



NJF Seminar 389

**Pest, disease and weed
management in strawberry –
progress and challenges for the
Nordic production**

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A new touch for berry and apple production in South Savo region

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A 3-year project (2004-2007) called “A new touch for berry and apple production in South Savo region” was designed to improve profitability and ecological sustainability of berry and apple farms in South Savo region in East Finland. The aim of the project is also to enhance collaboration between researchers, advisers and farmers. The project was planned in cooperation with MTT Agrifood Research Finland, University of Helsinki Institute for Rural Research and Training unit, advice services and berry farmers. The project is financed by the European Agriculture Guidance and Guarantee Fund, municipalities of South Savo, berry farmers and private companies. MTT Agrifood Research Finland is responsible for the project.

The project is divided into specific packages of measures to develop cultivation practices on strawberry, red raspberry, currants and apple. Plant protection is one of the main interests of the whole project, and on strawberry the most important task is to encourage and develop biological control of pests.

Strawberry tarsonemid mite (*Phytonemus pallidus*) is a serious pest in outdoor strawberry production. In conventional farms methiocarb (Mesuro) can be applied before flowering and once or twice after harvesting to control the mite. In organic strawberry production effective predatory mites are needed to accompany warm water treatments and cultural methods. In conventional production use of predatory mites makes it possible to continue control during the flowering and harvesting periods, and enhances sustainable production as well as conservation of environment.

In our project the mass cultured predatory mites, *Amblyseius cucumeris* and *Neoseiulus barkeri* are applied to strawberry fields on commercial farms. The success of biological control is followed by collecting and inspection of leaf samples three or four times during the growing period. The combined use of pesticides and predatory mites in the same field is also studied.

Either *A. cucumeris* or *N. barkeri* do not tolerate Finnish winter, and they vanish almost totally before spring. Instead, naturally occurring predatory mites, e.g. *Anthoseius rhenanus* and *Euseius finlandicu* tolerate well outdoor conditions. These endemic predatory mites are not yet commercially available, but minor experiments with these predatory mites have been done in our project.