



## SME Solutions Centre Case Study

### Montague Fresh circular fruit waste

#### The challenge

The current annual waste created as a by-product of Montague's processing is approximately 500 tonnes of fruit and plant matter. Consumer and retailer demand for 'perfect' fruit necessitates highly selective grading and large quantities of edible food becoming landfill. Waste primarily consists of stone fruit which is cosmetically defective, together with rotten apple and pear fruit and orchard leaf and limb matter. Currently, waste streams are either sent to landfill or used as animal feed, costing \$50,000 per year to dispose.

#### Project impacts

In this project, cosmetically defective plum and apple fruit waste was transformed into a number of food products, with a focus on ready-to-eat snacks and whole fruit utilisation. Ingredient characterisation of the various sources of fruit waste indicated the potential to utilise fruit waste in product development. This was carried out using thermal processing and formulation engineering utilising the Pilot Plant at RMIT University's

Food Research and Innovation Centre. In doing so, jams, chutneys and sorbets were created using food waste from lower grade or lightly damaged fruits. Attention was given to ensure a high proportion of the whole fruit was not only utilized, but showcased in each product. Consumer demand for more nutritional convenience foods is very high with extra value being placed on plant-based products.

By utilising fruit waste to create new products, hundreds of tonnes of edible food are being redirected from landfill. Instead, this fruit can now be transformed into saleable products, for example processed into puree for ice-cream and sorbet, or processed into chopped fruit for chutney and jam. The ability to on-sell this fruit instead of paying to send it to landfill is an excellent indicator of commercial viability of reducing food waste long-term.

This in turn reduces the waste from water and energy used to grow and process the fruit which would otherwise be lost and never reach retail store.



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## Conclusions & recommendations

The project succeeded in the creation of a series of snack and 'ready-to-eat' foods from the largest source of fruit waste produced at Montague Fresh, which is plums. Subsequent to the development of these sample products by RMIT, Montague has identified minor processing and product manufacturing partners who are keen to collaborate in the development of new consumer products.

As of February 2022, Montague has commissioned the processing of 50 tonnes of plum waste product for conversion into fruit puree. Montague is currently in commercial negotiations with an ice cream maker for the supply of the puree that will be used as the core ingredient in a new range of ice cream products. Montague has also commenced a process of considering co-locating processing equipment at its fruit packing site in Narre Warren North, Victoria.

## Authors & acknowledgements

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## Participants

