

农业信息科学

温室蔬菜病害预警体系初探——以黄瓜霜霉病为例

李明1,2,3, 赵春江2,3, 杨信廷2,3, 孙传恒2,3, 钱建平2,3, 董静2,3

1中国农业大学信息与电气工程学院, 北京100083; 2国家农业信息化工程技术研究中心, 北京100097; 3农业部农业信息技术重点开放实验室, 北京100097

摘要:

【研究目的】温室蔬菜病害预警是保护温室生态环境和蔬菜质量安全的重要途径。预警体系的建立能够为模型和系统开发提供指导。【方法与结果】温室蔬菜病害预警的概念起源于植物病害流行病学, 经历了从警报系统到预警系统的转变。病害预警的基本逻辑过程, 包括从明确警义、监测警兆、追溯警源、预报警情以及排除警情。制作预警指标体系可以为全面分析病害流行问题 and 研究病害流行预警模型提供参考。提出以经典预警方法为基础, 以新预警方法为逻辑框架, 以现代预警方法为关键技术, 构建温室蔬菜病害预警体系基本框架。以温室黄瓜霜霉病初侵染预警为例, 对该预警体系进行了初步验证。【结论】在该体系指导下建立的预警模型和系统, 能够为温室黄瓜霜霉病初侵染预警提供决策支持。

关键词: 黄瓜霜霉病

Towards an early warning framework of greenhouse vegetable diseases ——a case of cucumber downy mildew

Abstract:

【OBJECTIVE】Early warning for greenhouse vegetable disease is an essential way for protecting eco-environment and vegetable quality safety. The early warning framework can provide guidance for development of models and systems. 【METHOD and RESULTS】The concept of early warning for greenhouse vegetable disease was derived from plant disease epidemiology, and then the “disease early warning system” was evolved from “disease warning system”. The logical course of disease early warning included warning factor establishment, warning indicator monitoring, warning source traceability, warnings situation delivery and warning situation obviation. The establishment of warning factor system could provide reference for disease epidemiological problem analysis and disease early warning models. The framework of early warning for greenhouse vegetable diseases was set up with the basis of classical early warning method, the logical course of new early warning method, and the key techniques of modern early warning method. Taking primary infections of cucumber downy mildew for example, the framework was evaluated preliminarily. 【CONCLUSION】The models and systems based on the framework could provide the decision support for early warning of primary infections of cucumber downy mildew.

Keywords: Cucumber downy mildew

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通讯作者: 李明

作者简介:

作者Email: lim@nrcita.org.cn

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