

CONTENT

	Page
Introduction	1
Chapter 1 Trace-Element Contaminants	9
1.1 General Considerations	9
1.2 Lead	12
1.3 Cadmium	19
1.4 Mercury	23
Chapter 2 Factors Affecting the Trace-Element Composition of Soils	28
2.1 Introduction	28
2.2 Effect of Parent Material	29
2.3 Effect of Lime and Fertilisers	39
2.4 Depletion from Cropping	43
2.5 Sulfur	48
2.6 Assessing Availability	49
2.7 Urban and Rural Soils	51
Chapter 3 Trace-Element Contamination of the Atmosphere	62
3.1 General Considerations	62
3.2 Lead from Petrol	73
3.3 Fluorine	78
Chapter 4 Sources of Trace-Element contamination of soils	83
4.1 Introduction	83
4.2 Miscellaneous Sources of Contamination	84
4.3 Dumped Wastes	85
4.4 Waste Materials Deliberately Added to the Soil	93
4.5 Pesticides	115
Chapter 5 Availability of Trace Elements in the Soil	121
5.1 Introduction	121
5.2 Relationship between Plant Uptake and 'Available' Level in Soil	125
Chapter 6 Consequences of Trace-Element Contamination of Soils	149
6.1 General Considerations	149
6.2 Composition of Herbage in Urban Areas	151
6.3 Composition of Cabbages in urban Areas	154
6.4 Effects of Application of Sewage Sludge to Soil on Plant Composition	155
6.5 Effects of Applications of Municipal Compost on Plant composition	166
6.6 Effects on Crops and Animals	171
Chapter 7 Trace-Element Contamination of the Hydrosphere	183
7.1 Introduction	183
7.2 Pollution Potential of Trace Elements	183
7.3 Problems of Inadequate Dispersal	188
7.4 Conclusion	199
Chapter 8 Prevention of Dispersion of Metals in the Environment	200
8.1 Introduction	200
8.2 Need to Recycle Metals	201
8.3 Disposal of Municipal Refuse	205
8.4 Municipal Wastewaters and Sewage Sludge	211

8.5	Measures Required to Minimize Dispersal of Metals	217
	References	223
	Author Index	251