

Book of Abstracts

**of the 76th Annual Meeting
of the European Federation of Animal Science**



Book of Abstracts No. 39 (2025)
Innsbruck, Austria
25 - 29 August, 2025

Session 5

Poster 9

Genetic analysis of feeding behavior and its relationship with key economic traits in a French male pig line

C. Garcia-Baccino¹, B. K. Angarita-Barajas^{2,3}, A. Le Dreau¹

¹ SAS NUCLEUS, 7 Rue des Orchidées, 35650 Le Rheu, France, ² Instituto de Investigaciones en Producción Animal (INPA-CONICET-UBA), 4453 Av. S. Martín, C1417DSE Ciudad Autónoma de Buenos Aires, Argentina, ³ Departamento de Producción Animal, Facultad de Agronomía, Universidad de Buenos Aires, 4453 Av. S. Martín, C1417DSE Ciudad Autónoma de Buenos Aires, Argentina

Feed efficiency is key in pig production, influencing economic and environmental sustainability. While selection has traditionally focused on improving feed conversion ratio (FCR), feeding behavior traits (FBT) provide additional insights into how animals interact with their environment and utilize feed resources. Understanding the genetic basis of FBT and their relationships with production traits can help refine selection strategies. Consequently, the objective of this study is to estimate the heritability of FBT and their genetic correlations with traits of economic importance in a male pig line. Data were obtained from 74,727 Piétrain pigs over six years (2017-2023). Among them, feeding behavior data were recorded for 4,788 males over three years (2021-2023). The FBT that will be included in the study are: number of visits per day, time spent feeding per day, daily feed intake, time spent in feeding per visit, feed intake per visit, feed intake rate, number of meals per day, time spent in feeding per meal and feed intake per meal. Production traits to be analyzed will include age at 100 kg, backfat thickness at 100 kg, loin muscle thickness at 100 kg, FCR, lean meat percentage, pH of ham at 24 hours postmortem, drip loss, and boneless ham weight. All traits were measured in both sexes, except for FCR, which was recorded only in males. The pedigree file includes 84,714 individuals, among them, 1,557 animals were genotyped with the porcine SNP60 Illumina BeadChip. Variance components will be estimated using the single-step GBLUP employing programs of the BLUPF90+ family. Preliminary analyses on a subset of this population showed high heritability estimates (0.44-0.56) for FBT, highlighting the potential for incorporating these traits into genetic selection programs. Final results, including genetic correlations with production traits, will be presented and discussed during the conference.

Session 5

Poster 10

Voluntary feed intake of local Krškopolje pig breed from 30 to 100 kg: variability, sex differences and comparison to modern hybrids

M. Škrlep¹, K. Poklukar¹, B. Savič¹, M. Čandek-Potokar¹

¹ Agricultural Institute of Slovenia, Hacquetova 17, 1000 Ljubljana, Slovenia

Key words: local breeds, Krškopolje pig, feed consumption Local pig breeds are early maturing, exhibit lower performances and higher adiposity compared to modern genotypes. However, their feed intake capacity is not sufficiently explored, and available data is limited and inconsistent, influenced by factors such as feed type, environment, housing conditions, and growth phase. Feeding stations with individual recording of feeding behavior enables to evaluate the feed intake capacity of Slovenian local breed Krškopolje pig (KKP). Thus we used 28 KKP pigs (15 barrows, 13 gilts) from three different litters and for comparison of feed intake capacity we used the data from 11 commonly used crosses (MP, Landrace × Pietrain; 5 barrows, 6 gilts). Monitoring was performed over three fattening phases (25–50 kg, 50–75 kg, and 75–100 kg) and weight gain and feed intake were recorded as g/day, kg feed/day, MJ metabolizable energy (ME)/day, respectively. KKP pigs consumed in average 1.93, 2.77 and 3.30 kg feed/day in first to third phase, respectively, and consumed consistently more than MP (1.62, 2.42, 2.82 kg feed/day, respectively). Within KKP breed, feed intake varied significantly between sexes and litters. Barrows consumed more feed than gilts (2.79 vs. 2.41 kg/day, 35.2 vs. 30.3 MJ ME/day, $P < 0.05$) and exhibited higher growth rates (843 vs. 760 g/day, $P < 0.05$), particularly in the first phase (798 vs. 674 g/day, $P < 0.05$). We observed high individual variation and within litter variation in feed intake capacity, which was related to growth rate. Overall, our results indicate higher feed intake capacity of local pig breed compared with modern genotype. Acknowledgements: Funding by Funding by Slovenian Research and Innovation Agency (grants P4-0133, Z4-60178, J4-3094, V4-2201) and Slovenian Ministry of Agriculture, Forestry and Food (V4-2201) are acknowledged.