



The

# DNA™ EDGE

## K-STATE TEAMS UP WITH DNA GENETICS FOR SWINE RESEARCH

**A winning combination: leading-edge nutritional research and rapid genetic improvement to create maximum potential.**

When Kansas State University made the decision to explore alternative genetic suppliers, their goals were clearly identified. First, find a genetic source that was well represented in commercial production. Second, find a company with a clear vision on how to maximize profitability for producers. Third, utilize a pig that has a resounding acceptance by consumers. Thankfully, K-State, an industry leader in swine nutrition, management, and reproduction research, was well aware of the performance of DNA Genetics in these key areas and believed their objectives would be met. Additionally, their experience with commercial producers who utilize DNA Genetics, such as Haverkamp Brothers Inc. of Bern, Kansas, provided K-State with a good understanding of what to expect with our animals.

Dr. Jason Woodworth, Research Associate Professor at K-State, explained, "DNA Genetics was one supplier that received a lot of interest from our team because of the genetic progress they have made and their goals for where they want to take genetics in the future."

K-State Swine Teaching and Research Center (KSU-STRC)



(L-R): Swine Unit Herdsman Mark Nelson, Breeding and Finishing Manager Duane Baughman, and Farrowing House and Nursery Manager Frank Jennings.

will soon be utilizing DNA Genetics at their 150 sow farrow-to-finish operation. KSU-STRC is the primary swine facility associated with K-State's Department of Animal Sciences and Industry. The nutrition and reproduction research being done at this center provides the valuable information needed by producers to increase profitability. "We are quick to take action on evaluating new technologies, while at the same time continuing to explore the research that is the basis of day-to-day diet formulation and swine management," said Dr. Woodworth.

A strong familiarity with DNA Genetics was already established with K-State's Applied Swine Nutrition Team. In addition to Haverkamp Brothers Inc., many producers who utilize DNA Genetics in their operations work with K-State for independent nutritional consulting. Seeing the levels of production that can be expected with DNA Genetics firsthand assured K-State the DNA pig would perform well in commercial production – the heart of their program.

Gilts for the center will be supplied by a multiplier farm operated by Haverkamp Brothers Inc., a producer in Nemaha



*A short drive from campus, KSU-STRC is home to cutting-edge research in swine nutrition, management, and reproduction.*

*Graduate and undergraduate students utilize KSU-STRC to gain knowledge and experience.*



County, Kansas. Alan Haverkamp and his team are strong supporters of the K-State swine program. "We are excited to work closer with Alan and his team in the future," said Dr. Woodworth.

In June, a core group of K-State swine nutrition professors and graduate students visited DNA's InSight™ Performance Center, located near Columbus, Nebraska. This provided both teams an opportunity to interact with each other and gain an added reassurance that this endeavor would be successful. "Dr. John Sonderman has been instrumental in keeping the K-State swine team informed of the genetic progress being made at DNA Genetics and being the conduit for connecting K-State to the rest of the DNA Genetics team," said Dr. Woodworth.

In addition, the swine team at KSU-STRC were involved throughout the process. Team members include: Swine Unit Herdsman Mark Nelson, Breeding and Finishing Manager Duane Baughman, and Farrowing House and Nursery Manager Frank Jennings. "These professionals are phenomenal assets and we fully considered their inputs, especially since they are the ones working with the animals on a daily basis," explained Dr. Woodworth.



*The recently completed nursery building. After seven weeks here, pigs are moved to a growing-finishing building to complete nutritional research.*

The research at K-State presents tremendous opportunities for future collaboration to intensify genetic improvements. "Nutrition and genetics go hand-in-hand to create a pig that will express its maximum potential," said Dr. Woodworth. "The nutrition research that we conduct at KSU will help the DNA

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KSU-STRC also serves as a teaching facility for undergraduate, graduate, and veterinary classes and supplies the pigs used to train their nationally recognized livestock judging teams. DNA Genetics is proud to be playing a role in the education of tomorrow's industry professionals.



# CATFISH CREEK PORK, A SUCCESSFUL TRANSITION FROM CHICKENS TO PIGS

When it comes to bacon and eggs, I'm sure you've heard the age-old question about who's more committed: the chicken or the pig? For brothers Tom and Brian Graydon, they have had the opportunity to see things from both sides of the breakfast table. Up until about 12 years ago, they owned a chicken operation, but with both of them being allergic to the chicken dust, they decided to become pork producers instead. That's when Catfish Creek Pork began.

After leaving the Canadian Supply Management system for chickens, they bought land and built two 3,000 head sow barns. When they first started with pigs, they operated farrow to isowean. Since that time, their operation has developed into three-site production farrow-to-finish, with contract nursery and finishing barns located throughout southern Ontario. In addition, the Graydons farm 1,600 acres of row crop and began harvesting their own crops for the first time this year.

Being in both chicken and pork production has given Tom Graydon two distinctly different perspectives in Agriculture. When asked what he enjoys most about pork production, Tom related it to the old saying (which many say is a curse) "may you live in interesting times." Although there have definitely been some "interesting times" in the pork industry during the past 12 years, Tom has found the experience rewarding. "It's fun building stuff," he said.



*Brothers Tom and Brian Graydon in their new wash bay, shop, and office building which is currently under construction.*

Although Catfish Creek Pork has been in pork production for more than a decade, the move to DNA Genetics is fairly recent. Due to a contract that specified the genetics they use, Catfish Creek Pork wasn't able to select their own genetics supplier. However, Tom had taken notice of our genetics for several years prior to rolling the herd over with purchased gilts and semen. "We were looking for something different," he said. "DNA Genetics is one of the premier genetics companies. That was the impetus."

Some important factors helped Catfish Creek Pork select a genetic supplier when they transitioned from selling isoweans to taking pigs to market. First, was the performance

*The Catfish and Hawkins barns each house 3,000 sows and are located near Mount Elgin, Ontario.*



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## Catfish Creek Pork, a Successful Transition from Chickens to Pigs

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of DNA Genetics' sows in farrowing. "You were the most vocal about getting 30 pigs per sow per year," Tom said. "You were the guys striving to get more pigs out of the sow – in the sow business, that's what we're all about."

Another reason DNA Genetics appealed to Catfish Creek Pork was the performance and balance of our pig. "You have spent the research dollars to get the best animals you can get," he said. "You have done the best job of balancing feed efficiency and sow productivity." Tom's feed representative has echoed these comments, assuring him the DNA Duroc has produced some of the best performance they've seen in the industry, with respect to growth rate and feed efficiency.

In addition to having the best pig to fit his operation, having the best people played a major role in the decision. Tom appreciates the low-pressure approach of his sales representative, Andrew Fenton. "He's not high pressure, like those from other companies who push," he said. "Andrew says 'here's what I got' and I appreciate that." They began working with DNA Genetics and their sales representative, Andrew Fenton, by establishing a rotation cross program to produce gilts for a few years until DNA Genetics established some F1 multiplication.

Other team members from DNA Genetics have provided



Catfish Creek Pork has their own feed mill and corn storage.

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– Tom Graydon

Catfish Creek Pork technical support, which has proven beneficial for their operation. Dr. John Sonderman has been to their barns to train their team members on Post-Cervical Artificial Insemination (PCAI). "I'm a guy who brings lots of people to the barn to see what they think," Tom explained. "The stuff we've gotten from (DNA Genetics) has been stable and works with the genetics."

Catfish Creek Pork often invites industry professionals to conduct lunch and learns on a variety of topics. "It's an opportunity for continuing education in the pork industry," said Andrew Fenton.

It has taken a great deal of commitment for Catfish Creek Pork to transition from chickens to pigs, during what Tom Graydon describes as "interesting times." Their operation continues to grow and has become one of the premier producers for DNA Genetics. We are grateful that the Graydons made the switch from chickens to pigs more than a decade ago, and we look forward to continuing our relationship with them for many years to come. 

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# IMPROVING FEED EFFICIENCY WHILE IMPROVING GROWTH RATE

By Dr. Caitlyn Abell



In the North American market, increased growth is still a driver of profitability for commercial swine operations, especially under a production model that appears to be desiring ever increasing market weights. Since there is a strong genetic correlation between feed intake and growth, selection for increased growth rate can indirectly select for increased feed intake. Measuring feed intake on individual pigs allows us to detect which pigs do not fit the expected relationship between growth and feed intake (i.e. which pigs consume more or less feed than would be expected based on their growth rate). Identifying pigs that consume relatively less feed to grow at the same rate compared to other pigs results in improved feed efficiency while improving growth rate at the same time. The same is true of carcass fat content. All three traits (growth, intake and fat content) are present in the index and under direct control of the selection objective.

The predicted average daily feed intake value is used in the weekly genetic evaluations. Feed intake is highly correlated with improved daily gain and increased backfat. While we desire gain and even desire increased feed intake, we do not want to produce a pig with higher fat content. Due to the strong relationship between these three traits, it is important to include them together in the selection objective and to utilize a selection index to produce the desired result in each individual trait (faster, more efficient growth with decreasing backfat). This approach is in direct contrast to selection for the ratio of feed to gain. Using the ratio improves feed efficiency, but the improvement could be from reduced feed intake and large reductions in backfat rather than increased growth on a given amount of feed. The latter runs the risk of producing an extremely lean, efficient pig with slow growth.

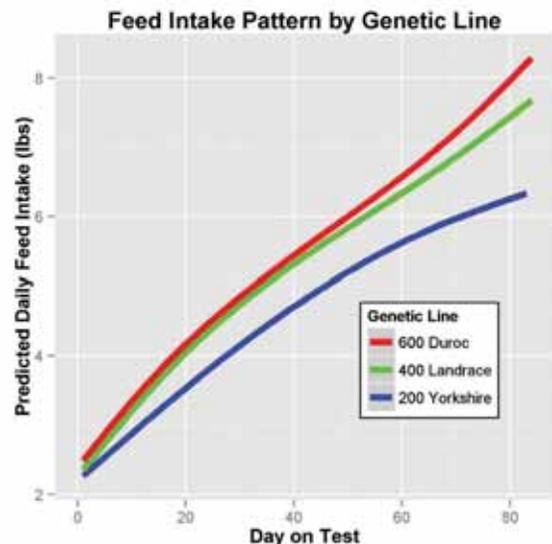
Each week we upload the data from more than 35,000 individual feeding visits into our Helix™ genetics database that are recorded on boars at our InSight™ Performance Center. Within the database, individual pigs can be searched, and their associated feed intake records can be viewed. To date, we have tested more than 3,000 boars at the facility. Feed intake records will be recorded on approximately 33 percent of the Duroc boars produced from our nucleus herd along with 16 percent of the boars produced from our two maternal line nucleus herds.

The feed intake data collected during the 12-week testing period is used to calculate an average daily feed intake value for each pig tested. The predicted daily feed intake pattern for all three lines are shown in the figure. There are interesting differences between the three lines within the nucleus. Line

200 boars consume less feed compared to the other two lines, spend the least amount of time in the feeder, but visit the feeder almost 8 times a day, more than the other two lines. Line 600 boars spend the most time in the feeder per day while visiting the feeder, on average, less than 5 times a day. The pattern for the Landrace is similar to the Duroc line.

As mentioned above, the data describing each visit to the feeder is condensed to a final figure describing average daily feed intake. The process for obtaining this value is not trivial. During a 12 week testing period, each boar will have six weeks of data for feed intake. These data are extensively validated for accuracy and errors in records are either corrected (if possible), or the record is removed from the data set. A Duroc boar, on average, will visit the feeder approximately five times in a given day. Over 72 days, this results in 360 feeding events per animal. These 360 events are the data used to predict total feed intake over the 84 day test period, which in turn produces an estimate of daily feed intake. This places feed intake on the same scale as gain, measured as average daily gain, and allows the relationship between growth and intake to be leveraged to improve feed efficiency.

We feel this approach to selecting for improved feed efficiency will provide the most value for the North American market. Our predicted annual improvement in feed efficiency is approximately 0.04. For 220 lbs. of growth during the finishing phase, this is equivalent to saving 8.8 lbs. of feed per pig throughout the finishing period. Over a 5-6 year period, this is roughly equivalent to saving a 50 pound sack of feed for each pig. 





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**Stay tuned for details...**

## CONGRATULATIONS, JIM HAHN, ON YOUR RETIREMENT!



"It has been an honor to represent this company for the past 19 years. Being involved in the growth of DNA and the subsequent genetic advancements available to our customers has enabled them to remain viable partners in the swine industry. Many great friendships have been established over this time frame, both with

DNA team members, and many great customers. There is no greater sales reward than seeing the success of your customers, for that truly epitomizes the goal in working with producers in our industry. Wishing all of you continuous success in the future." 

## WELCOME WALLY DRIEDGER, GENETIC QUALITY ASSURANCE MANAGER



DNA™ Genetics is pleased to announce Wally Driedger has accepted the position of Genetic Quality Assurance Manager. In his new role, Driedger will be responsible for the oversight of production at all gene transfer centers. He will also be working closely with DNA Genetics multipliers in Canada to ensure adherence to best-in-class

production and biosecurity measures.

"We are glad to have Wally on our team," said Brett Bonwell, DNA Genetics CEO. "He brings a good skill and knowledge base to us and helps us continue to have the best people and the best pig." 