

Sunday Times

MAY 2022



AGRICULTURE

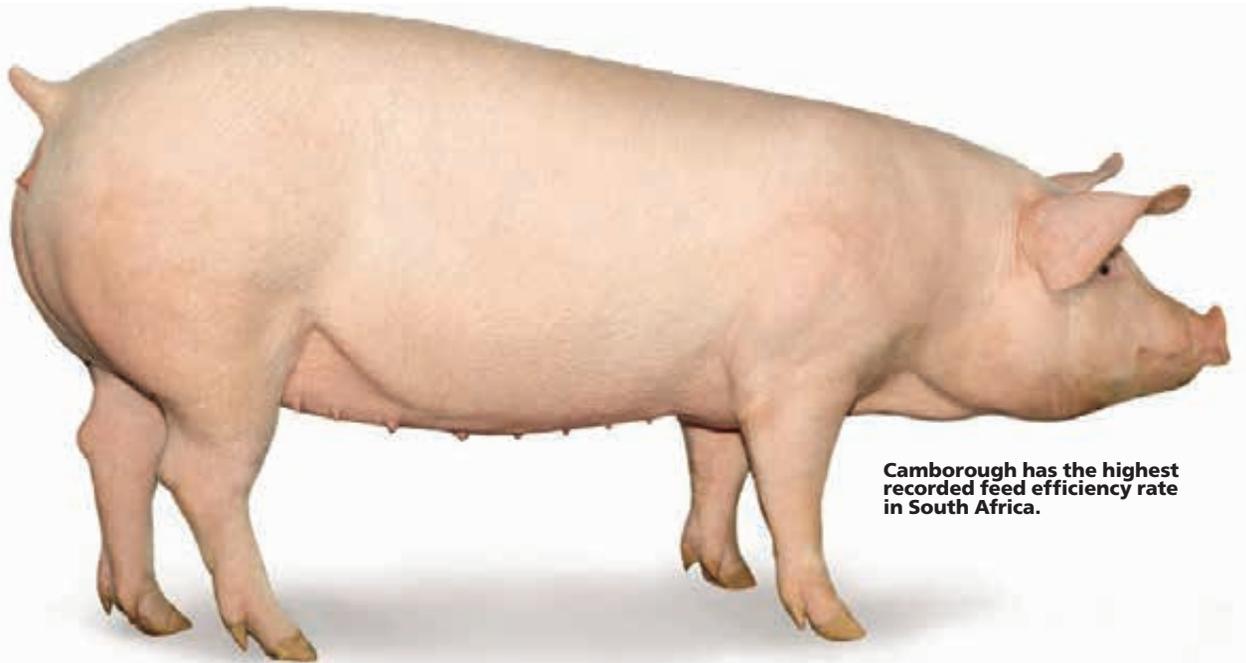
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CAN BETTER REGULATIONS PAVE THE WAY FORWARD FOR THE SECTOR?



INSIDE: UNLOCKING LIVESTOCK'S GREATER POTENTIAL | EXPORTS COULD HOLD THE KEY TO TRANSFORMATION | TECHNOLOGY PUSHES GRAIN YIELDS | KEY REGULATIONS THAT NEED ATTENTION NOW | GREENER METHODS FOR SUSTAINABILITY





Camborough has the highest recorded feed efficiency rate in South Africa.

HIGH-QUALITY GENETICS DRIVE SUSTAINABILITY FOR PORK PRODUCERS

Pig farming is a race against time as genetics decline every month of a pig's life, influencing feed conversion and reproduction rates. If farmers want to stay ahead of the curve, they need to start with the best. While the ban on importing live animals has curtailed the industry's genetic pool, frozen semen has offered a solution, reports LINDI BOTHA

When African swine fever swept through GTG Fourie Piggeries in Potchefstroom two years ago, owner Charlie Fourie lost his entire herd of 1 400 sows. Although it was a massive blow to this family enterprise, it gave Fourie the opportunity to start with a clean slate, using superior genetics.

"Our previous herd had a genetic lag of about four years, with our index average sitting at 23 points," says Fourie. "I had good genetics, but I was not achieving the results I wanted and knew could be achieved."

Genetic potential, measured as a selection index, represents the inherent ability of an animal to contribute to production profitability. An index allows an accurate comparison of each animal to its peers based not only on its own performance information but also that of the animals to which it is genetically related. Higher genetic potential is associated with a higher index. An index of 100 is used as a benchmark. Since pigs lose on average approximately 18 index points per year,

it is important for producers to drive genetic improvement through selecting replacement animals with good genetic values like like feed conversion ratios.

Immarie Smal, swine nutritionist responsible for genetic services at PIC South Africa, explains that the genetic potential of one's animals has a major influence on the productivity and profitability of a pig enterprise. "Although a combination of nutrition, health, environment and management influences the expression of genetic potential, these cannot make up for a poor genetic foundation in the animal, just as an excellent genetic foundation cannot make up for poor nutrition, environment or management."

Starting with the best genetics is therefore crucial to staying ahead of the cost-price squeeze, where farmers need to increase their output while decreasing their input. This is where Fourie has gained a genetic advancement through using imported frozen semen from some of the best boars in the world. "I get



Charlie Fourie

"THE ONLY WAY TO IMPROVE YOUR HERD IS TO BUY IN GILTS WITH HIGH INDEXES, AND USE HIGH-INDEXED SEMEN."

— CHARLIE FOURIE

“ALTHOUGH A COMBINATION OF NUTRITION, HEALTH, ENVIRONMENT AND MANAGEMENT INFLUENCES THE EXPRESSION OF GENETIC POTENTIAL, THESE CANNOT MAKE UP FOR A POOR GENETIC FOUNDATION IN THE ANIMAL.” — IRMARIE SMAL

semen every six weeks from PIC, which imports it from an elite PIC Boar stud in Canada which has the highest index points in the world. So by using that semen in my females, I get a big jump in index points in the resultant litters. Through this system, I have managed to lift my average index point across the farm to 80.”



Irmalie Smal

TANGIBLE BENEFITS

This lift in points brought tangible benefits to the business. The herd’s feed-conversion ratio went from 2.7kg of feed for a 1kg weight gain to only 2kg of feed for the same gain. “At 700g of feed per pig, it results in a massive saving across the herd,” says Fourie.

For small-scale farmers, the advancements that come from better genetics are especially lucrative when considering the quicker time to slaughter weight. While not all pork producers are registered in South Africa, of those that are, 78 per cent are small-scale farmers. This represents a significant opportunity to grow these farmers through better genetics, all the while reducing poverty.

Smal states that the latest innovations and technology have not only brought the time to reach 136kg down by 17 days, but reduce the needed feed by 21kg. “PIC’s flagship parent female, Camborough, plays a big role in improving local herds. This super-sow has been bred for high prolificacy combined with least cost to produce a kilogramme of pork. On average, she consumes 100–150kg less feed per year than her competitors.”

While better genetics bring invaluable benefits to commercial growers, the advantages they offer to small scale farmers are often the difference between farming and not farming. Kgadi Senyatsi, head of business development at the South African Pork Producers’ Organisation, notes that while many small-scale farmers still make use of unknown breeds, there is a greater movement towards using better genetics from reputable breeders, which has led to an improvement in the overall herd quality in South Africa. “Through industry support, these farmers are able to access better breeding programmes. They are then also advised on production plans, which all result in better quality and contribute to the success of the entire enterprise.”

FROM SEMEN TO SLAUGHTER

Irrespective of the size of the farm, semen from superior pigs plays a major role in achieving the production parameters required for successful pig farming. Senyatsi says that good-quality tested semen has an impact on meat quality, improved average daily gain and improved feed conversion

ratio, among other things.

An obvious benefit of better genetics is the increase in litter size. Since more piglets mean more income, the gradual increase in litter size over the years is also making an impact on South African herds. Fourie recalls that whereas in 2003 a sow produced on average 17 piglets per sow per year, it moved to 24 by 2017, and stands at just over 32 today. “The farmer where my imported semen is obtained has just reached the mark of 40 piglets per sow per year. This is what chasing good genetics is all about.”

Smal says that while producers often get more than 30 pigs weaned per sow per year with better genetics, during difficult financial times it is not only the number of pigs that will drive return on investment, but also whole herd efficiency. “When investing in genetics, producers should focus not only on growth rate, feed efficiency, reduced days to slaughter and wean-to-finish survival, but also efficient females. One of the biggest costs in pig production is feed, and investing in females that require less feed per piglet weaned will ensure long-term sustainability.”

Fourie agrees, noting that the pork industry is highly competitive. “The market sets the price and we take what we can get, so any jumps in profitability need to be achieved through on-farm efficiencies. The only way to stay afloat is by producing more piglets per sow, reducing mortality rates by increasing pig health and getting a better feed conversion ratio so you spend less on feed while still maximising meat output.”

With a greater ability to harness the genetic potential of pigs, farmers have a better opportunity to enter this sector, even if they only have a small piece of land. Since pigs have far more potential to produce meat than other livestock, they have a bigger role to play in food security.

GOOD GENETICS WORTH THE COST

The robust availability of traits within imported semen means that farmers have the opportunity to advance their herds faster, according to their breeding goals. Smal advises farmers to identify their production goals and markets and select their sire lines accordingly. “For example, PIC337 is the best choice for producers who want an exceptional feed conversion with superior performance at heavy weights. It offers producers the greatest profit potential.

“PIC800 is the best choice for producers who value the Duroc breed’s traits like robustness, meat quality and fast growth, plus it has the lowest production cost compared to other Durocs.

“PIC410 combines robust and efficient growth with exceptional primal yield and continues to perform at increasing slaughter weight.”

Good genetics do come at a higher cost, but Fourie maintains that sustainable, profitable pork production can’t be achieved without them. “The only way to improve your herd is to buy in gilts with high indexes, and use high-indexed semen. Return on investment takes time, but with a bigger litter and more robust piglets, you make the money back with the first litter.”

Fourie has been able to improve his genetic lag in one year, as opposed to the four years it would have taken if he continued with his previous herd. He has managed to rebuild his herd to 1 400 sows, leaping forward with every new batch of genetics.

Genetic improvement of pigs has rapidly progressed over the past 50 years and the trend is set to continue. The imminent future promises to be even more exciting as new technologies evolve that benefit global food production. ■

“GOOD-QUALITY TESTED SEMEN IMPROVES FEED CONVERSION RATIO.”

— KGADI SENYATSI



Kgadi Senyatsi