Reference trials on application of Symbivit® in cultivation system of grapevine cultivars

Experiments conducted in collaboration with Melnicke vinarstvi Kraus, vine house Bacchus, Melnik, and with Assoc. Prof. Ing. Vilem Kraus, CSc.

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Summary:

Grapevine plantlets of two cultivars Rulandske and Dornfelder were treated with mycorrhizal product Symbivit® during cutting stratification and during field planting. Independently on cultivar and mode of application it was proved that Symbivit® - treated cuttings exhibited better survival rate after transplanting to the field and manifold higher mycorrhizal colonization.

Purpose/Aims:

In order to test effect of the endomycorrhizal product Symbivit® of the company Symbio-m on the grapevine cultivation a large-scale experiment was conducted in vineyards of the company Melnické vinarstvi Kraus in Melník. Grapevine cuttings were treated during cold stratification or during field inoculation. Following spring application, survival rate of cuttings after transplanting to the field and mycorrhizal colonization were recorded after one vegetation season.

Procedure/Methods:

The experiments were conducted during the season 2000 in the vineyards Melnicke vinarstvi Kraus, vine house Bacchus, Melnik, the Czech Republic. Cuttings were either treated in March during cutting stratification (10L/1 stratification box) or in April during cutting transplanting to the field conditions.

In November, treatment effect on survival rate was evaluated in 1,500-3,000 plants per each treatment of both cultivars and mycorrhizal colonization was evaluated for 3 plants per each treatment as a length of root colonized by symbiotic fungi (root maceration in 10% KOH for 1 hr, Trypan staining, microscopic evaluation).

Results:

Independently on cultivar and mode of application it was proved that Symbivit® - treated cuttings exhibited better survival rate after transplanting to the field and manifold higher mycorrhizal colonization. Higher mycorrhizal colonization acts as "insurance" of higher plant resistance to stress factors in future.

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Testing of efficacy of mycorrhizal product Symbivit® on mycorrhizal colonization and survival rate of grapevine cuttings