



ABSTRACTS

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ENTOMOVECTORED BIOCONTROL OF STRAWBERRY GREY MOULD SHOWS PROMISE EUROPE-WIDE

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In the BICOPLL-project we aim to demonstrate Europe-wide the applicability of the entomovectoring approach, using as a case study the control of strawberry grey mould *Botrytis cinerea*, with the biocontrol fungus *Gliocladium catenulatum*, vectored by honey bees or bumble bees. The joint trial targets strawberry cultivations in the open field, and ideally includes four treatments: untreated control, chemical fungicide, entomovectored biocontrol, and chemical + biocontrol combined. In organic fields, no pesticide treatments are included. The proportion of mouldy berries, and/or the marketable yield of healthy berries is recorded from each treatment, along with other parameters of local interest. In 2012 such joint field trial was carried out in Estonia, Italy and in the UK, in addition to Finland, where large areas commercially already use entomovectoring (see below).

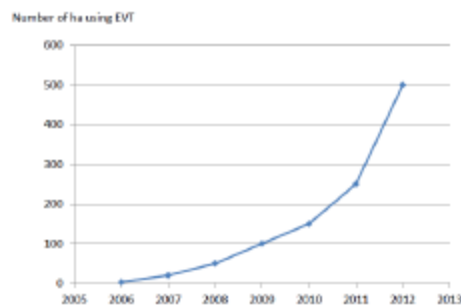


Fig. 1. Commercial uptake of honey bee vectored precision biocontrol on strawberry in Finland. The method has been approved for general use in 2008.

A conservative estimate for Finland is that close to 500 ha of strawberry cultivation was using the technique in 2012. The excellent control results have been presented earlier e.g. at the 63rd ISCP in Ghent in 2011. Field results in summer 2012 in Italy showed – despite extremely difficult weather conditions – significant reduction over untreated control (mean 39% mould) by biocontrol alone (13%), and by the combined treatment (11%), while chemical control (26%) did not differ significantly from the untreated control. In the UK trial entomovectored by bumble bees resulted in control of the grey mould, which was as good as by the chemical control. In Estonia, field studies at very low pathogen pressure nevertheless showed significantly less grey mould, and higher marketable berry yields in plots entomovectored either by honey bees, or by bumble bees (separate field studies). So far, all field tests using entomovectored and *Gliocladium catenulatum* (Prestop Mix) have shown excellent control results, and we intend to broaden these trials to include still other BICOPLL partner countries in 2013 and 2014.

Key words: honey bee, bumble bee, *Botrytis cinerea*, biological control, *Gliocladium catenulatum*