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### Horticultural Science

Segregation of powdery mildew (*Podosphaera leucotricha* [Ell. et Ev. /Salm./]) resistance within 54 apple progenies

J. Blažek, J. Křelinová, H. Drahošová

Hort. Sci. (Prague), 31 (2004): 81-87

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The occurrence of powdery mildew after heavy spontaneous infections was evaluated on 2,500 apple seedlings of 54 progenies that were derived from crosses made in 1993 and 1994. At the same time, the response to mildew was also assessed on 47 cultivars or selections that were used as parents for the crosses. Scores of the strongest infestation were used for final ranking of every seedling or

parent. The highest proportions (33 and 28%) of seedlings with complete resistance to mildew were attained in 2 progenies involving parents transmitting monogenic resistance to the pathogen. A few seedlings with this resistance were also found in other 7 progenies. Seedlings with partial resistance to mildew were distributed in the highest proportions (about 30%) among 7 progenies. In 6 out of these progenies, always one parent was derived from partially resistant selections that were selected in the first generation from the cross Spätblühender Taffetapfel × Court Pendu Plat. A very close relationship was found between mid-scores of parents and mean response to powdery mildew infection in progenies. Seedlings on average were significantly more infested than their parents. Progenies determined to have a columnar growth habit were somewhat less infested than progenies possessing a standard growth pattern only. This study revealed considerable improvement of some donors transmitting partial resistance to powdery mildew.

## Keywords:

*Podosphaera leucotricha*; apple; mildew; resistance; cultivars; breeding

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