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▶ 前沿资讯

1. Global Tea Championship Judges Reflect on the Teas (世界茶叶锦标赛评委对茶的反思)

简介: The Global Tea Championship's Spring Hot (Loose Leaf) Competition took place Sept. 29 in Boulder, Colorado. Three tea experts—Lydia Kung, Richard Enticott and Rob McCaleb—judged 168 teas submitted by 44 companies from 16 countries. Lydia Kung, owner of VeriLeaf Fine Teas, and Richard Enticott, owner of the Meridian Trading Company, shared their insights. When evaluating the tea entries the defining characteristics of each category provided the benchmark for comparison, rather than other submissions in the same category. Furthermore, teas that scored enough points to win a gold medal always—in leaf appearance and flavor—exhibited clearly and distinctively the features one expects of the category, said Kung.

来源: World Tea News 网站

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全文链接: <http://agri.ckcest.cn/file1/M00/02/9E/Csgk0Fv-U7KAUX-PAAYpooUMFDk756.pdf>

▶ 学术文献

1. Decoding neighbour volatiles in preparation for future competition and implications for tritrophic interactions (解码邻近挥发物, 为未来竞争做准备及对三重交互作用的影响)

简介: Plant volatile signals can provide important information about the physiological status and genetic identity of the emitter, and nearby plants can use this information to detect competitive neighbours. The novelty of these signals is that plants eavesdropping to volatiles of undamaged neighbours respond with typical competition responses, even before competition takes place, initiating specific growth responses that can increase their competitive capacity. This preparing for future competition mechanism affects the behaviour and abundance of herbivore pests and their natural enemies. Previously, such responses were only known to occur in response to volatiles released by damaged plants. However, volatile interactions occur only in specific combination of species/genotypes, indicating that plants use volatile signals in the detection and adaption only to substantial competitive neighbours.

来源: Perspectives in Plant Ecology, Evolution and Systematics 期刊

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全文链接: http://agri.ckcest.cn/file1/M00/02/9E/Csgk0Fv_i3iAP0qKABRDKod1DvA268.pdf

2. Scent engineering: toward the goal of controlling how flowers smell (气味工程: 迈向控制花朵气味的目标)

简介: Floral scent has an important role in the reproductive processes of many plants and a considerable economic value in guaranteeing yield and quality of many crops. It also enhances the aesthetic properties of ornamental plants and cut flowers. Many floral scent volatiles fall into the

terpenoid or phenylpropanoid/benzenoid classes of compounds. Although the biochemistry of floral scent is still a relatively new field of investigation, in the past decade investigators have begun to identify 'scent genes'. Several of these genes, most of which, but not all, encode enzymes that directly catalyze the formation of volatile terpenoid or phenylpropanoid / benzenoid compounds, have now been used to manipulate, through genetic engineering techniques, the mix of volatiles emitted from the flowers of several plant species. The outcomes of these experiments, which are discussed here, have indicated that the genetic engineering approach to altering floral scents has potential; however, they have also revealed the limitations that result from our inadequate knowledge of the metabolic pathways responsible for scents and their regulation.

来源: Trends in Biotechnology 期刊

发布日期:2007-03-20

全文链接:http://agri.ckcest.cn/file1/M00/02/9E/Csgk0Fv_iDuASHvyAAfDlr-kLzE135.pdf

3. The effects of abiotic factors on induced volatile emissions in corn plants (非生物因素对玉米诱导挥发物排放的影响)

简介: Many plants respond to herbivory by releasing a specific blend of volatiles that is attractive to natural enemies of the herbivores. In corn (*Zea mays*), this induced odor blend is mainly composed of terpenoids and indole. The induced signal varies with plant species and genotype, but little is known about the variation due to abiotic factors. Here, we tested the effect of soil humidity, air humidity, temperature, light, and fertilization rate on the emission of induced volatiles in young corn plants. Each factor was tested separately under constant conditions for the other factors. Plants released more when standing in dry soil than in wet soil, whereas for air humidity, the optimal release was found at around 60% relative humidity. Temperatures between 22°C and 27°C led to a higher emission than lower or higher temperatures. Light intensity had a dramatic effect. The emission of volatiles did not occur in the dark and increased steadily with an increase in the light intensity. An experiment with an unnatural light-dark cycle showed that the release was fully photophase dependent. Fertilization also had a strong positive effect; the emission of volatiles was minimal when plants were grown under low nutrition, even when results were corrected for plant biomass. Changes in all abiotic factors caused small but significant changes in the relative ratios among the different compounds (quality) in the induced odor blends, except for air humidity. Hence, climatic conditions and nutrient availability can be important factors in determining the intensity and variability in the release of induced plant volatiles.

来源: Plant Physiology 期刊

发布日期:2002-07-10

全文链接:http://agri.ckcest.cn/file1/M00/02/9E/Csgk0Fv_hMGAW0xPAApGV-GOPpM933.pdf

4. Synthetic blends of volatile, phytopathogen-induced odorants can be used to manipulate vector behavior (合成的挥发性植物致病菌的混合物可以用来控制载体行为)

简介: Volatile organic compounds (VOCs) are emitted from all plants and these VOCs are important means of communication between plants and insects. It has been documented that pathogen infections alter VOC profiles rendering infected plants more attractive to specific vectors

transmitting these pathogens than uninfected plants, thus potentially aiding in pathogen propagation. Mimicking these chemical cues might enable insect attraction away from the plant or disruption of host finding behavior of the vector. However, the practical implications have not been fully explored. We used citrus, *Diaphorina citri* and huanglongbing (HLB) as a model host-vector-disease system because HLB threatens citrus production worldwide and is similar to other critical diseases of food crops, such as Zebra Chip affecting potato. We formulated a synthetic chemical blend using selected HLB-specific biomarker compounds, and tested the blend with the Attenu assay system for chemosensory proteins. The Attenu assay system is a procedure that identifies interactions between insect chemosensory proteins and their ligands. We found that an equimolar mixture of compounds mimicking the volatile profile of HLB-infected citrus bound chemosensory proteins. Further investigation of this blend in laboratory behavioral assays resulted in development of a synthetic lure that was more attractive to *D. citri* than natural citrus tree volatiles. This strategy could provide a new route to produce chemical lures for vector population control for a variety of plant and/or animal systems and it may result in the development of a practical lure for monitoring vectors of disease, such as *D. citri*.

来源: Frontiers in Ecology and Evolution 期刊

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全文链接: <http://agri.ckcest.cn/file1/M00/02/9E/Csgk0Fv-V1yAHV4AABvsEIN82FU121.pdf>

➤ 相关专利

1. Compositions for Prevention and/or Treatment of Gastrointestinal Imbalances in Digestive Disorders (用于预防和/或治疗消化系统疾病中胃肠道失衡的组合物)

简介: 本专利描述了包含表没食子儿茶素没食子酸酯 (EGCG) 和非消化性低聚糖的组合物, 以预防和/或治疗与消化障碍相关的一种或多种胃肠道 (GI) 失衡。本发明涉及口服药物组合用于预防和/或治疗各种胃肠道失衡相关的消化系统疾病, 包括但不限于胃肠道菌群的不平衡, 肠道规律、促炎细胞因子与氧化压力等。

来源: 美国专利

发布日期: 2016-02-25

全文链接: http://agri.ckcest.cn/file1/M00/02/9D/Csgk0Fv7uj6AU_dJAAIsEAuK_U243.pdf