



2022年第44期总367期

蔬菜育种专题

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➤ 前沿资讯

1. Plant Physiol | 中科院植物所田世平团队发表“肉质果实成熟的转录后调控”综述文章

简介:中国科学院植物研究所田世平团队长期从事果实成熟、衰老和病害等方面的研究。近日,该团队应邀在国际学术期刊Plant Physiology上发表了题为“Current insights into post-transcriptional regulation of fleshy fruit ripening”综述文章,系统总结了有关果实成熟转录后调控机制的最新研究进展,并提出了自己的观点和见解。

该文从转录后调控、翻译调控和翻译后调控三个维度,详细介绍了pre-mRNA可变剪切、mRNA m⁶A甲基化、非编码RNA、翻译效率调控、uORF介导的翻译抑制、组蛋白乙酰化/甲基化修饰、蛋白质磷酸化修饰、蛋白质泛素化降解、蛋白质糖基化修饰、蛋白质间的相互作用等关键调控机制对果实成熟的调控作用。此外,该文还针对当前研究存在的不足之处,对未来研究的重点进行了预测。

来源: BioArt植物

发布日期: 2022-10-22

全文链接:

<http://agri.ckcest.cn/file1/M00/10/13/Csgk0GNYzJSAS6TDAAueir3f1To199.pdf>

2. Genome editing successfully used to induce chicory plants to accumulate important medical compound (基因编辑技术成功诱导菊苣植物积累重要药用化合物)

简介:来自荷兰瓦赫宁根大学、荷兰KeyGene农业生物技术公司和德国莱布尼茨植物生物化学研究所的一个国际研究小组利用基因编辑技术开发出能够积累木香烯内酯(Costunolide)的菊苣植物。Costunolide是一种植物代谢物,以其抗癌活性而闻名。研究小组在菊苣中鉴定了三个推定的kauniolide合酶基因,利用CRISPR/Cas9抑制三者的活性后,导致菊苣叶和主根中倍半萜内酯生物合成中断。研究结果证实,利用这一方法,菊苣主根中Costunolide及其结合物的积累可以达到高水平。该研究是欧盟研究项目CHIC的一部分,旨在开发应用于菊苣的新育种技术,将菊苣开发成生产高价值消费品的多用途作物。研究结果于2022年8月29日发表在《植物科学前沿》(Frontiers in Plant Science)上。

来源: KeyGene

发布日期: 2022-09-20

全文链接:

<http://agri.ckcest.cn/file1/M00/03/41/Csgk0YevgXCAR2mvAAR-Natrr24960.pdf>

➤ 科技图书

1. Phytohormones and Stress Responsive Secondary Metabolites (植物激素与应激反应性次生代谢产物研究)

简介: Phytohormones and Stress Responsive Secondary Metabolites provides a deep dive

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into the signaling pathways associated with phytohormones and phytometabolites. With a strong focus on plant stress responses and DNA technology, the book highlights plant biotechnology and metabolic engineering principles. Biotechnology, by using DNA editing technologies, allows the expression of plant genes into other plant species with desirable modulation on plant behavior. Beginning with an overview of phytohormone signaling, growth and abiotic and biotic stresses, subsequent chapters explore DNA modification strategies, epigenetic and epigenomic regulation, and miRNA regulation. This book will be an essential resource for students, researchers and agriculturalists interested in plant physiology, plant genetics and plant biotechnology.

来源: Elsevier

发布日期: 2023-01-01

全文链接:

<http://agri.ckcest.cn/file1/M00/10/13/Csgk0GNYywqAQ2ukAA1kSmunV84776.pdf>

2 . Plant Transcription Factors Contribution in Development, Metabolism, and Environmental Stress (植物转录因子-对发育、新陈代谢和环境压力的贡献)

简介: Plant Transcription Factors: Contribution in Development, Metabolism, and Environmental Stress provides comprehensive coverage of plant TFs and their various functions, evaluating their crucial role in growth and development, signaling, stress management and other key plant processes. Sections cover the significance of plant TFs in functional genomics, the influence of phyto-hormones on the modulation of plant TFs, plant development and metabolism, including shoot development, flowering development and alkaloid biosynthesis. The book's final section reviews the role of TFs in various plant stresses, including temperature, water and heavy metal stress. Written by leading experts around the globe, this book is an essential read to researchers interested in plant signaling and plant genomics.

来源: Elsevier

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全文链接:

<http://agri.ckcest.cn/file1/M00/03/41/Csgk0Yevf9SAA1npAAmpA3VHDok486.pdf>

3. Genomics and the Global Bioeconomy (基因组学与全球生物经济)

简介: Genomics and the Global Bioeconomy, a new volume in the Translational and Applied Genomics series, empowers researchers, administrators, and sustainability leaders to apply genomics and novel omics technologies to advance the global bioeconomy and sustainability. Here, more than 15 international experts illustrate—with concrete examples across various industries and areas of global need—how genomics is addressing some of the most pressing global challenges of our time. Chapters offer an in-depth, case-based treatment of various topics, from genomics technologies supporting sustainability development goals to novel synthetic biology advancements improving biofuel production, conservation, sustainable food production, bioremediation, and genomic monitoring. Editors Catalina Lopez-Correa and

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Adrian Suarez-Gonzalez skillfully bring clarity to this diverse and increasingly impactful research, uniting various perspectives to inspire fresh innovation in driving the global bioeconomy.

来源: Elsevier

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<http://agri.ckcest.cn/file1/M00/03/41/Csgk0YevTdeACu26AAj12ROPzuA708.pdf>