

British Pig Breeding



Our Success Story

AGRITECHWORLD

Genetic solutions delivered worldwide



Top quality lean carcasses with excellent yield make British pigs the world leader for improving pig meat production efficiency

Pork - meat of the future

The world population is forecast to rise to 8.1 billion by 2025. Over the same time period, increasing wealth per capita will hasten the current rapid transition to eating meat, particularly pig meat which is the most highly consumed meat in the world today. This trend is forecast to continue for the future. Pig meat has significant advantages over meat from ruminants as its production is more than 180% more efficient than intensive feedlot beef and more than 220% more efficient than intensive fat lamb production.

Low environmental impact

The British pig industry is internationally competitive and produces outstanding breeding stock and a range of convenient, healthy, tasty and safe pork and pork products. It has an international outlook that enables it to embrace new ideas and compete effectively and exploit the high welfare standards of national production that continue to set the UK

apart from virtually every other country. It also ensures that pig production continues to make a positive contribution to the environment with low methane emissions and the recycling of non-meat co-products from the manufacture of human food and drink.

Cost effective production

The increase in productivity from British pigs has been spectacular over the last forty years. The number of pigs produced per sow per year has increased by 50%, while pigs eat some 33% less feed and produce more than 33% more lean meat. Overall, on a per tonne of feed basis, there has been a doubling of the amount of lean produced and a 50% reduction in the amount of manure produced per kilogram of lean produced. As a result of these improvements, the costs of production have been significantly reduced and there has been a major reduction in the environmental footprint. These gains have been achieved through improved management, nutrition, health

and, in particular, genetics. Genetics is the first limiting factor in productivity and the British industry has led the world in pig genetics through the innovative and practical exploitation of quantitative and molecular genetics and the emergence and success of the world-renowned specialist pig breeding companies. These companies have been the focus of global pig improvement through the exports of British genetic material around the world.

Incorporating new technology

The advancement and rapid evolution of the UK pig industry has been underpinned by world class science and there has been an exceptional record in the uptake of new technology as well as huge cost benefits from government and international industry sponsored R & D.

We live in a highly competitive global market, not just for food resources but also for technical services. Our success in the UK is shown by the fact that UK pig genotypes consistently outperform overseas competitors in independent international comparison trials.

British pig breeding companies are totally committed to continuous technical development, optimisation of genetic progress and the achievement and maintenance of competitive advantage. This is achieved by maximising hybrid vigour; having different selection objectives in sire and dam lines, highly accurate performance testing, optimized selection indices in different markets, multi-trait BLUP, matching nutrition to genetic potential and the rapid uptake of new technologies such as DNA technologies and genomic selection. Our companies have combined their genetic



Long lean and well muscled British pigs deliver on carcass quality



Automatic monitoring of feed inputs, on farm and laboratory collection of carcass data for use in advanced selection programmes

skills with practical breeders to ensure that genotypes are bred for the best phenotypes in terms of conformation and type while attention to good legs, feet and under-lines is considered fundamental. As a result, UK pigs enjoy a robust longevity. In particular, companies listen carefully to their customer's feedback and incorporate this information into breeding plans to ensure that products are tailored to individual market requirements.

British pig breeding companies are world leaders. Existing excellent performance is being improved further by the rapid uptake of all the latest technology ensuring that our customers gain the maximum benefit for their businesses far into the future.

Worldwide demand

A combination of high health and rapid genetic improvement coupled with generations of breeding experience led to a boom in exports of British breeding pigs. Breeders from all over the globe have imported British pigs to take advantage of superior production traits that include: fast growth, low food conversion, maximum

lean meat and unrivalled sow productivity. The world wide trade in British pigs has been so great that it would be easier to list the countries that have not imported British pig breeding stock rather than those that have.

Modern breeding programmes

Modern pig breeding programmes incorporate the latest advances in information technology with computerised recording systems that monitor the pigs' performance 24 hours per day

Biotechnology in the form of DNA testing allows harmful genetic traits such as susceptibility to stress to be managed. The latest multi-trait BLUP evaluation programmes are used to provide Estimated Breeding Values for breeders.

Experience - key to the success

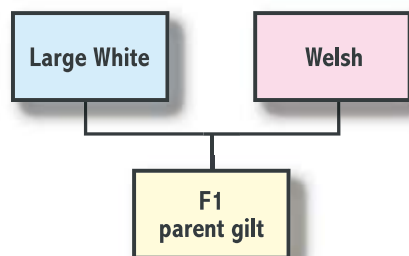
However the role of the experienced breeder remains key to the success of these programmes as the final product is still a live animal that is judged by the customer as it comes off the lorry or the plane.



Top quality genetics can be supplied as live animals or fresh and frozen semen

British Pig Breeds

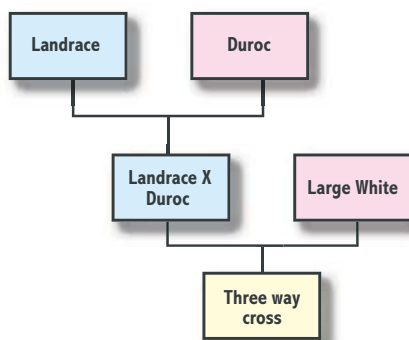
Two way cross



Large White X Welsh or Landrace - The classic two way cross produces a high quality F1 gilt at least cost.



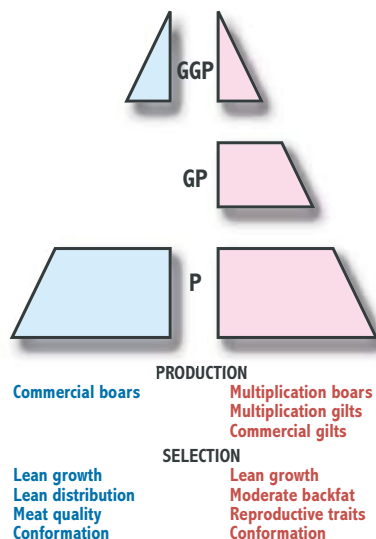
Three way cross



The three way cross incorporating the British Duroc that has been selected for female line traits. (Landrace X Duroc) X Large White. This unique 3 way cross developed in the UK is able to handle environmental stress at either end of the temperature scale.

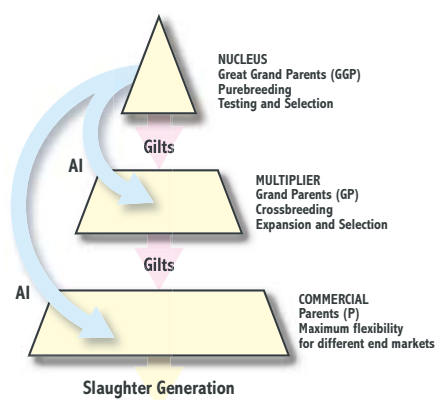


Sire and dam line pyramid



Separate sire and dam line selection within breeds such as the Large White and Landrace has led to the development of highly efficient purebred commercial sires. In England the purebred Large White sire produces fast growing high lean carcasses for fresh pork production whilst in Northern Ireland the demand for bacon carcasses has led to the development of terminal sire Landrace lines

Three step pyramid-GGP AI



The use of pure lines at GGP and GP level minimises genetic lag as GGP boars can be used to produce the commercial gilts whilst maximising economic efficiency by reducing the number of by-products from the breeding pyramids.

Large White

The Large White was one of the original founder breeds of the National Pig Breeders Association (now known as the British Pig Association) and the first herdbook was published in 1884. Before the end of the 19th Century British Large Whites were already being exported. Innovative pedigree breeders such as Sanders Spencer were exporting breeding stock as far afield as Australia,



Argentina, Canada and Russia as well as Europe. The Large White has proved itself as a rugged and hardy breed that can withstand variations in climate and other environmental factors. Their ability to cross with and improve other breeds has given them a leading role in commercial pig production systems and breeding pyramids around the world. In the early 1970's the development of modern performance testing programmes led to an increase in world-wide demand for UK Large Whites. From 1970-72 more than 8,500 Large Whites were exported. In the 1990's demand for leaner genetics in the USA led to a great wave of exports from Britain. Large Whites have been exported to over 60 countries around the world.

Duroc

In 1823, Isaac Frink of Milton in Saratoga County, New York, obtained from Harry Kelsey of Florida New York, a red boar, one of a litter of ten pigs. The sire and dam of these pigs were probably imported from England. Kelsey owned a famous trotting stallion named Duroc,



so Frink named his red boar in honour of the horse. This boar was known for his smoothness and carcase quality. His progeny continued the Duroc name and many of them inherited his colour, quick growth and maturity, deep body, broad ham and shoulder, and quiet disposition. They were reimported to the United Kingdom in the early 1980s

Its tenacity in looking after its young combined with its docility between times makes it an ideal candidate for an outdoor pig. Its hardiness and hybrid vigour when crossed with white pigs makes it ideal for use in large scale intensive systems, either as a part of a dam line or as crossbred or purebred sire line. Its succulence and heavy muscling makes it very suitable for anything from light pork to heavy hog production.

British Landrace

The first Landrace pigs were imported into Britain from Sweden in 1949 with other imports to follow from 1953 onwards from Finland and Norway. These new lines were used to broaden the genetic base of the breed, allowing



development, and making the British Landrace pig unique amongst other Landrace breeds throughout the world.

The British Landrace is a very versatile breed, performing well under either indoor or outdoor systems of management. Sows have the ability to produce and rear large litters of piglets with very good daily gain and high lean meat content, in a superbly fleshed carcase, which is ideal for either fresh pork or bacon production.

The greatest strength of the Landrace is its undisputed ability to improve other breeds of pig when crossed to produce hybrid gilts – over 90% of hybrid gilt production in Western Europe and North America uses Landrace bloodlines as the foundation for the profitable production of quality pigmeat.

Other Modern and Traditional Breeds

For more information about any of these breeds please visit the British Pig Association website www.britishpigexports.org



Berkshire



British Saddleback



Gloucestershire Old Spots



Hampshire



Large Black



Mangalitzka



Middle White



Oxford Sandy Black



Pietrain



Tamworth



Welsh

