

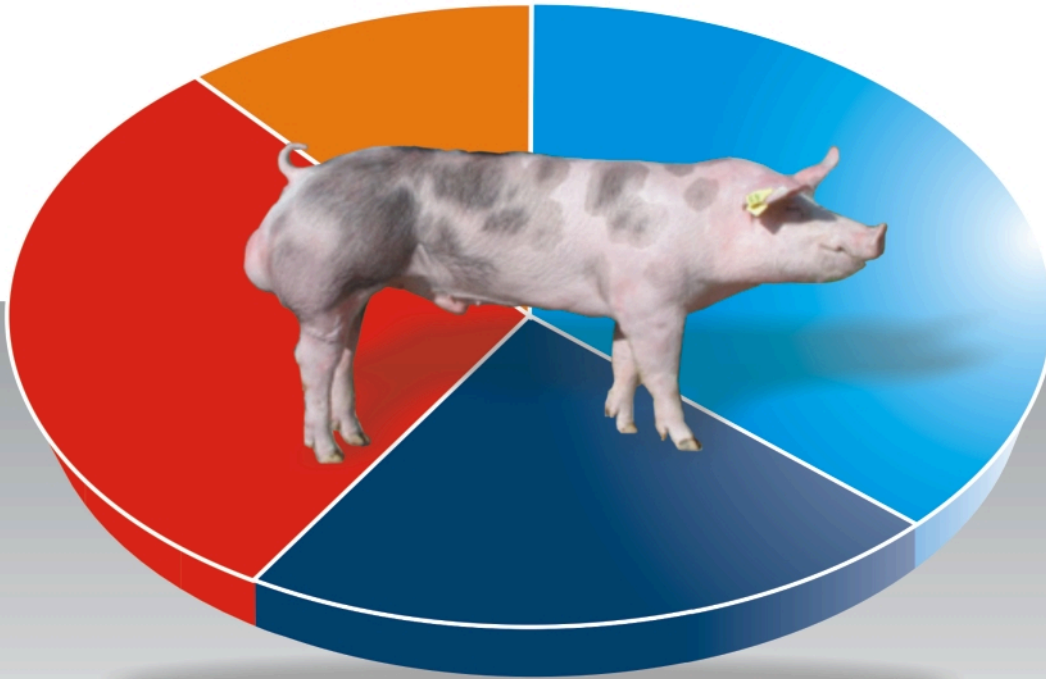
PROGRESS

MADE BY

GERMAN PIÉTRAIN



WEIGHTING OF FEATURES IN THE BREEDING VALUE ESTIMATION



Weight gain (32%)

High weight gain intensity in rearing and fattening is an outstanding feature of the modern, weight-gaining German Piétrain boar. Daily weight gains of more than 800 g demonstrate the superiority of our boar end products in practice.

- Daily fattening weight gain
- Daily lifetime weight gain
- Net daily lifetime weight gain
- Slaughter age

Meat quality (10%)

The stress-resistant German Piétrain boars achieve outstanding results for meat quality features.

- Drip losses
- pH value
- Intramuscular fat content

Feed conversion (20%)

Through target-oriented capture of feed consumption, German Piétrains are selected continuously towards outstanding feed conversion. This means decisive savings in feed costs.

- Feed conversion
- Feed consumption

Proportion of meat (32%)

German Piétrain as a boar suitable for different sow genetics always guarantees a high degree of reliability for the lean meat content feature.

- Lean meat content
- Meat content on the belly
- Weight of loin
- Weight of ham

GERMAN PIÉTRAIN



Albrecht Weber

Dr. Jan Bielfeldt

Jörg Sauter

Dear Ladies and Gentlemen,

Even if our times are becoming faster and faster, luckily there are a few factors which have been constant for years, even decades: humans, products or ideas.

It is only possible to keep continuity over such a long time if changes and adaptations of the framework conditions are carried out. That's where we see ourselves: The German Piétrain concept has a stable basis and has succeeded in remaining open for new developments and implementing them innovatively into the planning of future strategies. Among our groundbreaking innovations are:

- the merger of formerly autonomous regions and companies into a national breeding organisation,
- stress-resistance of the Piétrain breed,
- the implementation of routine genomic selection and genomically-optimised breed value estimation,
- the development of a boar without boar taint or since 2015
- establishing the high weight gain Hector boar with very good carcass quality and high vitality of offspring.

Today, we are at a strategically important point and we are proud to present further important developments

of our future strategy planning to you.

This is the establishment of the Matrix boar for outstanding carcasses with very good growth and the further development of the Hector boar for even higher weight gain. Furthermore, we provide further important features for Hector or Matrix, which further increase the excellence of the boar in other areas: Gourmet for outstanding meat quality, Inodorus for genetically-proven boar fattening suitability and Colin for Coli resistance.

We have adapted our goals of product development so that you will generate the highest profitability with our boars in the future, and that we will stand for outstanding carcass quality in the future with focus on fattening and especially daily weight gain.

We are convinced that with this boar portfolio we have combined the highest profitability and important production features such as homogeneity, feed conversion and vitality.

We wish you a lot of success with German Piétrain.

Yours faithfully,

Albrecht Weber

Breeding Director

Dr. Jan Bielfeldt

Breeding Director

Jörg Sauter

CEO

THE GERMAN PIÉTRAIN

HECTOR and MATRIX: with these two concept boars the German Genetic Group offers two target-oriented products for the European pig market, which are perfectly aimed at the production and marketing conditions of today concerning profitability and efficiency: both types of boar are pure-bred Piétrains, genomically selected, resistant to stress and extensively tested for their quality.

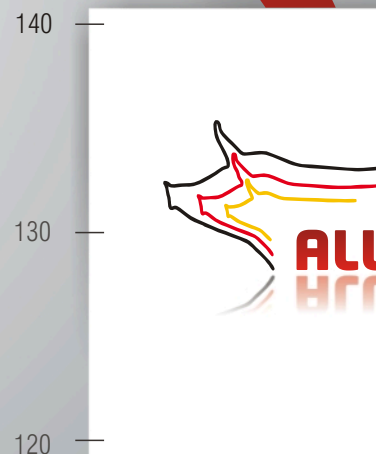
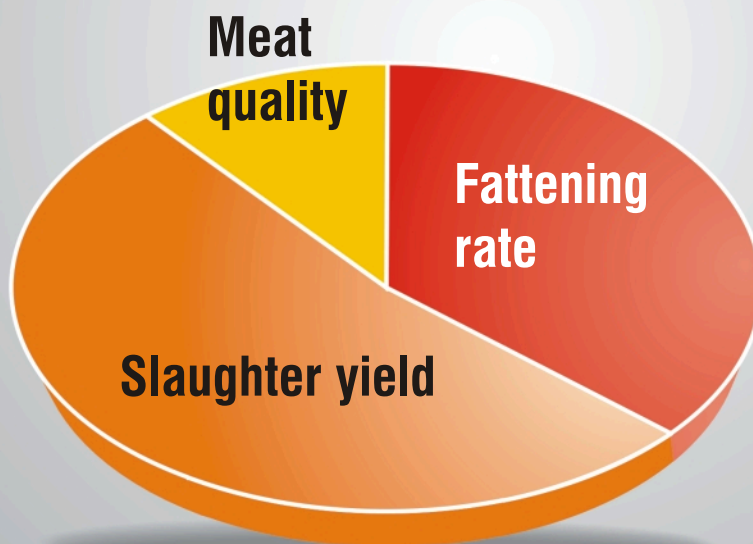
With the HECTOR boar race the highest selection weight is placed on the disposition for growth. Only boars with the highest daily weight gain in breeding, as well as the

fattening are characteristics of HECTOR. In addition, there is optimal feed conversion, which is of overriding economic importance with the weight gain in fattening as a highly-correlating feature. With the priority weighting of the fattening performance features, HECTOR boars distinguish themselves by clearly-defined and ensured high carcass quality, which earmark the HECTOR boars as completely Auto-FOM. A further significant feature of the HECTOR boars is the exquisite performance of the so-called fitness and vitality features: HECTOR descendants have good vitality and grow well.



THE CARCASS BOAR

- Outstanding carcass quality
- Good daily weight gain
- Efficient feed conversion
- Homogeneous slaughter cuts



CONCEPT BOARS

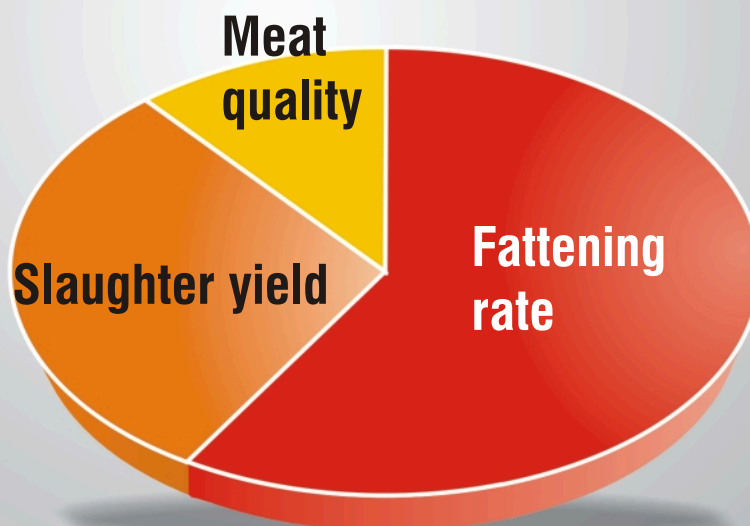
The focus of the MATRIX boar type, however, lies clearly on the carcass quality. The results from the Auto-FOM, as well as FOM classification are the basis of the carcass breeding value, as well as the very detailed results of cutting. MATRIX boars have outstanding abilities for the heredity of high weight of cuts (e.g. loin and ham), as well as high quality, lean stomachs of descendants. The MATRIX line distinguishes itself through good daily weight gain, as well as efficient feed conversion. The 'Homogeneity of Slaughter Pig Cuts' feature is attributed a lot of importance, which is required especially by hog farmers more and more.

Both boar varieties, HECTOR and MATRIX, have an overall breed value of 140 for growth and carcass value and they rank at the top of the German Piétrain concept. With HECTOR or MATRIX from German Genetic, the right boar types for the whole range of piglet and fattening pig production in Europe are available. Depending on the production orientation of the breeder, the selected feeding strategy, the existing sow genetics or the slaughter pig marketing – Hector or Matrix are the solution.

HECTOR

THE GROWTH BOAR

- Excellent growth
- Optimal feed conversion
- High carcass quality
- Best piglet vitality



... PROGRESS MADE BY



Piwallo 11963



Banjo 11999



Riboss 11797



Badminton



Babylon 11918



Bacon 11997



Balzac 12037



Balken 12023



Midland 27310



Midori 27311



Robert 27269



Chromax 11646



Medizin 27433



Bank 12035

GERMAN PIÉTRAIN



Balance 12030



Balaton 12033



Balko 12006



Chesom 12028



Chican 12025



Regatta 12021



Basol 12007



Radon 11979



Verdi 12040



Belmondo 27590



Riano 11749



Batterie 11974



Botox 27323



Metaxa 11970

GERMAN PIÉTRAIN

THE INNOVATIVE BREEDING PROGRAMM

In 2013, German Piétrain was the first breeding organisation to implement genomic selection into the routine breeding value estimation. The further development of the breeding programme, as well as the validation and adaptation of breeding targets to the requirements of the market are the basis for high-performance breeding.



Exact data capture of feed amounts at the feeding

Genome selection

With genome selection, so-called SNPs are used as sources of information. These markers are distributed across the entire genetic material. The genetic potential of an animal corresponds to the sum of the SNP effect for the individual features. The density of the used chip technology is decisive for the accuracy and reliability of the calculated breeding values. In 2015, the system of the genomic selection in the German Piétrain breeding programme was extended so that all animals are analysed with the 60 k chip and the perfect evaluation of the SNP effects, as well as their use in breeding value estimation. All animals which were genotyped as a young animal can be integrated into the

learning sample after finishing the performance test. Every year, around 3,000 young animals are genotyped, of which around 1,000 reliably tested animals complement the learning sample in the following year. Through the enormous extension of the learning sample, the quality of the genomic selection is sustainably improved.

Performance test and breeding value estimation

The performance test, breeding value estimation and selection are the elementary components of the German Piétrain breeding concept. The processing of genotyping data and the combination of pure-breeding and cross-breeding data from the different audit trails of one breeding value estimation are expedient. In the framework of the pure-breed test, exact data collection is carried out at different neutral test locations, which have great importance for features which are complex in their collection. Together with the results from the performance test in the breeding farms, results from around 40,000 pure-bred animals are used for the breeding value estimation. Progeny testing of cross-bred animals in the field – the field test – delivers quantitatively as well as qualitatively reliable data for the German Piétrain breeding programme. The basis of the breeding value estimation is data from fattening products from the audit trails of the GFS, BUS and SBS Weser-Ems insemination organisations. On the basis of all significant sow genetics, test boars are used purposefully in order to evaluate at least 40 fattening pigs from every boar from several farms. For the breeding value estimation, data from more than 350,000 fattening pigs are utilised. The connection of extensive data from different audit trails results in safely estimated breeding values and is the basis for breeding progress.

Breeding objective

The breeding objective of the German Piétrain breeding programme is generally oriented to high overall profitability, as well as fast-growing and uniform piglets with good vitality in piglet production, as well as low losses, high weight gain with efficient feed conversion in connection with homogenous, high-meat carcasses in pig fattening. Optimal meat quality with an appetising colour of meat and minimal drip losses guarantee perfect conditions also in meat production.

The fattening performance characteristics weigh heaviest with around 60 % of the breeding orientation of the breeding programme. The weight gains are differentiated in the areas of youth development (0 kg to 30 kg) and daily weight gain (30 kg to 120 kg) and weighs 35 % of the breeding objective. This focus ensures that animals are selected which distinguish themselves through superior disposition

in growth and short fattening times. In the Hector programme animals are developed, for example, which enable genetic potential in the daily weight gain feature of more than 1,000 g for fattening pigs. Similar weight is put on the feed conversion feature. The genetic disposition for good feed conversion is generally a feature of German Piétrain animals. Through exact data capture in connection with focussed breeding objective this feature is another focal point of genetic inheritance.

Quality and uniformity of carcasses also determines values in the production chain. Through the combination of cutting operations for determining the true proportion of meat in the pure-breed test with extensive slaughterhouse data in the field test, the German Piétrain breeding programme has a unique selling point in this complex. For the breeding objective of carcass quality, features of both audit trails are also weighed and guarantee optimal carcass quality with permanently increasing fattening performance. Special weight is put on the excellent carcass quality in the selection of MATRIX boars, which are used wherever good weight gain and a high percentage of valuable cuts and optimal index points are important.

The meat composition of German Piétrain animals has been continuously developed over the years. In order to evaluate the meat quality, extensive pH value measurements are carried out in different cuts directly after slaughter as well as during aging. Therefore, the entire meat aging process is supervised and genetic dispositions can be taken into account for the selection. For the processing and the

enjoyment of pork, the succulence and also the intramuscular fat content are essential. Both features are captured by default. Hector as well as Matrix sires offer an optimum of enjoyment.

Conclusion

German Piétrain is the innovative breeding programme which works on the basis of extensive and permanent performance tests with modern breeding methods, such as genomic selection. Selection is carried out with a market-oriented breeding objective and guarantees highest usability and best profitability on all levels of the value-added chain of pork.

In the learning sample, animals with very reliable breeding values are taken and their genome is analysed. If "reactions" in the same gene loci are then found in the genome of young animals, it can be assumed due to this "comparison" that the animals perform similarly well or badly as the animals in the learning sample or comparative sample.

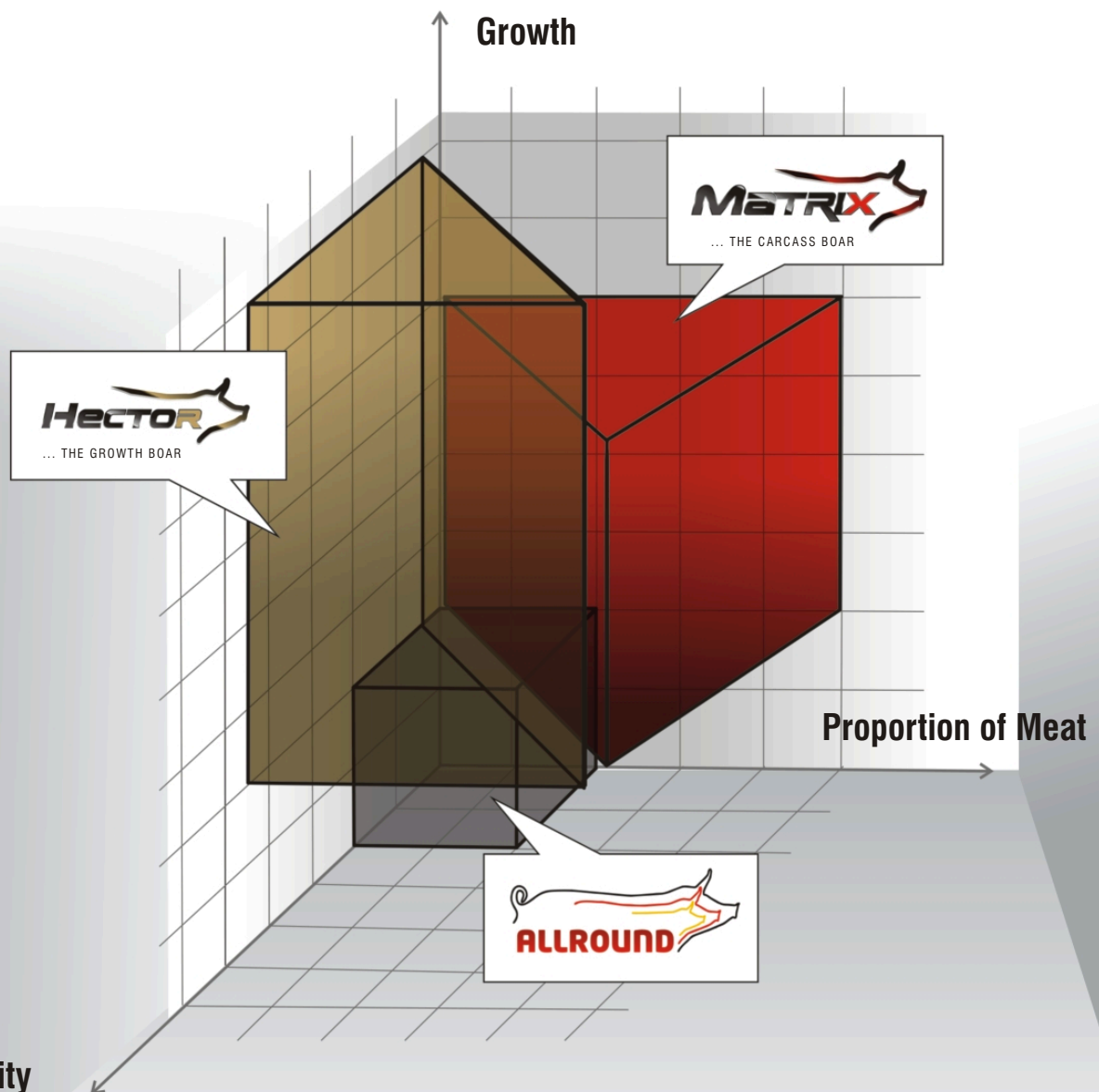


THE GERMAN PIÉTRAIN ENDPRODUCTBOAR PORTFOLIO

With overall 2,000 base sows and more than 1,500 insemination boars in Germany, the German Piétrain breeding concept represents the biggest Piétrain breeding programme. Due to the size of the breeding programme, as well as an extensive and detailed performance test programme, custom-fit boar variants can be selected according to the requirements of different markets, which guarantee a maximum of profitability for producers as well as for the processing industry.

The boar portfolio is generally divided into the two HECTOR and MATRIX variants. Both boar lines represent well-bred, pure-bred Piétrain lines, which are complemented by appropriate special features. All boar variants of the German Piétrain breeding concept unite an optimum of uniformity and homogeneity. This represents a fundamental maxim of the selection of animals.

By providing different boar variants, the pig production can be adapted exactly to the respective production focus, the respective sow genetics and the marketing line, and therefore generate more revenue at each production stage.





GERMAN PIÉTRAIN HECTOR

- Genomically selected
- Absolute peaks of performance in growth
- Oriented towards extreme weight gain and short fattening times
- Outstanding fattening day weight gain of 900 g to 1,000 g
- Excellent feed conversion of 1:2.2 to 2.4
- Lean meat content between 57 % and 58 %
- Selected according to vitality and stability
- Low anomaly frequency



GERMAN PIÉTRAIN MATRIX

- Genomically selected
- Resistant to stress
- Outstanding carcass quality
- Fattening day weight gain of 850 g to 900 g
- Food feed conversion of 2.3 to 2.5
- Lean meat content between 58 % and 60 %
- High amount of Grade E
- Uniform fattening pigs
- Optimal suitability for Auto-FOM classification
- Low anomaly frequency



GERMAN PIÉTRAIN INODORUS

- Optimal suitability for boar fattening
- Low values of Skatole and Androstenone
- Genomically selected against boar taint
- Permanent testing programme
- High daily weight gain



GERMAN PIÉTRAIN COLIN

- Resistant against E-Coli strains
- Coli F4 and Coli F18
- Utilisation of special markers
- Developed by using special markers
- Low losses through diarrhoea and edema diseases



GERMAN PIÉTRAIN GOURMET

- Genomically selected
- Orientation towards optimal meat quality
- Optimal meat aging
- Minimal drip losses
- Favourable pH values
- Favourable values in intramuscular meat content



GERMAN PIÉTRAIN ALLROUND

- Base line of the German Piétrain programme
- Favourable values in fattening and slaughter performance
- Ensured quality level



German Genetic

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