

植物保护

稻瘟菌粗毒素对水稻防御性相关酶系的诱导*

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摘要 以不同品种水稻幼苗为试材,进行了利用低浓度稻瘟菌毒素作为激发子来提高水稻抗病性的研究,测定了与抗病性有关酶的变化。研究结果表明,抗病品种的过氧化物酶(POD)和苯丙氨酸解氨酶(PAL)活性比感病品种易被毒素激活,但抗病品种被毒素处理后超氧化物歧化酶(SOD)活性明显低于感病品种。经0~120 h的动态检测,1:40处理感病品种效果最好,而1:50处理抗病品种效果最好。说明一定浓度的毒素能够作为激发子来诱导水稻的抗性。

关键词 稻瘟菌;粗毒素;超氧化物歧化酶;过氧化物酶;苯丙氨酸解氨酶;诱导

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Activities of Defense-related Enzymes Induced by Grude Toxin from *Magnaporthe grisea*

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Abstract

The influence of the crude toxin from *Magnaporthe grisea* on the activities of 3 defensive enzymes, including superoxide dismutase(SOD), peroxidase(POD), phenylalanine ammonialyase (PAL), was studied in different rice varieties, and the potential function of toxin as the inducer of resistance in rice was also investigated. The results suggested that activities of POD and PAL in resistant varieties were stimulated much more easily by the toxin than those in susceptible ones. On the contrary, the lower activity of SOD was found in resistant varieties treated with toxin, compared with that in susceptible ones. Through 0~120 h inspection, the activities of 3 defensive enzymes increased evidently, the optimal concentration to induce resistance was 1:40 for susceptible varieties and 1:50 for resistant varieties. It was showed that the toxin at certain concentration could be used as an inducer of host resistance.

Key words *Magnaporthe grisea*; crude toxin; SOD; POD PAL induce

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