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研究论文

甘蓝型油菜品系一些酶的活性与抗菌核病的关系

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摘要 以6个抗病品种（系）M004、湘油15号、中R-888、中R-783、084、085和二个感病品种（系）98C04、甘油5号为材料，研究接种菌核病菌前后叶片中过氧化物酶（PO）、多酚氧化酶（PPO）、苯丙氨酸解氨酶（PAL）、超氧物歧化酶（SOD）的活性变化。结果表明：接种前，PO、PAL二种酶活性与油菜品种抗病性相关不显著，而PPO、SOD酶活性抗病品种明显高于感病品种。接种后，抗病品种中的PO、PPO、PAL、SOD活性一般产生两个峰值，而感病品种一般只产生一个峰值。

关键词 甘蓝型油菜 菌核病 抗性机理 多酚氧化酶 过氧化物酶 苯丙氨酸解氨酶 超氧物歧化酶

分类号 S565

Relationship between Some Enzyme Activity and Resistance to Sclerotinia sclerotiorum of Rapeseed Cultivars

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Abstract The activities of polyphenoloxidase (PPO),peroxidase (PO),phenylalanine ammonia lyase (PAL) and superoxide diamutase (SOD) in six resistant varieties including M004, Xiangyou 15, ZhongR-888, ZhongR-783, 084, 085 and two susceptible varieties including 98C40 and Ganyou 5 were studied before and after inoculation with S. selerotiorum. The results showed that there was no relation between the activities of PO and PAL and the resistance of rapeseed to S. selerotiorum before inoculation with SS5, but the activities of PPO and SOD in the leaves of resistant varieties were much higher than that in susceptible varieties. After inoculation with SS5 the activities of PO, PPO, PAL, SOD increased and showed two peaks in six disease resistant varieties, and only one peak in two susceptible varieties.

Key words Brassica napus；Sclerotinia sclerotiorum；Resistant mechanism Polyphenoloxidase；Peroxidase；Phenylalanine ammonia lyase；Superoxide diamutase

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