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3.5.1. Formation of Phytochelatins and Metallothioneins -- 3.5.2. Reduction and Consequent Stimulation of Antioxidant Systems -- Fenton Reaction -- Haber-Weiss Reaction -- ROS Detoxification - Antioxidant Systems -- Non-Enzymatic ROS Scavenging Mechanisms -- Enzymatic ROS Scavenging Mechanisms -- 3.5.3. Influence on Photosynthetic System -- Chapter 4 STRESS EVALUATION -- 4.1. Germination -- 4.2. Reduction in Growth. 4.3. Photosynthetic Pigments -- 4.4. Antioxidant Enzymes -- 4.5. Antioxidants -- 4.6. Phytochelatins -- Chapter 5 CONCLUSION -- ACKNOWLEDGEMENT -- REFERENCES -- INDEX -- Blank Page.

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Sommario/riassunto

Accumulation of different compounds from soil, water or even from the atmosphere is a typical feature of plants as the organisms are dependent on mineral nutrition. However, in the case of high concentrations of metals in soil, their accumulation is not always considered good or necessary, especially in medicinal plants or agricultural crops. Nowadays, phytoremediation, biotechnology using plants for cleaning up the environment, has become widely applied. Its development can contribute to re-exploitation of soils that have laid waste due to their contamination. Similarly, plants able to tolerate elevated metal concentrations without their translocation and accumulation in upper parts can grow on contaminated soils not threatening food chain. This book presents and reviews research on the use of phytoremediation in regard to plant application in stressful conditions.

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