



2022年第14期总337期

## 蔬菜育种专题

### 本期导读

#### ► 科技图书

1. 蔬菜育种策略研究进展
2. 十字花科植物根肿病
3. 双单倍体技术
4. 十字花科植物宿主抗性的基因组学
5. 十字花科植物抗寄主侵染的分子机制

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## ➤ 科技图书

### 1. **Advances in Plant Breeding Strategies: Vegetable Crops (蔬菜育种策略研究进展)**

简介: Plant breeders and geneticists are under constant pressure to sustain and expand food production by using innovative breeding strategies and introducing minor crops, which are well adapted to marginal lands, provide a source of nutrition, and have abiotic and biotic stress tolerance, to feed an ever-increasing human population. The basic concept of this book is to examine the use of innovative methods, augmenting traditional plant breeding, towards the improvement and development of new crop varieties, under the increasingly limiting environmental and cultivation factors, to achieve sustainable agricultural production and enhanced food security.

来源: springer

发布日期:2021-08-13

全文链接:

[http://agri.ckcest.cn/file1/M00/0F/FB/Csgk0GJD83qAXddKAAL4GyQx\\_cE760.pdf](http://agri.ckcest.cn/file1/M00/0F/FB/Csgk0GJD83qAXddKAAL4GyQx_cE760.pdf)

### 2. **Clubroot Disease of Crucifers (十字花科植物根肿病)**

简介: The book is presenting a comprehensive information on fundamental, and applied knowledge of *Plasmodiophora brassicae* Woronin. infecting cruciferous crops, and weeds. Clubroot of crucifers has spread over more than 88 countries of the world with average annual loss of cruciferous crops from 10-15 per cent at global level. It is considered as a disease of cultivation since once introduced in a field, its inoculum piles up year by year in the form of resilient resting spores of *P. brassicae* which spreads in the field through field operations. This disease is very unique since the pathogen can survive in the soil in the rhizosphere of non-host plants in addition to its main host cruciferous species, cultivated or wild. This book complies inclusive information about the disease, its geographical distribution, symptoms, host range, yield losses, and disease assessment scales. The book also explores host-parasite interactions in the form of seed infection, disease cycle, process of infection, pathogenesis, epidemiology and forecasting. Chapters discuss the genetic and molecular mechanisms of host-parasite relationships, management practices including cultural, chemical, biological control practices, and other integrated approaches. The book is immensely useful to researchers, teachers, extension specialists, farmers, and all others who are interested to grow healthy and profitable cruciferous crops all over the world. Also the book serves as additional reading material for undergraduate and graduate students of agriculture and especially plant pathology. National and international agricultural scientists, policy makers will also find this to be a useful read.

来源: Springer

发布日期:2021-07-02

全文链接:

<http://agri.ckcest.cn/file1/M00/03/29/Csgk0Yaa0GGAXZkGAAHpyQcAuQQ799.pdf>

### 3. Doubled Haploid Technology (双单倍体技术)

简介: This title offers 62 chapters divided among three volumes covering the latest topics dealing with Doubled Haploid (DH) technology, as well as methods to produce DHs in different species through different in vivo and in vitro approaches. Volume 2 discusses the latest hot topics in DH technology; protocols to produce DHs in four apiaceae, caraway, fennel, dill, and carrot; DH production in different brassicaceae including Brassica napus, Brassica rapa, and Brassica carinata; and techniques to produce DHs by different androgenesis-based methods in several members of the Solanaceae family such as eggplant, pepper, tobacco, and potato. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, application details for both the expert and non-expert reader, and tips on troubleshooting and avoiding known pitfalls.

来源: Springer

发布日期: 2021-05-06

全文链接:

<http://agri.ckcest.cn/file1/M00/0F/FC/Csgk0GJFds6AWK8EAAH09V3nRD4315.pdf>

### 4. Genomics of Crucifer's Host-Resistance (十字花科植物宿主抗性的基因组学)

简介: The book presents comprehensive information on fundamental, and applied knowledge for developing varieties resistant individually as well as to all the major pathogens of crucifers, such as Albugo, Alternaria, Erysiphe, Hyaloperonospora, Plasmodiophora, Leptosphaeria, Sclerotinia, Turnip mosaic virus, Verticillium, and Xanthomonas through the use of latest biotechnological approaches including identification of R genes and their incorporation into agronomically superior varieties. The chapters include the information's viz., principles of host resistance, identification of R-genes sources, inheritance of disease resistance, host resistance signaling network system to multiple stresses. The book also covers transfer of disease resistance, and management of disease resistance. Standardized, reproducible techniques are also included for the researchers of cruciferous crops for developing resistant cultivars. The book deals with the gaps in understanding, knowledge of genomics, and offers suggestions for future research priorities in order to initiate the advance research on disease resistance. This book is immensely useful to the researchers especially Brassica breeders, teachers, extension specialists, students, industrialists, farmers, and all others who are interested to grow healthy, and profitable cruciferous crops all over the world.

来源: Springer

发布日期: 2021-04-08

全文链接:

<http://agri.ckcest.cn/file1/M00/03/29/Csgk0YaaowiAY3oFAAFyERCABYQ882.pdf>

### 5. Molecular Mechanism of Crucifer's Host-Resistance (十字花科植

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## 物抗寄主侵染的分子机制)

简介: The book is a comprehensive compilation of applied knowledge for developing resistant varieties to all the major biotrophs, hemibiotrophs and necrotrophs pathogens of crucifers through the use of latest biotechnological approaches. The book includes, multi-component resistance, incorporation of non-host resistance gene, function of particular gene in resistance, expression of age related resistance, enhanced gene resistance, sources of alternative gene which enhance disease resistance, through the use of latest biotechnical approaches like proteomics, omics, transcriptomics and metabolomics.

The book also explores the molecular basis of disease resistance, its biometabolomics activities in response to infection and interaction by the various biotrophs, hemibiotrophs and necrotrophs pathogens. The identification of R genes and its incorporation into agronomically superior varieties through use of molecular mechanisms is also explained. This compilation is immensely useful to the researchers especially Brassica breeders, teachers, extension specialists, students, industrialists, farmers, and all others who are interested to grow healthy, and profitable cruciferous crops all over the world.

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