



Effectiveness of new environmentally friendly plant protection product against fungal diseases of soft fruits

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Abstract

Nowadays there still are different chemical pesticides applied in plant protection. To protect plants from harmful activity of pests and diseases, more attention should be paid to development and establishment of environmentally friendly regulation actions. Products of pine and spruce biomass processing were used. The aim of the research was to develop new environmentally friendly plant protection product usable in organic farming and IPM. During 2010 to 2012 several laboratory and field investigations were carried out to test the effectiveness of different pine and spruce biomass extracts against important diseases of berry crops, especially for strawberry and primocane raspberry.

Fungicidal activity of six coniferous plant extracts was compared in laboratory against different phytopathogenic fungi: *Botrytis cinerea*, *Colletotrichum acutatum*, *Phytophthora cactorum*, *Mycosphaerella fragariae*, *Verticillium dahlia* and *Rhizopus sp.*, isolated from strawberries or raspberries. The inhibition of intensity of mycelium growth, sporulation and spore germination was determined for the studied fungi species.

Extracts, subjected to laboratory tests, were applied in field experiments. Along with the field trials, the safety of the preparation will be evaluated according to the requirements of EU Parliament and Council Regulation Nr. 1107/2009. Field investigations on strawberry cultivar 'Senga Sengana' and primocane raspberry 'Gerakl' were done in the Pure Horticultural Research Centre. The effect on diseases caused by *Diplocarpon earlianum*, *Botrytis cinerea* and *Mycosphaerella fragariae* was evaluated. None of tested coniferous extracts showed higher effectiveness than that of the fungicide 'Signum'. This study has been supported by ERAF Nr. 2010/0249/2DP/2.1.1.1.0/10/APIA/VIAA/168.