



Redefining Pest Management - a Holistic Approach

Practice Abstract N° 8

Biological control of *Alternaria* leaf blight in carrots

Alternaria leaf blight caused by the fungus *Alternaria dauci* is the major foliage disease of carrots in most areas of production, responsible for important economic losses worldwide. *A. dauci* causes severe defoliation in carrot crops, especially under conditions of high moisture and temperature. While foliar symptoms are the most common, *A. dauci* can also infect the stems, the inflorescences and seeds developing in umbels. Foliar symptoms appear as small, green-brown lesions. The lesions enlarge and infected tissue becomes dark brown to black, sometimes surrounded by a chlorotic halo. Control of *Alternaria dauci* is mainly based on the use of different fungicides as no biocontrol product is approved for carrots. OPTIMA project is searching into alternative products to reduce the use of synthetic chemicals. Tests are in progress in France and Greece with biological plant protection products including *Bacillus subtilis* and *Bacillus pumilus*, seaweed or plant extracts, *Trichoderma* spp. First results in greenhouse trials are promising. Practical recommendations are: the use of commercial treated seeds and partial resistant varieties; reasoned nitrogen fertilization and without excess; avoid leaving crop residues on the plot; the use of Disease forecast models to optimize pesticide use and application timing.



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