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OCCURRENCE OF VERTICILLIUM WILT IN SUGAR BEET IN SWEDEN

**Apparition de la verticilliose sur des betteraves sucrières en Suède /
Auftreten der Verticillium-Welke bei Zuckerrüben in Schweden**

ABSTRACT

Leaves with symptoms of wilt could be seen in the later part of the season in Swedish beet fields. The wilt is on one side of the leaf, following the veins indicating that the disease is origination in the vascular tissue. The symptoms resemble diseases in oilseed rape caused by the fungal pathogen *Verticillium* spp. A three year survey was started in Sweden 2012, to investigate the cause of the wilt. The project is part of the COBRI-collaboration between beet growing countries in Europe. Each year, soil samples from approximately 50 fields are taken in a plot in the field measuring 25 x 25 meters. Beet seeds are sown in the soil in pots in a bioassay in green house and after four weeks the plants are washed in water. The plants are assessed for root diseases, 1 cm pieces of the roots are placed on potato dextrose agar for cultivation of occurring pathogens and identification in the microscope. The whole root systems are tested at Scanbi Diagnostics, Alnarp, for presence of *Verticillium* spp., *Fusarium culmorum* and *F. avenaceum* by using PCR. In September, the fields are visited again and in each plot leaves with symptoms of wilt are sampled. Vascular tissue is tested for *Verticillium* and *Fusarium* using the PCR-test. The results from the years 2012 and 2013 indicate the presence of *Verticillium* spp. but to a low degree. In 2012, the pathogen was detected in 8% of the soil samples, and in 2013, 15% of the samples were positive, but only a few fields have had plants with infection in September. The two species of *Fusarium* are much more common and could be found in the vascular systems in the leaves using PCR and by cultivation on agar.
