Improving smallholder farmer incomes through strategic market development in mango supply chains in southern Vietnam

End of Project Review
September 2022

Title: **Hot Water Treatment - Vietnam**

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Implementing Agency

Griffith UNIVERSITY SIAEP CAP THE UNIVERSITY of ADELAIDE

Funding Agency

Australian Government
Australian Centre for International Agricultural Research

Aim & Objectives

Key focus

- Improving hot water treatment to maximize disease whilst minimising negative impacts on skin quality.

Research questions

- What on-farm, post-harvest & marketing innovations are likely to generate the most significant impacts to reduce losses, increase productivity & quality outputs that will improve returns directly related to smallholder incomes?
- What innovations have the most cost-effective & positive impacts on productivity, losses, quality & harvest timing, leading to improved price & farmer incomes?
- What processes will strengthen markets linkages & agribusiness partnerships & enhance innovation adoption along the chain?

Overview

Aim

- Identify postharvest diseases that cause rot on Cat Chu & Cat Hoa Loc
- Study effective HWT & Chitosan coatings on rot & fruit quality

Outputs

- Identification of causal agents of postharvest diseases on Cat Chu & Cat Hoa Loc
- Laboratory identification of post harvest diseases on fruit collect from demonstration farms
- Trialled HWT & Chitosan treatments simulating commercial chain conditions

Colletotrichum gloeosporioides

Colletotrichum acutatum

Phomopsis longicolla

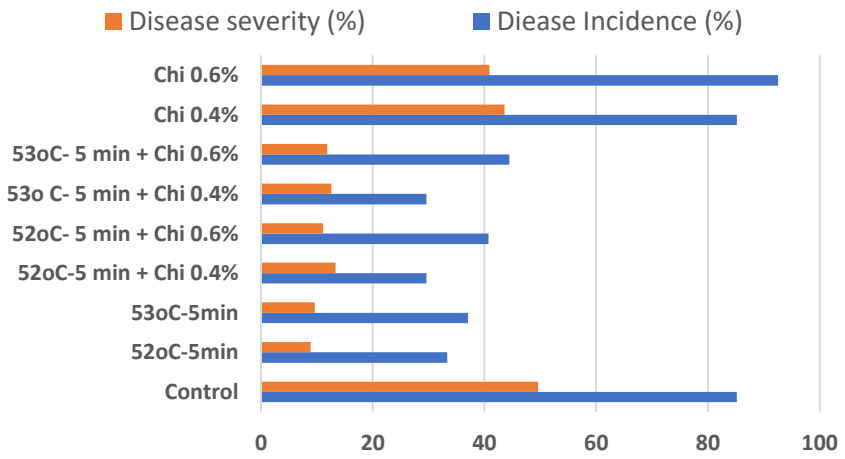
Diaphorthesp.

Lasiodiplodia pseudotheobromae

Benefits of change

What we learnt

- *Colletotrichum gloeosporioides* is the dominant post-harvest disease
- HWT can significantly reduce disease levels to meet short to medium distance market requirements
- Longer distance markets would require the use of fungicide in the HWT process
- The addition of Chitosan appear to be inconclusive but may suppress disease for medium storage durations



Disease incidence & severity on Hoa Loc mango after 9 days at 22 ^{o}C

Pathways to adoption

- Integration of HWT into commercial chains combining pre & post harvest with cool chain practices via demonstration training is required
- The province of technical assistance to businesses on the instillation of HWT infrastructure will advance the acceptance
- Training of packhouses, extension staff on HWT will advance adoption
- Research studying the incorporation of fungicide with HWT in the post harvest practices is required
- Successful adoption will come from incorporating GAP practices with the use of HWT & post harvest treatments in long distance supply chains