



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

End of Project Review
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Title: Hot Water Treatment - Australia

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Implementing Agency



Funding Agency



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Aim & Objectives

Key focus

- ▶ Test the impact of fruit preconditioning on the reduction of heat related damage associated with hot water treatment protocols for market access.

Research questions

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

Aim

- ▶ To determine if a commercially practical condition treatment could be developed that takes advantage of the average ambient day time air temperatures 38-41°C (Northern Australia), for NMBP-4069 and export cultivar R2E2.

Outputs

- ▶ Identification of several suitable conditioning treatments for NMBP 4069 and R2E2 mango that mitigate heat related damage associated with HWT market access protocols.

Benefits of change

What we learnt

- ▶ Preconditioning in ambient conditions offers a commercially practical solution for establishing HWT treatment facilities for export for NMBP-4069.
- ▶ Treatments based on the 46°C for 20 minutes protocol for R2E2 appeared to mitigate the risk of heat related damage.
- ▶ Preconditioning would be subject to fluctuating temperature conditions and may be limited to daytime treatments only.
- ▶ HWT can substantially increase the capacity of business to meet international export protocols, due to its efficiency and relatively low infrastructure costs.

Pathways to adoption

- Recognition of work is required via scientific publication
- Offers low-cost treatment system where fruit can be treated on farm minimising quality loss compared to other methods – offering a greater export opportunity for businesses
- Treatment currently recognised in Chinese protocol - commercial application can commence.
- Can be used as the basis for amending market access protocols (via bilateral negotiations) – e.g. New Zealand, South Korea, Japan

