

ALTERNARIA LEAF BLIGHT OF CARROT

Alternaria leaf blight is a seed-borne foliar disease of carrot, caused by the fungus, *Alternaria dauci*. Symptoms appear as dark brown to black lesions that are irregular in shape (Figs. 1 & 2). The lesions may occur on leaves and petioles, and are surrounded initially by a yellow margin. Individual lesions often begin on older leaves and coalesce with time to cause extensive blighted areas. Entire leaves may be killed especially when lesions develop on petioles (Fig. 2). This fungus also causes damping-off of carrot seedlings and severe disease can result in reduced yields (Fig. 3).



Fig. 1. Extensive and severe symptom development on leaves and petiole. Photo: Kimberly Cochran.

The primary source of infection on the field is contaminated seeds. The fungus can also survive on crop debris and carrot volunteers between seasons. Disease development is favored by extended leaf wetness such as those provided by weather or overhead irrigation. Infection can occur over a wide temperature range (57 °F to 95 °F) but pathogen activity is optimal at 82 °F. Fungal spores are often dispersed by air and splashing water or machinery to initiate new infections.



Fig. 2. Severe disease may kill entire leaves especially when lesions develop on petioles. Photo: Kimberly Cochran.



Fig. 3. Yield reductions due to Alternaria leaf blight disease. Photos: Kimberly Cochran.

Confirmatory diagnosis of Alternaria leaf blight is by microscopic examination of the fungal spores (Fig. 4).



Fig. 4. Appearance of Alternaria dauci spores under the microscope. Photo: Kimberly Cochran.

Plant clean (disease-free) seeds and resistant cultivars. Seed sanitation may be achieved via hot water bath treatment prior to planting. Soil tillage practices that ensure decomposition of crop residue will help reduce fungal inoculum. Practice crop rotation (two years) and avoid infested soils as much as possible. Regular field scouting coupled with rouging and proper disposal of symptomatic plants may help to reduce inoculum levels during the season. Overhead irrigation should be avoided where possible. Foliar fungicides are protective in nature and should be applied prior to infection and/or symptom development.

Text and Photos by Dr. Kimberly Cochran and Dr. Olufemi J. Alabi, Extension Plant Pathologists
 June, 2016