



TAINTS AND OFF-FLAVOURS IN FOOD

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Since the world agricultural system moves ever closer to a market-based economy, providers of agricultural and food commodities must become increasingly attentive to specific consumer demands. Nowadays, the consumer expects food to meet an ever-increasing standard of quality. This perception of quality usually includes foods that have visual appeal, high degree of desirable flavours, freedom from off-flavours and taints, beneficial nutritional profiles, stability in storage and other positive properties.

It is evident that flavour is one of the most significant sensory qualities of a food. Whereas the appearance and colour of a food provide the first indicator of quality, its flavour and texture are critical in confirming or undermining that initial sense.

Accepting the fact that off-flavours and taints are unpleasant, undesirable odours or tastes mean serious problems for the food industry. The first are resulting from natural deterioration of a food, and the second are caused by contamination by some other chemical(s).

This comprehensive book focuses on key aspects relating to different sources of taints and off-flavours, as well as various sensory-analytical and instrumental

methods capable to detect and analyse these compounds in food.

The reviewed book includes 9 chapters. As the processes connected with flavour perception are so complex, the beginning step in the analysis of a taint or an off-flavour is ordinarily sensory evaluation of the affected product using a panel of judges trained in perception, detection and description of taints and off-flavours. Chapter 2 deals with, especially, the various types of sensory tests, how to choose between them and correctly interpret the obtained results. In compliance with this chapter, the capability of panellist to accurately describe the sensory properties of taints and to associate them with known standards, is very useful in providing information about the chemical nature of the taint, and it can help significantly in making suggestions for subsequent instrumental analysis. Chapter 3 covers the extensive scale of extraction techniques, and the application of gas chromatography to separation and identification of tainting compounds. Moreover, it considers at a proper length new instrumental techniques such as stir-bar sorptive extraction and, mainly, the development of electronic noses as new rapid, on-line sensors.

The following chapters then describe in detail some of the most important causes of occurrence of taints and off-flavours in food, and outline how they can be identified and dealt with. Principal causes of undesirable odours and/or tastes are reviewed, being identified to originate from packaging materials, to represent micro-biologically derived off-flavours, oxidative rancidity, through the Maillard reaction as a source of off-flavours, off-flavours due to interactions between food components, or taints originating in cleaning and disinfecting agents.

This interesting collection, with its reputable editor and respected international team of contributors, gives the guarantee of a successful publication. With its authoritative coverage, the book can be useful as a reliable source of information for the food industry as well as for researchers and public health experts.

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