

ABSTRACTS - ORAL PRESENTATIONS



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SYSTEMS APPROACHES FOR DEVELOPING RESILIENT, PROFITABLE TROPICAL FRUIT INDUSTRIES

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Supply chain disruptions, increasingly competitive markets and changing consumer preferences are drivers of postharvest losses exceeding 20 per cent in Australian tropical fruit industries. At the same time, the provenance of Australian grown products is highly valued in both domestic and international markets. Tackling the multiple causes of postharvest losses in tropical fruit industries while enhancing product value is a multi-faceted challenge that has technological, social and economic dimensions. This may explain why the RD&E efforts of tropical horticulture organizations in Australia, central and south-east Asia and the Pacific, are increasingly based on systems approaches to dealing with the challenges of meeting the needs and aspirations of local and global consumers, including broader challenges such as waste management, resource scarcity and climate change. At the individual product level, for example, systems-based research has created the ability to predict yield, fruit quality and shelf life, results that can be applied to improving supply chain efficiency and lowering costs, while delivering greater value to retailers and consumers. At the sectoral level, Australia's National Food Waste Strategy 2017¹, which aims to reduce food waste by 50% by 2030, establishes a food waste hierarchy based on circular uses of food product that would otherwise be lost, including reuse (e.g. food rescue donations), recycling (e.g. composting) and reprocessing (e.g. conversion to pharmaceuticals and nutraceuticals). Currently, Australian researchers are exploring the recovery of edible and inedible portions of tropical fruits that would otherwise be wasted, to transform them into higher value commercial products. For individual fruits and for the sector as a whole, adopting a systems-based approach to RD&E can deliver win-win outcomes for growers, processors, wholesalers, distributors, retailers and most importantly, consumers. Applying a value chain perspective is one systems-based approach to RD&E that can incorporate all stakeholders from production to consumption, integrate inputs from multiple disciplines, address complex problems at different scales, and incorporate regulatory and policy influences on system behaviour.

National Food Waste Strategy (2017). [National Food Waste Strategy: Halving Australia's Food Waste by 2030 \(dcceew.gov.au\)](https://www.dcceew.gov.au/food-waste)