

Benchmarking mango breeding and genomics

Key details

Location

Philippines

Duration

Start Dec 2024

End Nov 2026

Budget

AUD 482,833

Commissioned organisation

Department of Agriculture and Fisheries,
Queensland

Project leader

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Program

Horticulture

Project code

HORT/2024/122



Research need

This small research activity aims to improve the efficiency of mango breeding and development by conducting a benchmark review of mango breeding and molecular genetic programs in the Philippines and Australia.

The mango industry in the Philippines is a major agricultural industry, ranking third in the Philippines for production and export, behind banana and pineapple. Eighty-one per cent of this production is based on the national variety Carabao, for both domestic and export markets.

International markets are increasingly demanding in terms of fruit quality, fruit storage life and maximum residue limits, however the Carabao variety is not meeting the demands of markets due to declining yield and taste characteristics, and increasing susceptibility to pests, diseases and sub-optimal water management.

In alignment with the Philippine Mango Industry Roadmap, a mango breeding and improvement program has been established by a group of agencies and universities in the Philippines. The project will explore collaborative efforts in using genomic sequence data from this program, as well as an Australian program, with the goal of developing molecular insights and breeding tools that can identify climate resilient traits and accelerate the breeding process in both countries.

The project will also identify areas for capacity building and future collaboration to build the skills and capacity

of Philippine mango breeders and biotechnologists through training in Australia and the Philippines. Additionally, the project will develop an Asia-Pacific regional mango genetic improvement forum to be held in the Philippines in 2026.



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