

# 西瓜叶斑病防治新技术

闫丽娟, 王荣发, 杨兴安

(齐齐哈尔市园艺研究所, 黑龙江 齐齐哈尔 161005)

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西瓜叶斑病又称斑点病, 为真菌性病害。西瓜叶斑病菌为瓜类尾孢, 属半知菌亚门真菌。菌丛生于叶两面, 叶面多, 子座无或小; 分生孢子梗 10 根以下簇生, 无分枝; 分生孢子无色或淡色, 倒棍棒形或针形或弯针形。

## 1 病原菌发病特点

西瓜叶斑病多发生在西瓜成长中期或后期, 主要危害叶片。尤其多雨季节发病并流行较快。病原菌以菌丝块或分生孢子在病残体及在种子上越冬, 第 2 年病原菌借气流及雨水传播, 从气孔侵入, 经 7~10 d 发病后产生新的分生孢子进行再侵染。

## 2 发病症状

叶面病斑较小, 直径 2~8 mm, 病斑的边缘褐色或

紫褐色, 近圆形或不规则形, 灰色或灰褐色, 病斑中间有 1 个白色中心, 稍有轮纹, 外围可见 1 个黄色晕圈。

## 3 防治方法

### 3.1 种子处理

用 50% 多菌灵可湿性粉剂 500 倍液浸种 30 min。

### 3.2 栽培措施

选用无病种子或与非瓜类蔬菜实行 3 a 以上轮作。

### 3.3 药剂防治

发病初期及时喷药: 常用药剂有 50 混杀硫悬浮剂 500~600 倍液, 50% 多硫悬浮剂 600~700 倍液, 每隔 10 d 左右防治 1 次, 连续防治 2~3 次。棚室栽培可用 45% 百菌清烟剂熏烟, 每 667 m<sup>2</sup> 用量 200~250 g; 或喷洒 5% 百菌清粉尘剂, 每 667 m<sup>2</sup> 用量 1 kg, 每隔 7~9 d 防治 1 次, 连续防治 2~3 次。

第一作者简介: 闫丽娟(1971-), 女, 本科, 高级农艺师, 现主要从事西甜瓜栽培育种工作。E-mail: qqherylj@163.com.

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**Abstract:** 'Rio Red' grapefruit were dipped with 3% CaCl<sub>2</sub>, 50°C hot water for 5 min in individual or sequential, then stored at room temperature (18±2)°C, RH 85%~90%. The value of firmness, loss weight, alcohol insoluble residue and cell wall compositions were detected every 15 d during storage to investigate the effectiveness of postharvest calcium, hot treatments on inhibition of cell wall metabolism during grapefruit storage. The results showed that fruits with postharvest calcium and hot treatments showed effective inhibition in firmness reducing, weight loss, maintaining the content of SCSP, 24KSF, and reducing the content of WSP, ESP and 4KSF compared with control fruits. Ca+50°C treat was the best effect of all the treatments. After 75d, the content of the sample firmness, alcohol insoluble residue, SCSP and 24KSF were higher (21.31%, 6.44%, 22.60% and 50.46%, respectively) than those of the control sample. The loss weight, water soluble pectin, ethylenediaminetetraacetic acid soluble pectin, 4% hemicelluloses of the Ca+50°C sample were significant inhibition compare with control. Further, the calcium treatment provided better effect than 50°C treatment. The results of pearson line correlation analysis indicated that significant correlation between firmness and cell wall composition. Comprehensive model based on the principal components analysis showed that postharvest calcium and hot treatments could improve comprehensive texture quality of grapefruit during storage, whereas the application of Ca+50°C delayed the texture quality deterioration of grapefruit during storage period. Postharvest calcium, heat treatments maintain postharvest fruit texture quality which inhibited cell wall material metabolism degradation that prolonged the grapefruit fruit storage period.

**Key words:** grapefruit; cell wall metabolism; calcium treatment; hot treatment; principal components analysis