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2.5.1.1 Surveillance methods for assessing intake; 2.5.1.2 Duplicate diet method for intake estimation
2.5.2 Comparison of methods of assessment of metal intakes
2.6 Assessing risks from metals in food; 3 Metal analysis of food; 3.1 The determination of metals in foods and beverages; 3.1.1 The first step in analysis: obtaining a representative sample; 3.1.2 Prevention of contamination; 3.1.3 Drying of samples; 3.1.4 Purity of chemical reagents and water; 3.1.5 Glassware and other equipment; 3.2 Preparation of samples for analysis: digestion of organic matter; 3.2.1 Dry ashing; 3.2.2 Wet digestion techniques; 3.2.2.1 Nitric acid digestion; 3.2.2.2 Nitric-sulphuric acids digestion
3.2.2.3 Use of perchloric acid
3.2.2.4 Hydrofluoric acid; 3.2.3 Microwave digestion; 3.3 End-determination methods for metal analysis; 3.3.1 Atomic absorption spectrophotometry (AAS); 3.3.1.1 Background correction; 3.3.1.2 Use of slurries and flow injection in AAS; 3.3.1.3 Speeding up AAS; 3.3.2 Spectrofluorimetry; 3.3.3 Inductively coupled plasma spectrometry (ICP-S); 3.3.3.1 Inductively coupled plasma atomic emission spectrometry (ICP-AES); 3.3.3.2 Inductively coupled plasma mass spectrometry (ICP-MS); 3.3.4 Other analytical techniques for trace elements
3.4 Determination of elemental species
3.4.1 Methodology for the determination of metal species; 3.4.1.1 Chemical methods of speciation; 3.4.1.2 Hyphenated techniques for metal speciation; 3.5 Analytical quality control; 4 How metals get into food; 4.1 Metals in the soil; 4.1.1 Uptake of metals by plants; 4.1.1.1 Accumulator plants; 4.1.1.2 Geobotanical indicators; 4.1.2 Effects of agricultural practices on soil metal content; 4.1.2.1 Metals in agricultural fertilisers; 4.1.2.2 Metals in sewage sludge; 4.1.2.3 Metal uptake from agrochemicals
4.1.3 Industrial contamination as a source of metals in food

Sommario/riassunto

Since publication of the previous edition of this successful book, there have been many advances in the field of food science and metal analysis and these have been taken into account of in compiling this new edition. Data on metal levels in foods and diets have been updated with information gathered from recent international literature. More than 80% of the text has been completely rewritten and, as the addition of a new subtitle suggests, greater account is taken than in earlier editions of the importance of the nutritional properties of many of the metals that we consume. In the compi
