

Preface

Blanching is a widely used method in food processing companies, especially for improving the quality of vegetables prior to canning, freezing, drying, and other suitable processing techniques. The positive impact of blanching on food quality is related, for example, to the activation or inactivation of enzymes, decrease of the microbial load and of the content of undesirable substances, and improvement of the extractability of bioactive compounds, thus resulting in improved sensory and nutritional quality. In addition, there are numerous reports on the favorable effect of blanching on the performance of drying. Although most of the reports on blanching highlight its positive effect, reports showing the unfavorable influence of blanching are also available. This book summarizes the results of studies on food blanching performed especially over the past ten years, although older reference studies were also used. Chapter 1 introduces the theme by presenting key concepts, along with previously published documents dealing with blanching from a conceptual viewpoint. Chapter 2 presents the advances on the effect of blanching on food's physical, chemical, and sensory qualities. Once potatoes were the most commonly blanched food before processing, this chapter brings a specific section on potato blanching. Chapter 3 is devoted to a recent topic, namely bioactive compounds, as affected by blanching. In this sense, functional foods are under increasing investigation and their bioactive compounds should be preserved as much as possible during processing, which includes blanching. On the other hand, some compounds are deleterious for humans and blanching could help removing them from food. High microbial loads are also undesirable since they indicate poor hygiene conditions and, depending on the microorganism found, they comprise a microbiological hazard. The decrease in antinutrients, pesticides, and microorganisms is the topic of Chap. 4. A recent health concern is related to the presence of a specific compound in thermally treated food, named acrylamide. Chapter 5 is dedicated to the mitigation of acrylamide by means of blanching. The contribution of drying techniques for food preservation is undoubted. Numerous reports point out to the contribution of blanching for the performance of subsequent drying. For this reason, Chap. 6 is dedicated to this issue. Finally, it is mentioned that blanching sometimes exerts undesirable effects on food quality. Such drawbacks may be

overcome by using improved blanching techniques, such as microwave blanching, or by using alternative techniques, such as ultrasound. Therefore, Chap. 7 is dedicated to advanced blanching techniques and alternative pretreatments for improving the food quality. To the best of our knowledge, this is the first book totally devoted to food blanching. I hope that the comprehensive information on blanching brought to the reader in a carefully prepared fashion fulfills the reader's needs.

Jacarezinho, Brazil

Felipe Richter Reis

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