

研究论文

## 大豆对SMV抗侵染与抗扩展的遗传分析

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**摘要** 大豆花叶病毒(SMV)抗性研究最早着重于系统病症, 后来发现感病材料还存在发病程度上的遗传差异, 抗侵染与抗扩展并不相同, 从而鉴别出一批具不同类型抗性的抗源。本研究利用抗侵染和抗扩展品种(系)配置10个不同类型杂交组合, 在分别接种Sa或SC8株系条件下, 研究两类抗性的遗传模式。结果表明, 大豆对大豆花叶病毒抗侵染和抗扩展分属不同遗传体系, 抗侵染由一对主基因控制, 抗病对感病表现为显性; 抗扩展由一对加性主基因+加性-显性多基因控制, F2代主基因和多基因遗传率分别为23.91%~74.97% 和18.43%~37.04%, F2:3代主基因和多基因遗传率分别为49.46%~82.42% 和17.42%~39.93%, 抗性大小依亲本而异。两类抗性都有育种价值。因中抗×高感组合的遗传率明显低于高感×高抗组合, 抗扩展育种应尽量选择抗性强的品种作亲本。

**关键词** [大豆花叶病毒](#) [抗侵染](#) [抗扩展](#) [遗传](#)

**分类号** [S565](#)

## Inheritance of Resistance in Infection and Resistance in Development to Soybean Mosaic Virus in Soybeans

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**Abstract** Soybean mosaic virus (SMV) is one of the most broad-distributed and destructive diseases of soybeans in China. It causes severe yield loss and seed quality deficiency. Studies on performances and inheritance of resistance in infection (RI) to SMV have been reported. However, resistance in development (RD) to SMV was not reported until Dongfang described it in his PhD dissertation. Recent studies have demonstrated that the mechanisms of resistance in infection and in development to SMV are different. Some cultivars with RI or RD to SMV have been screened out. In the present study, ten crosses between materials with RI or RD in different degree were used to reveal the inheritance of resistances. The results showed that the resistances in infection and in development were controlled by different genetic systems: the former by a single dominant gene, while the latter by one additive major gene plus additive-dominant polygenes. The heritability values of resistance in development were about 90%, those of major and polygene were 23.91%—74.97% and 18.43%—37.04% in F2, and 49.46%—82.42% and 17.42%—39.93% in F2:3, respectively. Both kinds of resistance can be used in soybean improvement. For utilizing resistance in development, attention should be paid to using high resistant parent and major gene selection in breeding programs.

**Key words** [Soybean](#); [Soybean mosaic virus](#); [Resistance in infection](#); [Resistance in development](#) [Inheritance](#)

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