

# DEVELOPMENT OF NEW GENOMIC TOOLS TO IMPROVE MEAT QUALITY TRAITS AND PRODUCTION EFFICIENCY IN PIGS

## PROJECT LEADERS

**Brian Sullivan and Mohsen Jafarikia,  
Canadian Centre for Swine Improvement (CCSI)**

## PROJECT OBJECTIVE

Develop new genomic tools to improve meat quality traits as well as enhance product differentiation and the efficiency of pork production.

***Genomic evaluations of economically important traits linked to productivity and meat quality were developed and implemented. The swine industry is now positioned to start routinely applying genomic evaluations in breeding programs.***

## FINAL RESULTS

The porcine 60K SNP panel provided tools for using genomic evaluation for selecting breeding animals early in life to improve important production and meat quality traits. Guidelines and recommendations on the use of genomic information in swine breeding programs were provided for the Canadian swine industry.

Significant impacts of this project are:

- Development of the tools and infrastructure for the application of genomic evaluation to be used for production efficiency and pork differentiation.
- Specific major genetic markers and SNPs on the 60K panel that were significantly associated with traits economically important to the swine industry were explored.
- Gene expression analyses allowed studying expression patterns in animals with distinct phenotypes. SNPs within targeted genes could potentially be used to select for specific pork quality attributes and production efficiency.

