

烟草抗黑胫病突变体的细胞筛选

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摘要 经实验我们成功地建立了在细胞水平上筛选烟草抗黑胫病突变体的筛选体系。该体系的主要内容为: γ -射线500-2000拉德诱变高度感病品种的花药后用50-80%的黑胫病菌粗毒素为选择压力, 筛选出抗毒素花粉植株, 用离体叶片法测定选出抗病植株, 再从后代鉴定中选出抗病性能够稳定遗传的突变系。 γ -射线及高浓度毒素处理均能得到抗病植株。选自感病品种的花粉植株中约有9-50%是真正抗病的。这些抗病植株中有一部分的抗病性能能够稳定遗传。用该法已从感病优质品种小黄金1025及乔庄黑苗中选出6个突变系。并自N. C. 628(抗)×小黄金1025(感)及N. C. 628(抗)×庆胜2号(感)的F1花粉植株中选出4个抗病系。所有的抗病系经3-4代后均表现出稳定抗性。其中一个突变体(R400)的抗性似由不完全显性多基因控制。

关键词 [烟草](#), [黑胫病](#), [抗病](#), [突变体](#), [筛选](#), [毒素](#), [诱变](#)

分类号

Cell Selection of the Tobacco Mutant Resistant to Black Shank Disease

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Abstract

Using tobacco anther culture and toxin selection, a selecting system of tobacco black shank disease resistant mutant has been set up. The system consists of the following steps: (1) Anthers of susceptible varieties are mutagenized with γ -ray 500—2000 rads. (2) Screening toxin tolerant pollen plants in anther culture medium containing 50—80% crude toxin. (3) Disease resistance of the toxin tolerant pollen plants is tested with in vitro leaf-assay method. (4) The resistance of the offspring of disease resistant plants is retested, and the plants of which resistance can be transmitted through sexual reproduction are considered to be disease resistant mutants. Both the treatment of γ -ray and high toxin concentration can give disease resistant pollen plants. About 9—50% of the pollen plants produced by either of the two treatments have shown disease resistance. Some of these plants can produce resistant offspring while some can not. Using this system, we have got 6 resistant mutants from 2 highly susceptible varieties and 4 resistant lines from 2 F1 hybrids of Res. Var. × Suscept. Var. with stable resistance within 3—4 generations. Resistance of the mutant R-400, selected from a susceptible variety "Small Golden 1025", seems to be controlled by multiple genes with an incomplete dominance.

Key words [Tobacco](#) [Black shank](#) [Disease resistant](#) [Mutant](#) [Selection](#) [Toxin](#) [Mutagenesis](#)

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