

Improving the quality of apples

Edited by Professor Fabrizio Costa, University of Trento, Italy



by burleigh dodds
SCIENCE PUBLISHING

Publication date

30 Jan 2024

Price

£130 / \$170 / C\$220 / €155 / A\$235

ISBN

Hardback: 978-1-80146-321-8

ePub: 978-1-80146-322-5

PDF: 978-1-80146-323-2

Format

152 × 229 mm / 6 × 9 in, 256 pages

Illustrations

Color tables, photos and figures

Series

Burleigh Dodds Series in Agricultural
Science: no. 142

BIC/THEMA classification

TVS - Horticulture, TVF - Sustainable
agriculture, TVK - Agronomy & crop
production, TVB - Agricultural science

Distributors

INGRAM Publisher
Services UK

Print books (exc. US and Canada)



eBooks (worldwide)

Updated 07/02/24

New title information

Improving the quality of apples

Edited by: Professor Fabrizio Costa, University of Trento, Italy

Endorsement:

"Several books on different aspects of apple cultivation, including optimising quality attributes of the fruit, already exist. However, this new book edited by Professor Fabrizio Costa goes further than simply describing the quality attributes of apples. The contributing authors instead explore the practical results of the implementation of particular breeding and crop management practices to optimise fruit quality during the pre- and postharvest stages of production. Edited by an internationally-renowned expert on apple growth and ripening, I'm sure this book will be hugely successful." (Emeritus Professor Silvano Sansavini, University of Bologna, Italy)

Description:

Apples are one of the most highly consumed fruits globally, with estimations that almost 88 million tonnes of apples are produced worldwide each year. As a result of this popularity, consumers have extremely high expectations of the sensory quality of the apples they consume.

Improving the quality of apples provides a comprehensive review of the wealth of research on the processes which determine the key quality attributes of apples, including texture and nutritional content. The book addresses how these properties can be enhanced during the pre- and postharvest stages to ensure product quality and customer satisfaction, as well as the role of breeding programmes in identifying genes directly related to sensory quality characteristics.

In its detailed exploration of the key quality attributes of apples, the book provides its readers with an insight into the science behind producing the 'perfect' product and how influential quality attributes are on consumer purchasing behaviours.

Key features:

- Reviews recent advances in understanding and improving the major quality attributes of apples, including texture development, flavour development and nutritional content
- Considers the utilisation of particular breeding and crop management practices to optimise fruit quality during the pre- and postharvest stages of production, including the use of preservation techniques such as hydrocooling and edible coatings
- Addresses the influence of the genetic and biochemical factors which can affect texture, flavour and the development of key nutraceutical compounds in apples

Audience:

Researchers in horticultural science, fruit growers, processors and retailers, as well as consumers, nutritionists and governmental and private sector agencies supporting the horticultural industry

Editor details:

Dr Fabrizio Costa is Associate Professor of Plant Genetics and Breeding in the Centre for Agriculture, Food and Environment (C3A) at the University of Trento, Italy. He was formerly a Senior Scientist at the Fondazione Edmund Mach where he was one of the team that published in 2010 the first complete sequenced genome of Golden Delicious, the well-known apple reference variety. Professor Costa is internationally renowned for his research on the genetics of fruit ripening and post-harvest quality. He is on the editorial boards of such journals as *Fruit Research* and the *Journal of Experimental Botany*, and is the Convenor of the 14th ISHS Symposium on Plant Regulators in Fruit Production in 2022.

Table of contents:

Part 1 Quality attributes

- 1.Consumer perception of apple quality: *Masoumeh Bejaei and Jennifer Arthur, Agriculture and Agri-Food Canada, Canada; and Margaret A. Cliff, The University of British Columbia, Canada;*
- 2.Advances in understanding texture development in apples: *Hilde Nybom, Swedish University of Agricultural Sciences, Sweden;*
- 3.Advances in understanding the nutritional and nutraceutical properties of apples: *Gabriela Ploscuțanu, "Dunărea de Jos" University of Galați, Romania;*
- 4.Advances in understanding the development of antioxidant nutraceutical compounds in apples: *Matteo Scampicchio, Free University of Bolzano, Italy;*

Part 2 Breeding and crop management to optimise quality

- 5.Breeding for fruit quality improvement in apple: *Soon Li Teh, Washington State University, USA; Sarah Kostick, University of Minnesota, USA; and Kate Evans, Washington State University, USA;*
- 6.Advances in understanding pre-harvest apple fruit development: *Luigi Manfrini and Alessandro Bonora, Bologna University, Italy;*
- 7.Advances in pre-harvest management of apple quality: *J. A. Cline, University of Guelph, Canada;*
- 8.Postharvest management of apple quality: *Zora Singh, Edith Cowan University, Australia; Vijay Yadav Tokala, The Postharvest Education Foundation, USA; and Mahmood Ul Hasan and Andrew Woodward, Edith Cowan University, Australia;*

Related products:

Achieving sustainable cultivation of apples, 978-1-78676-032-6, 16 Jun 2017, AUD 340.00, CAD 325.00, EUR 230.00, GBP 190.00, and USD 245.00

Achieving sustainable cultivation of temperate zone tree fruits and berries Volume 1, 978-1-78676-208-5, 30 Jun 2019, AUD 250.00, CAD 240.00, EUR 170.00, GBP 140.00, and USD 180.00

Achieving sustainable cultivation of temperate zone tree fruits and berries Volume 2, 978-1-78676-212-2, 30 Jun 2019, AUD 250.00, CAD 240.00, EUR 170.00, GBP 140.00, and USD 180.00

Advances in postharvest management of horticultural produce, 978-1-78676-288-7, 21 Jan 2020, AUD 270.00, CAD 255.00, EUR 180.00, GBP 150.00, and USD 195.00

Consumers and food: Understanding and shaping consumer behaviour, 978-1-80146-354-6, 14 Nov 2023, AUD 270.00, CAD 255.00, EUR 180.00, GBP 150.00, and USD 195.00

Understanding and optimising the nutraceutical properties of fruit and vegetables, 978-1-78676-850-6, 30 Aug 2022, AUD 270.00, CAD 255.00, EUR 180.00, GBP 150.00, and USD 195.00