

1. Record Nr.	UNINA9910555086703321
Titolo	Metalloids in plants : advances and future prospects // edited by Rupesh Deshmukh, Durgesh K. Tripathi, Gea Guerriero
Pubbl/distr/stampa	Hoboken, New Jersey ; ; Chichester, West Sussex, England : , : Wiley, , [2020] ©2020
ISBN	1-119-48720-X 1-119-48718-8 1-119-48721-8
Descrizione fisica	1 online resource (xiii, 500 pages) : illustrations
Disciplina	572.55
Soggetti	Organometallic compounds - Research
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	"This book will extensively cover the beneficial role as well as adverse effects of metalloids in plants. Particularly, the focus will be understanding of plant responses against metalloids at morphological, anatomical, biochemical, and molecular levels. Metalloids include elements like boron (B), silicon (Si), germanium (Ge), arsenic (As), antimony (Sb) and tellurium (Te) which are having chemical properties in between metals and non-metals. Metalloids are highly abundant for instance Si is the second most abundant element in earth crust after oxygen. Silicon is also known to have a beneficial effect, particularly under stress conditions. Similarly, B is one of the essential elements for the plant. However, some of the metalloids like As, and Sb are highly toxic. Unfortunately, genes involved in uptake of beneficial metalloids are also responsible for the absorption of the toxic metalloid. In this regard, understanding of the molecular mechanism involved in metalloid uptake, and transport has great importance. Similarly, knowledge of genetics regulation of metalloids in plants will provide an opportunity to improve uptake of beneficial metalloid by avoiding the toxic metalloids. During the last decade, considerable progress has

been achieved toward identification of genes, understanding of physiological and biochemical effects and genetic variation exist in plants regarding metalloids. Hence, there is a need to compile these studies in the form of an edited book. This book will be helpful to researchers and scientists to understand and plan future experiments. The book will enable plant scientists to unravel the different pathways and signaling cascades involved in their response that will allow generation of resistant plants either through breeding or genetic engineering approaches. Such knowledge will ultimately help crop improvement"--
