# THE INTERACTION BETWEEN SUGARS AND ACIDS AND THEIR EFFECTS ON CONSUMER ACCEPTANCE OF KIWIFRUIT PULP

Presented by

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# ABSTRACT

A model system using kiwifruit (*Actinidia deliciosa* (A. Chev) Liang *et* Ferguson var *deliciosa* cv Hayward) pulp has been developed so that consumer perceptions of sugar and acid can be explored in a realistic, homogenous product where natural variation between fruit and within fruit is eliminated. Use of a pulp model system enabled the sugar and acid level in kiwifruit to be manipulated using sugar and acid stock solutions. Fruit from an early harvest were selected to suppress the development of esters in the fruit at 'eating ripeness' so that sugar and acid relationships could be assessed without the influence of ester odour compounds. To compare and contrast sugar and acid relationships in kiwifruit with ester levels typical of fruit harvested at the recommended harvest maturity, odour compounds were incorporated into a portion of the pulp. Consumer's 'overall liking' ratings of the pulp increased with rising Brix. Increasing Brix level was also shown to increase 'sweetness liking', 'acidity liking', and perception of 'sweetness intensity'. Variations in Brix and acid level elicited the same consumer response to pulp with added odour compounds as to pulp without added odour compounds.

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# ABBREVIATIONS

| | |
|---|---|
| APC | Aerobic Plate Count |
| CFU | Colony Forming Unit |
| °C | Degrees Celsius |
| g | Gram |
| GC | Gas Chromatography |
| GC-FID | Gas Chromatography - Flame Ionisation Detection |
| hr | Hour |
| kgf | Kilogramforce |
| L | Litre |
| N | Molar |
| min | Minute |
| mg | Milligram |
| mm | Millimetre |
| mL | Millilitre |
| mol/L | Molar Litres |
| % | Percent |
| RI | Refractive Index |
| RO | Reverse Osmosis |
| TA | Titratable Acidity |
| µL | Microlitre |
| sec | Second |