



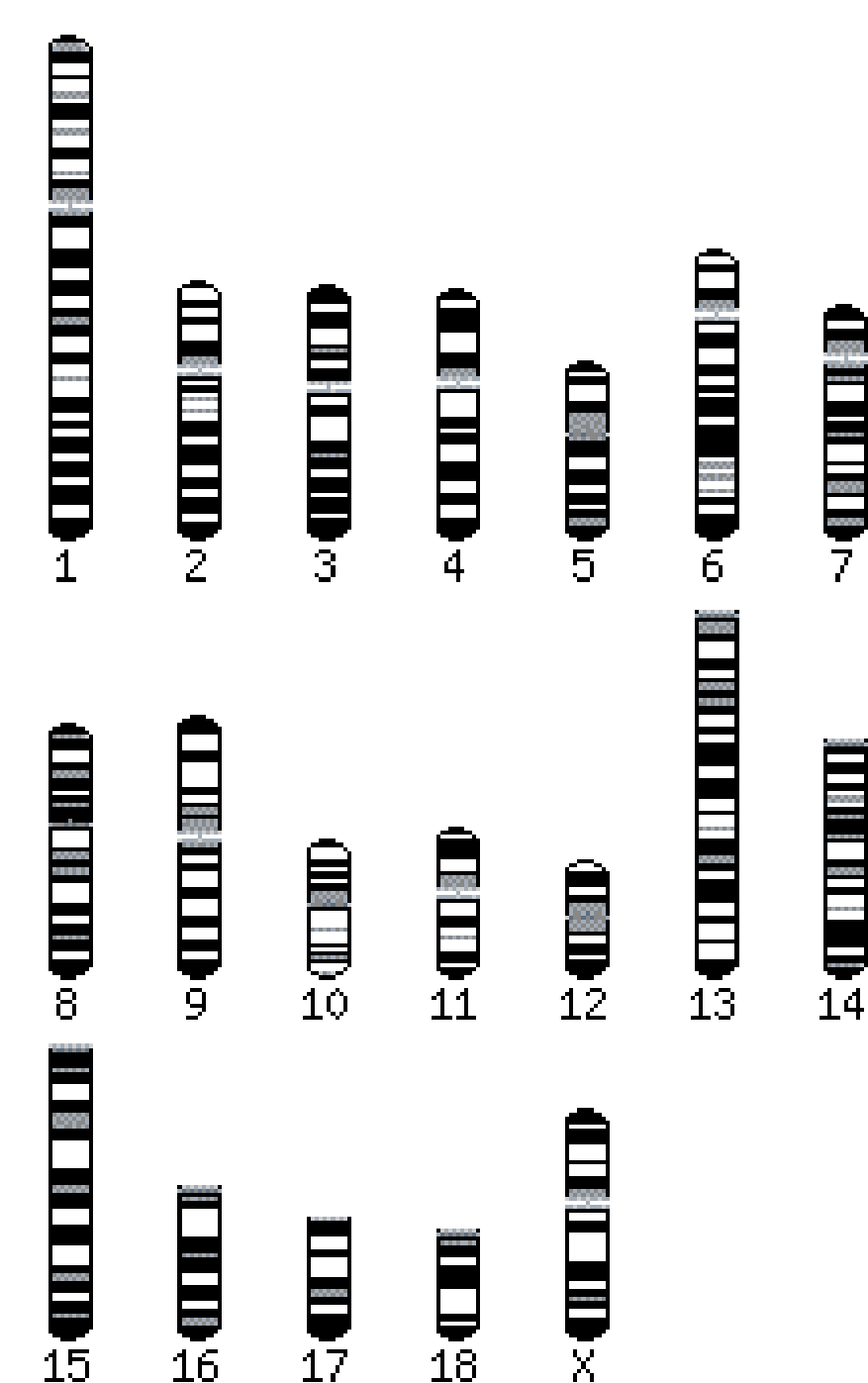
Success Stories and Key Results

Pig Chromosomes 7 & 14

Within the first two years of the project an assembly and annotation have become available for porcine chromosomes 7 and 14 (SSC7 and SSC14) that cover more than 99% of these two chromosomes.

A total of 1593 clones have been sequenced for the two chromosomes. The chromosomes are made available in pre-ensemble at:

http://pre.ensembl.org/Sus_scrofa/index.html



The completion of the sequence of SSC7 and SSC14 is already being used as the reference sequence for the identification of SNPs in the pig using second generation sequencing (Solexa, 454). The availability of the finished sequences for SSC7 and SSC14 ensures the even coverage of these two chromosomes on the whole genome 60K SNP chip for pigs.

Key SABRE Results

Read the full stories on the SABRE website: www.sabre-eu.eu > SABRE RESULTS

Numerical Genomics:

- Software for QTL analysis
- MIXBLUP software
- An R package for eQTL analysis

Genomics and Bioinformatics:

- Pig Genome Sequence (Chromosomes 7 & 14)

Product Safety:

- QTL for eggshell quality on chromosomes 2, 3, 6 and 14
- SNPs in known candidate genes affecting egg shell quality
- Differentially expressed genes from shell gland

Animal Wellbeing:

- Genes differentially expressed in Meishan and Large White pig adrenals in basal condition and in response to ACTH

Product Quality:

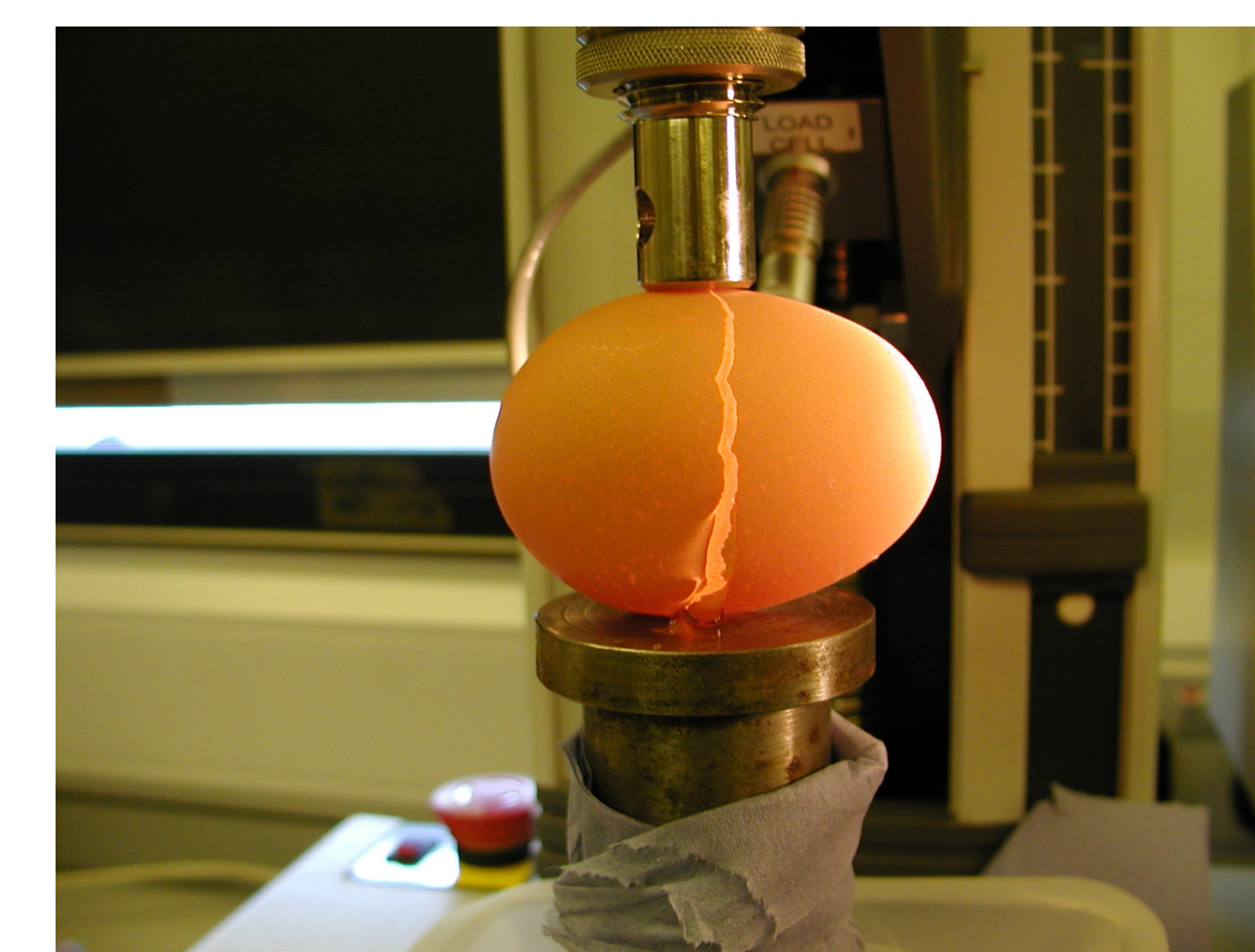
- 7.5K Pig SNP Panel

Additional research subjects include:

- Epigenetics
- Gut health and Functionality
- Mammary Function (Mastitis)
- Fertility and Reproduction
- Demonstration of Genome Wide Selection

Egg Shell Quality QTL

Previous association studies have indicated that SNPs in candidate genes known to be present in the egg shell matrix (ovalbumin, ovocalyxin 32 and ovocleidin 116) were potentially valuable for selection for shell quality.



The region around these genes has been resequenced in a pedigree line used to breed brown egg layers. The SNPs in the region have been genotyped in around 1800 animals and the results are being analysed to discover if any SNPs are better predictors of egg shell quality and if specific haplotypes may exist which are better for selection. The results will be used to optimise the markers for use in selection.

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