

## Adapting pork production to local conditions in Brazil



### Summary

Efficient local production of pork in Brazil is essential to meet the increasing internal demand for animal protein, and to make the Brazilian pork sector competitive and sustainable towards the future. Two important threats are: 1) Brazilian pork production relies on feed (corn and soy) that is becoming more expensive due to large demand for alternative uses and increasing transport distances, and 2) consolidation of pig breeding businesses has resulted in global breeding programs that do not necessarily select the best pigs for specific local circumstances (such as tropical climate or alternative feed). This multidisciplinary project will quantify these threats, develop and evaluate alternatives involving feeding by-products from more locally produced Macaúba and breeding strategies that allow global breeding plans to serve specific local breeding goals. This project potentially will decrease costs of Brazilian pork production, but also generates additional economic activities involved in harvesting and processing of Macaúba.

### Midterm summary of progress

To increase the availability of low cost, locally produced pork as a high quality protein food the LocalPork project aims to improve the efficiency of pig growth in Brazil. Genetic analysis showed that selecting purebred pigs for growth and efficiency is not 100% effective for improving the performance of typical growing pigs that are crosses. A methodology was developed to enhance the genetic improvement for feed efficiency in crossbred pigs. The method allows a breeding programs that improves purebred populations to use data recorded on pigs that are crossbred. This methodology was shown to be effective according to both simulations and analyses of real data. To reduce the economic cost and environmental impact of producing pork, diets including alternative ingredients were shown to be beneficial. Different ingredients were included in this analysis, including kernel cake, a byproduct of producing oil from Macaúba. The availability and acceptance of byproducts such as Macaúba was discovered to be a potential issue with farmers.