; Tim Maendel, Fairholme Colony, MB; Daniel Waldner, Blumengart Colony, MB; Edward Kleinsasser, Birch Creek Colony, MT; Nathan G. Stahl, Veteran Colony, AB; Martin Wipf, Willow Creek Farming, AB; Bethany Gross, Clearview Colony, MB; Joe Wurz, Glacier Colony, MT; Darren Waldner, Evergreen Colony, MB; Rodney Wipf, Oaklane Farms, SD

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

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