

Abstract

Nutritional Characteristics of Australian Grown Feijoa (*Acca sellowiana*) and Its Antimicrobial Activity [†]

Anh Dao Thi Phan ¹, Mridusmita Chaliha ^{1,*}, Rohan Bicknel ², Yasmina Sultanbawa ¹ and Michael E. Netzel ¹

¹ ARC Training Centre for Uniquely Australian Foods, QAAFI, The University of Queensland, Brisbane, QLD 4108, Australia; anh.phan1@uq.net.au (A.D.T.P.); y.sultanbawa@uq.edu.au (Y.S.); m.netzel@uq.edu.au (M.E.N.)

² Produce Art, Building L1 Brisbane Produce Markets, Rocklea, Brisbane, QLD 4106, Australia; contact@produceart.com.au

* Correspondence: m.chaliha@uq.edu.au

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Abstract: The present study determined the chemical composition, bioactive compounds and biological properties of Australian grown feijoa (*Acca sellowiana*) (including whole fruit with peel, fruit peel and pulp) in order to assess the nutritional quality and antimicrobial activity of this tropical fruit. Polyphenolic compounds and vitamins were determined by UHPLC-PDA-MS/MS, showing that the feijoa fruit not only contains a high amount of antioxidant flavonoids, but is also a rich source of vitamin C (63 mg/100 g FW in the whole fruit and 95 mg/100 g FW in the peel; Recommended Dietary Intake (RDI) for adults: 45 mg/day). The proximate, essential minerals and selected trace elements indicate that feijoa fruit is a valuable source of dietary fibre and potassium. The edible fruit peel possesses significantly more antioxidant flavonoids and vitamin C than the fruit pulp. This is most probably the reason for the observed strong antimicrobial activity of feijoa peel-extracts against a wide-range of microorganism responsible for food spoilage and food poisoning. The consumption of feijoa, whole fruit with peel, can deliver a considerable amount of bioactive compounds such as vitamin C, flavonoids and fibre, and therefore, may contribute to a healthy diet. Furthermore, the potential use of feijoa-peel as a natural food preservative needs to be investigated in follow-up studies.

Keywords: *Acca sellowiana*; feijoa fruit; proximate composition

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