Biometrical Analysis of Selected Blackcurrant (*Ribes Nigrum* L.) Genotypes for Breeding of Dessert Type Cultivars Resistant to Leaf Diseases

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Studies were conducted in 2012-2014 at the Research Institute of Horticulture in Skierniewice, Poland. The aim of the research was to assess the breeding value, based on the effects of general and specific combining abilities (GCA and SCA), of six dessert parental forms of blackcurrant in terms of the degree of infection by the pathogens: *Podosphaera (Sphaereotheca) mors-uvae*, (causal agent of powdery mildew) *Drepanopeziza ribis* (leaf anthracnose) and *Cronartium ribicola* (white pine blister rust - WPBR). The plant material were seedlings of F_1 generation obtained by crossing of six blackcurrant genotypes: 'Big Ben', 'Bona', 'Ceres', 'Sofiyevskaya'', 'Vernisazh' and D13B/11 clone. The diallel cross mating design (Griffing's Method III) was used for hybridization of parental forms.

It was shown that the cultivars 'Big Ben', 'Sofiyevskaya'' and 'Vernisazh' had significantly positive effects of general combining ability (GCA) for the plant resistance to powdery mildew. The significantly positive values of specific combining ability (SCA), estimated for the crossing combination 'Big Ben' × 'Ceres' for the low plant susceptibility to powdery mildew and anthracnose, are evidence of the interaction of both these parental genotypes in the creation of cultivars that are resistant or low susceptible to these diseases.

Keywords: fungal diseases, powdery mildew, anthracnose, rust, Griffing's diallel design, combining ability, GCA, SCA

References

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