Introduction

Fresh fruits and vegetables: quality and food safety
Beltsville Symposium XXIII

On 4 May 1998, Beltsville Symposium XXIII, entitled 'Fresh Fruits and Vegetables: Quality and Food Safety', was convened at the US Department of Agriculture, Agricultural Research Center in Beltsville, MD, USA. The theme of the Symposium was especially timely because of the importance of research in the area of quality and food safety due to the increased consumption of fresh fruits and vegetables and the shifting emphasis in marketing of this fresh produce toward a more convenient, fresh-cut form requiring less preparation time.

Fresh produce sales at the retail level exceed US$57 billion, owing in part to the increase in their consumption, which has continued to grow in the USA for the past three decades, rising from 257 kg per person in 1970 to 307 kg per person in 1993. The recent growth in sales and consumption has been due in part to increased health-consciousness of consumers and increased availability and convenience of fresh vegetables in fresh-cut forms. In addition, increased consumption of fresh produce has also been the result of effective promotion of the 5-A-Day message, a program jointly sponsored by the National Cancer Institute in the US Department of Health and Human Services and the Produce for Better Health Foundation to increase public awareness of the importance of eating five or more servings of fruits and vegetables each day to maintain their health.

In 1989–1991, Americans ate 3.9 servings of fruits and vegetables daily; the number of servings increased to 4.4 by 1994. Also, the variety of fresh produce in produce departments of typical large grocery stores has also increased dramatically from 65 items in 1975 to about 300 items today. Similar trends occurred throughout the world. The demand for fresh-cut produce for convenience has opened up a new food safety issue. Cutting produce before marketing removes natural barriers, exposing cut surfaces to contaminants. It is imperative that researchers develop new intervention strategies to assure pathogens do not grow on these products.

Consumers are demanding fresh fruits and vegetables of high quality—i.e. excellent appearance, flavor, texture and storage life—that are free from pesticide residues and human pathogens. At the same time, consumers desire greater convenience by having their fruits and vegetables available in a fresh-cut form, ready to eat or already prepared for use in cooking. Thus, fresh produce quality and food safety are major issues in the USA.

This was the 23rd year that the Beltsville Agricultural Research Center hosted researchers, producers, growers and consumers at the Beltsville Symposium to discuss major agricultural issues. Since the US Food and Drug Administration issued its Guide to Minimizing Microbial Food
Safety Hazards for Fresh Fruits and Vegetables in June, this year’s food safety and quality theme was especially timely. The objective of the Symposium was to examine and discuss issues and cutting-edge research and technology in the area of postharvest biology and marketing of fresh fruits and vegetables. This Special Issue of Postharvest Biology and Technology includes papers written by most of the speakers at the Symposium on the topic of their presentations. We hope that this Special Issue will become a valuable reference tool for researchers and teachers involved with quality and microbiological safety of fresh fruits and vegetables.

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