

OCCURRENCE OF CARROT DISEASES IN LATVIA

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Abstract. Carrot is one of the most popular and profitable vegetables grown in Latvia, nevertheless there is a lack of knowledge regarding carrot diseases. Diagnosis and identification of pathogens is one of major factor for successful disease control. Field observations of carrot disease development during vegetation and storage seasons and diagnostic pathogens were carried out at Pure Horticultural Research Centre and Institute of Soil and Plant sciences of LLU during the years 2008-2012. Diseases were determined according visual symptoms and microscopic features of fruiting bodies and spores. Potato dextrose agar was used for isolation and identification of pathogens.

Alternaria leaf blight of carrots (caused by Alternaria dauci) dominated in all observation period, but in 2011 and 2012 also incidence of Cercospora leaf blight (caused by Cercospora carotae) was high. Both above mentioned diseases under field conditions of Latvia considerably reduce the leaf photosynthetic area, therefore carrots are more difficult to harvest with a mechanical harvester and carrot yields can reduce significantly. In the year 2010 the white rot (caused by Sclerotinia sclerotiorum) also was identified on carrot foliar in the field.

During storage, assessment of carrot diseases was done once in a month in all investigation years. The identified pathogens belonged to different species – Thielaviopsis basicola (black rot), Penicillium spp. (blue-green mold), Rhizopus spp. (rhizopus woolly soft rot), Phoma apiicola (phoma root rot), Phytophthora spp. (phytophthora root rot), Fusarium spp. (fusarium dry rot), Alternaria dauci (black rot) and S. sclerotiorum (cottony rot). The number of infected carrot roots was minimal and yield losses were not significant. The disease development during storage depends more on the microclimate in the storage facilities.

Key words: carrot disease, Alternaria, Cercospora, Sclerotinia.

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