## Getting access to the best genes – fast

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ig producers should be aware of the quality of the genes they are using in their operation. Breeding companies from their side should be transparent on how they have organised their gene flow to the best genes, the fastest to their customers. The use of centrallylocated Al stations, closely connected to the strategic nuclei of the breeding company is essential. This minimises any lag between genetic and commercial performance and maximises customer satisfaction. This article highlights the important role of central AI stations in any global breeding program.

A broad-based breeding structure brings huge advantages for customers. Many of industry's pig genetic companies maintain a large breeding base in just one single country. This creates certain limitations a customer should be aware of. A breeding program that is truly global and incorporating an extensive worldwide network of satellite farms is more robust and offers advantages that are not always that apparent. Breeding animals in different countries are tested daily under different market circumstances, with different payment grids. The breeding stock is born and raised under different production methods and faces varying health challenges. All global differences in performance are measured. The data flows back to one central database and is analysed and processed towards estimating breeding value. This way, breeding goals are not defined or influenced by any single specific local market.

Breeding from isolated locations does not deliver the best breeding stock. Interconnected, global breeding programs are better balanced and more robust. Commercial performance in the end defines the quality of the breeding animals.

## Two-way gene exchange

A breeding program can become even stronger when different strategic nucleus farms are connected to satellite farms that are managed by different partners worldwide.

Exchanging the best genes within this farm network makes the total network and program stronger. The genes of top boars from nucleus farms should be distributed via central AI stations. This guarantees optimal genetic connection of the satellite nucleus farms within the global breeding program. It also accelerates the gene flow within the network, as the best genes are spread in the fastest way throughout the entire global breeding population.

Genetic progress is further maximised by the exchange of top quality boars from satellite farms back to central Al stations, for the benefit of all breeding farms. These boars have the highest breeding values and meet various local market specifications.

With many satellite farms in many different countries, this two-way gene exchange enhances and enlarges the effective breeding population tremendously, facilitating better selection and creating a more balanced breeding program.

Breeding together with customers' stock strengthens the genetic portfolio for the benefit of all customers.

## **Genetic connections**

Connecting farms within the breeding network only makes sense when minimum standards are set for the mating on the nucleus farms utilising semen from its central AI stations.

Extensive experience in semen export is crucial. A standard of at least 70% of all matings keeps the genetic differences between the farms to a minimum.

Replacement of the boars at the central AI stations is another important factor a breeding company has to organise.

The location of the central AI stations located within close proximity to the strategic nucleus farms makes the 200% replacement of all boars logistically easier.

Exchange of semen of top quality boars has a major impact on genetic progress in pigs, as using top bulls does in cattle breeding.

However, unlike cattle breeding, fresh semen is generally required to achieve the best results in pig breeding. While technological advances have improved the fertility of frozen pig semen, fresh semen still yields significantly better results.

Therefore, a breeding company should opt for the use of fresh semen and use frozen semen only cautiously, as its reduced fertility dilutes the true prolificacy of its sows.

