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## ▶ 前沿资讯

### 1. A newly discovered, naturally low-caffeine tea plant (一种新发现的、天然低咖啡因的茶树)

简介：饮茶者如果寻求受欢迎的舒缓口味却没有咖啡因剧烈刺激的饮料，他们将很快就有一种新的天然低咖啡因茶的选择。在美国化学学会的“*Journal of Agricultural and Food Chemistry*”上2018年10月发布的一项研究中，科学家报告说，最近在中国福建发现的野生红芽茶树含有很少或不含咖啡因，与许多工业上不含咖啡因的产品不同，它能够提供常规泡茶的许多健康益处。科研人员使用高效液相色谱法分析在生长季节采集的红芽茶树的芽和叶。除了在普通茶叶中没有发现几种潜在的促进健康的化合物外，他们还确定这种红芽茶几乎不含咖啡因。经过深入挖掘，发现这是因为编码茶咖啡因合成酶的基因发生了突变，该酶促进大多数茶树中的咖啡因生产。研究人员得出结论，天然低咖啡因红芽茶由于其独特的成分和独特的健康益处将可能成为一种受欢迎的饮料。

来源：Eurekalert 网站

发布日期：2018-11-08

全文链接：<http://agri.ckcest.cn/file1/M00/02/9E/Csgk0FwRxcKAFgyfAAQ4Us3pOMo908.pdf>

## ▶ 学术文献

### 1. Use of substrate-borne vibrational signals to attract the Brown Marmorated Stink Bug, *Halyomorpha halys* (利用基质传播的振动信号吸引褐腐臭虫 (*Halyomorpha halys*))

简介：Despite the increasing number of studies on the use of acoustic stimuli to control agricultural pests, this approach is still theoretical. Many insect pests, in particular hemipterans, use vibrational signals for mating communication, and therefore the application of a control strategy based on acoustic interference is a promising option. The Brown Marmorated Stink Bug, *Halyomorpha halys*, is causing severe economic damage to many crops in the USA and Italy. We tested a female vibrational signal, female signal 2 (FS2), to attract males in different settings, such as natural substrates, arenas and a cage representing an acoustic trap. We used video-tracking analysis and described the vibrational amplitude field around the individuals to study the male behavior. We found that FS2 can attract more than 50% of males to the source point and has a strong “loitering” effect on searching males that tend to remain in the stimulated area. We concluded that FS2 exhibits good attractiveness to *H. halys* males and that its potential use as a tool integrated into the currently existing pheromone traps should be tested in the field.

来源：Journal of Pest Science 期刊

发布日期：2017-09-20

全文链接：<http://agri.ckcest.cn/file1/M00/02/9E/Csgk0FwRt6-ATUW8ABY5b8voVMA227.pdf>

### 2. Applications of acoustics in insect pest management (声学在害虫防治中的应用)

简介: Acoustic technology has been applied for many years in studies of insect communication and in the monitoring of calling-insect population levels, geographic distributions and species diversity, as well as in the detection of cryptic insects in soil, wood, container crops and stored products. Acoustic devices of various sizes and power levels have been used successfully to trap insect pests that exhibit phonotaxis or other orientation behaviours, including mosquitoes, midges, mole crickets, field crickets, moths, cockroaches and Tephritid fruit flies. The attractiveness of traps depends on the behaviour, physiological state and age of the target insect, and varies with several environmental factors, including temperature and light level. Widespread adoption of acoustics for trapping has been limited by the costs of instrumentation and the relatively small segments of insect populations (e.g. mate-seeking adults of a limited age-range) that are attracted to a sound source, but trapping effectiveness often can be improved by adding swarm markers, chemical attractants or black lights, and by precisely timing temporal and frequency patterns to match the natural communication signals. There remains potential for using ultrasonic bat-cry signals to disrupt behaviour of night-flying insects, but ultrasonic signals have little effect on insects that are not normally preyed upon by bats. Potential areas for growth in the use of acoustic technology in pest management include the production of signals that disrupt vibrational communication, particularly in the Hemiptera, and the development of control treatments that combine pheromones and precisely patterned sonic or vibrational signals.

来源: CAB Reviews 期刊

发布日期: 2012-07-20

全文链接: <http://agri.ckcest.cn/file1/M00/02/9E/Csgk0FwRtAmAbetKAAFSmxxpvBd4086.pdf>

### **3. Studies of vibratory signals in pentatomid bugs (Heteroptera, Asopinae) from European Russia (对俄罗斯蝽象 (半翅目, 蝽科) 振动信号的研究)**

简介: The vibratory signals of four species of Asopinae (Pentatomidae) from European Russia are described for the first time. The signals emitted by adult bugs are classified into three types: male rivalry signals, male calling signals, and solitary low-amplitude signals with still unknown function. The latter are similar in different species and show no species-specific features. Oscillograms and sonograms of vibratory signals are given for all the species studied.

来源: Entomological Review 期刊

发布日期: 2008-03-20

全文链接: <http://agri.ckcest.cn/file1/M00/02/9E/Csgk0FwRrqeAYIzxAAWsvv2YzWE478.pdf>

### **4. BEHAVIORAL MANIPULATION METHODS FOR INSECT PEST-MANAGEMENT (昆虫害虫管理的行为操纵方法)**

简介: We discuss methods using stimuli to manipulate behavior of a pest for the purpose of protecting a valued resource. The methods are divided into two categories: those that manipulate behavior over a long distance, e.g. volatile chemicals, visual, and auditory stimuli, and those that manipulate behavior at a short distance (>1 cm), e.g. involatile chemicals. Particular emphasis is placed on methods that have been developed through studies of pest behavior and on combining stimuli to increase efficacy. Future prospects for behavioral manipulation methods in pest

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management are discussed.

来源: Annual Review of Entomology 期刊

发布日期: 1997-01-20

全文链接: <http://agri.ckcest.cn/file1/M00/02/9E/Csgk0FwRsU2AEIclAARXb5W76HE519.pdf>

## ➤ 相关专利

### 1. Leafhopper ecdysone receptor nucleic acids, polypeptides, and uses thereof (叶蝉蜕皮激素受体核酸、多肽及其用途)

简介: The present invention relates to a novel isolated leafhopper ecdysone receptor polypeptide. The invention also relates to an isolated nucleic acid encoding the leafhopper ecdysone receptor polypeptide, to vectors comprising them and to their uses, in particular in methods for modulating gene expression in an ecdysone receptor-based gene expression modulation system and methods for identifying molecules that modulate leafhopper ecdysone receptor activity.

来源: 美国专利

发布日期: 2014-03-25

全文链接: <http://agri.ckcest.cn/file1/M00/02/9E/Csgk0FwRwPqAfsXaAEftQ-sUyxU885.pdf>