

Title Effect of trihodermin, biological product against *Botrytis* in horticultural crops

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Abstract

In Latvia, cultivation of vegetables, fruits and flowers takes place in open environment; therefore, climatic conditions are crucial during the growing season. Within small distances, the environment is subject to considerable variations - from heavy precipitation and limited sunshine to moderate, dry and warm weather. With drastic consequences throughout the growing season, damp and cold conditions promote the spreading of *Botrytis cinerea*, caused by a parasitic fungus. Intensive growing technologies heavily depend on pesticides - generally environmentally unfriendly. The purpose of the trial was to exchange chemicals for biological products, so as to revitalize soils, protect plants, enhance plant growth, immunity and productive potential by environmentally friendly means. Under open environmental conditions, the effect of trihodermin (that contains cells of the microscopic fungae *Trichoderma harzianum*, *Trichoderma viride*), was observed on the yields on strawberries, onions and lilies. Onion varieties - such as 'Hercules F1', 'Red Baron', and lily varieties - such as 'Lolly', 'Maksis', 'Skriveri', 'Sonora', 'Vigante' were used, but only one strawberry variety 'Senga Sengana' was selected for this trial. Trihodermin used in this trial was provided by Bioefekts - a Latvian producer. Trihodermin were used in both liquid and powder forms. In the field trial, in dry powder form trihodermin peat mixture (1 g per 1 m²), was applied for soil treatment. Four times during the growing period, trihodermin water solution 100 g kg⁻¹ was applied on the trial plants. The effectiveness of trihodermin was found to be significant. When compared to non-treated plants, significantly increased yield of treated strawberry, onion and lily plants was observed. In open environment, both strawberry and lily plants treated with trihodermin showed resistance to Botrytis. Treated onion plants showed partial resistance to Botrytis when compared to plants non-treated with trihodermin.