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**News**

from PIC UK

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## Genetic Update: PIC is selecting for real life robust performance

**The PIC Genetic Improvement Programme is focused on maximising profit potential of PIC genetics in our customer's operations. Traditionally, breeding companies use data from their genetic elite farms to make selection decisions. Genetic farms often have a high health status and high management standards. As a result, selection solely based on data from these farms may not capture performance in commercial environments. In 2003 PIC set up a Genetic Nucleus Crossbred programme (GNX-bred programme) to address this issue. The GNX-bred programme captures data from commercial environments to feed into selection decisions. Our customers are seeing more robust performance as a result.**

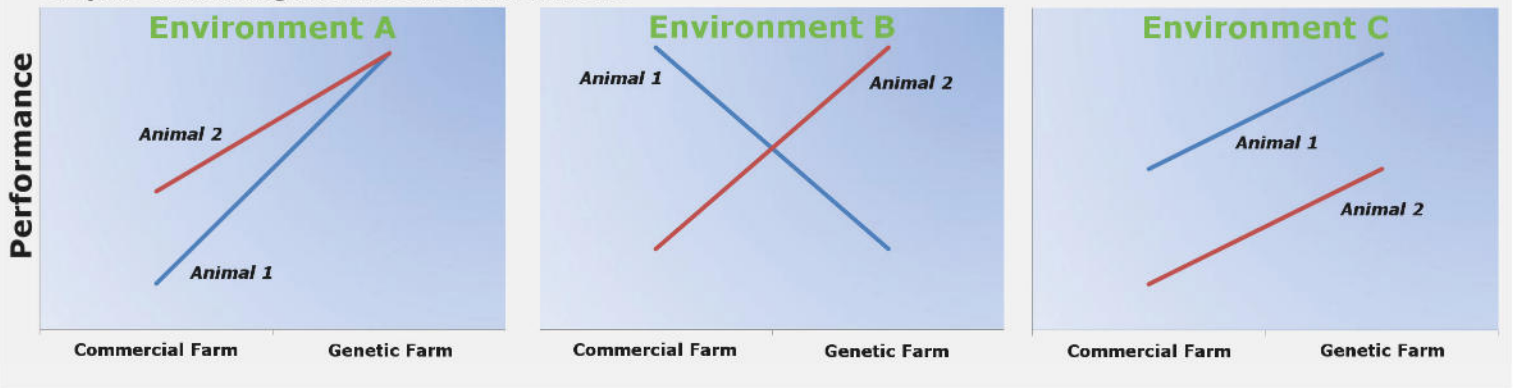
PIC's genetic farms are producing elite boars and gilts that deliver value to our customers. On these farms we perform detailed data capture which includes the performance potential of each individual pig. The PIC genetic farms have a high health status, higher amounts of labour per pig, are generally located in temperate climates and animals are purebreds targeted for selection purposes.

The environment in genetic farms is different from commercial production systems where focus is on lowest cost production and health status is unfortunately often compromised by disease (PRRSv, PED, APP, Mycoplasma etc.). Additionally, the commercial pig is a crossbred pig that comes from a cross between a Camborough female (F1 cross) and a terminal boar. Studies have shown that animals that perform best in a genetic environment might not always be the best animals in a commercial environment and might even re-rank, see Graphic 1 (Environment A, B, C) on the next page. To add value to our global customer base, our pigs need to perform





Graphic 1: Ranking in different environments



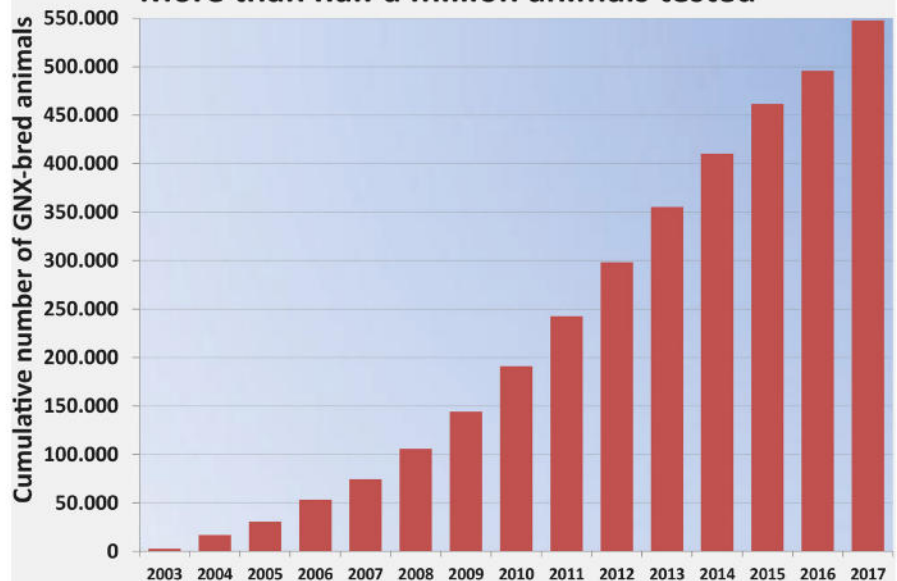
well in a range of environments, from Iowa, USA to Yucatan, Mexico to China.

The GNX-bred programme allows us to test our elite genetics in commercial environments. We use our young elite boars to produce crossbred pigs in real-world production facilities to measure and to select for robust, predictable commercial performance. Within the GNX-bred program we collect data from commercial farms across all four continents (North America, Latin America, Asia, and Europe). The sow farms and finishers are located in pig-dense areas, have conventional health (e.g. positive for PEDv, PRRS or EP), and have a typical commercial production environment.

The GNX-bred programme operates similarly across these global production flows. When a young boar in our genetic farms is selected to enter our nucleus studs the first doses of semen produced are used on GNX-bred farms. The females on these farms are PIC Camboroughs. All breeding, farrowing, and piglet information on the farms is closely tracked by PIC. The process begins with tagging piglets individually within 24 hours and recording dam and sire information. This allows us to have pedigreed commercial piglets. Piglets are then followed throughout their life, up into the slaughter house. On the farm we record mortality events, defects, and culls. Pigs are individually traced through the slaughter house where we measure carcass yields and meat quality. We combine the data from our GNX-bred programme with the data collected in our genetic farms, in our genetic prediction models. This results in selection of elite animals based on data from close relatives in both commercial and genetic farms. Since 2003 the GNX-bred programme has tested 547,552 animals.

As we discussed in prior Pig Improvers, the utilisation of relationship based genomic selection has allowed us to increase our evaluation accuracy and increased our genetic progress by over 35%. With this acceleration of genetic progress, it is important to make sure our selection decisions are based on the right data. Commercial data from our GNX program-

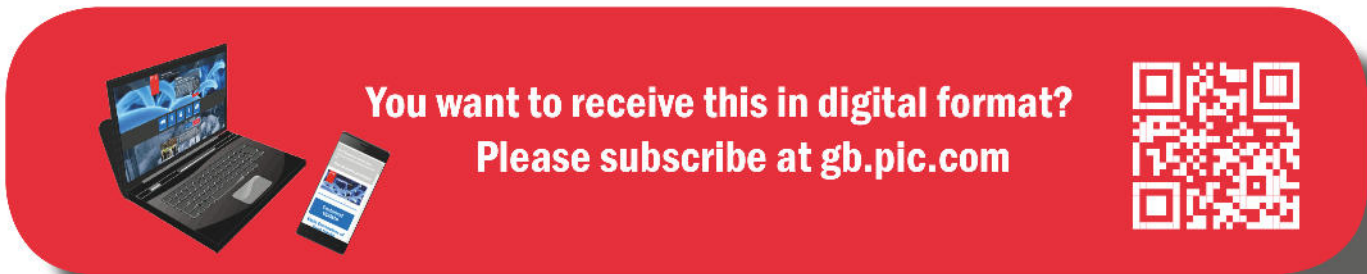
Picture 2: PIC's GNX-bred programme: More than half a million animals tested





me allows us to do that. We have been expanding the data collection within the GNX-bred programme over the past years, see Picture 2. We will continue to invest in this programme to drive maximum benefit for customers.

PIC's drive to Never Stop Improving pushes us to continue to challenge ourselves to develop pigs and services that maximise the probability of our customers' success. Measuring what is important allows us to prioritise selection on total economics and the PIC GNX-bred programme is the key for delivering robust genetic improvement that is visible at the commercial level.



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## The Skinner Family: 50 years partnering with PIC



Three generations:  
Danny with his wife Alison, Dan and Daniel (from left to right)

**For over half a century the Skinner family, farming at Lazyfold, Inch, in Aberdeenshire have been running their pig enterprise, partnering with PIC. It was back in 1962 when Dan Skinner and his wife May bought Lazyfold. Today the partnership of Dan & May with their son Danny, wife Alison and now their son Daniel aged 20, run the 440 sow herd and 420 acres of arable land with 3 members of staff. It is only fitting that we should look back and share some thoughts from both Dan who started the business and son Danny.**

*Dan says: "My first association with PIC began in August 1967 when we bought 12 Camborough gilts @ £33/hd. delivered. They were part of a lot of 60 gilts delivered to five other members of the Dunscroft weaner group.*

*Positive feedback from J C Innes of Dunscroft about the progeny of these gilts and strong demand for supply of 800 weaners a week initiated consultations with PIC's Director at that time, Ben Boughton, who at the time was on a duck shooting holiday at Loch of Strachbeg. It was agreed that we should become PIC Multipliers producing Camborough breeding stock. In May 1968 the first 14*



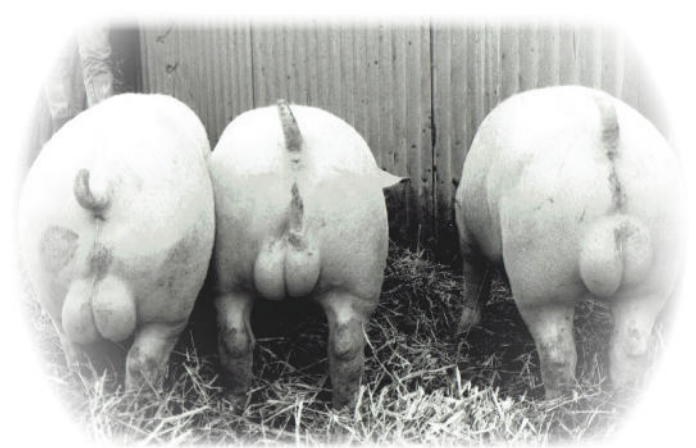
Dan



*Landrace GP gilts and a Large White boar, at the total cost of £937 were delivered, followed by a further lot of GPs in November 1968.*

*Shortly afterwards we had a visit from Dr Tom Alexander who urged a rapid expansion plan which we did and by 1971 we had 100 GPs supplying both Dunscoft and Bibbys in Lancashire.*

*Dr Tom was one of the most impressive men that I've ever met. Even with all his degrees, he was very down to earth and could spot anything untoward immediately."*



1989 - These three pigs raised at Lazyfold and sired by the PIC L63 boar won the Carcase Competition at the Royal Northern Agricultural Society Pig Event

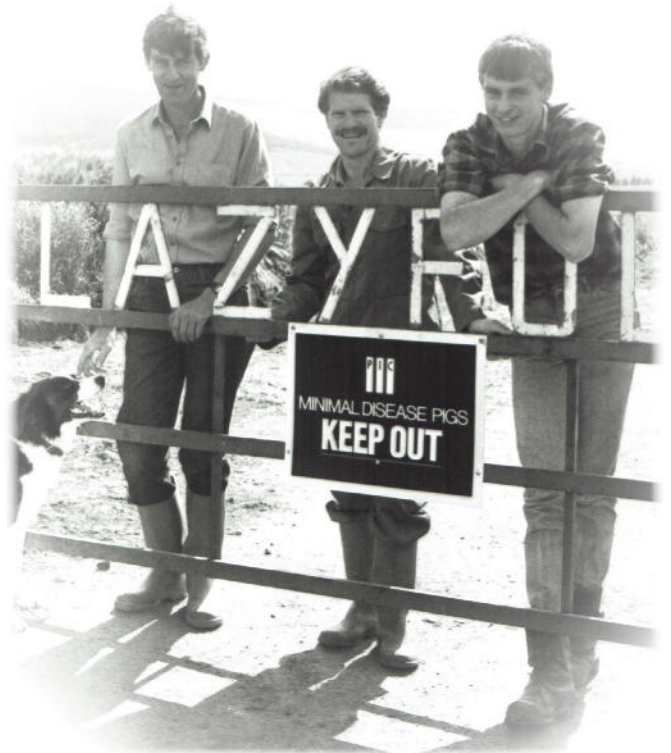


Danny

Danny continues: *"Dad continued to increase sow numbers at various times as I was growing up and going to school. He continued to supply breeding stock for PIC until 1977 when a pneumonia outbreak resulted in a destock/repop. We then continued to multiply until the late 80's when the decision was taken to move towards having a commercial herd. It was not a decision taken lightly, but some 10 years later and by 1995 we had 280 sows producing 20 pigs/sow/year. Ten years later in 2005 we were up to 25 pigs/sow/year, with 380 sows.*

*With foot-and-mouth hitting the country in 2001, herd health and bio security became highly important. So, with the advice of Tim Bramley, we started a Closed Herd Rotational Breeding Programme, which is the best thing I think we have ever done. In the past we had tried a small GP-herd within the herd but found we did not have enough choice when selecting gilts. With the Rotational Breeding Programme we have 15 sows each week to pick the best 2 breeding sows from to use damline semen, so giving us a pool of gilts to pick the best ones to breed from. To date in 2017 we are producing 30.5 pigs/sow/year."*

**Danny concludes with "Over the 50 years of continuously dealing with PIC we have also experimented with other breeding stock, but have always come back to PIC, for a good all round product which has never let us down."**



1989 - Dan and son Danny with their stock man Robbie Thomson (center).