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[1]陈丽霞,李英慧,郑服从,等.油菜素内酯 (BR) 对大豆疫霉根腐病抗性的影响[J].大豆科学,2007,26(05):713-717,727. [doi:10.3969/j.issn.1000-9841.2007.05.015]  
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## 油菜素内酯 (BR) 对大豆疫霉根腐病抗性的影响

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摘要: 以抗、感疫霉根腐病的2个品种和一对矮秆突变体与野生型为材料, 研究BR对抗大豆疫霉根腐病防御反应的过氧化物酶 (POD) 和苯丙氨酸解氨酶 (PAL) 活性的影响。目的是明确BR对抗大豆疫霉根腐病的作用效果, 鉴定矮秆突变体的抗性。酶活测定表明, 接种使大豆叶片的 POD和PAL活性显著增强, 说明病原物诱导使植株产生系统抗病性; 加BR接种处理 (B<sup>+</sup>) 比加BR不接种处理 (B<sup>+</sup>) 的POD和PAL活性有一定的增强, 表明BR对抗大豆疫霉根腐病有一定的抗性效果; 挑战接种鉴定表明, 东农42属于感病, 而东泽11属于中间类型, 施加BR后对这两个品种的抗性均有增强作用。

Abstract: Peroxidase (POD) and phenylalanine ammonialyase (PAL) are defensive enzyme for soybean Phytophthora root rot. To elucidate the effect of Brassinosteroids (BR) on soybean resistance to Phytophthora root rot and identify the resistance of a soybean mutant. Two soybean cultivars Williams (sensitive) and Ludou 4 (resistant), and a pair of soybean mutant (Dongze 11) with its wild type (Dongnong 42) were adopted as materials. The soybean seedlings were treated with Brassinosteroids (BR) or/and inoculated with Phytophthora sojae and the changes in activities of POD and PAL were investigated. The POD and PAL activity in plants inoculated with Phytophthora sojae were significantly higher than those without inoculation, which showed the Phytophthora sojae induced the systemic resistance of soybean plants. The activity of POD and PAL were also increased when treated with BR, which suggested that BR might have some resistant effect on Phytophthora root rot. The identification results showed Dongnong 42 was susceptible and the mutant was mid-type, their resistance to Phytophthora root rot were enhanced when treated with BR.

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