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Arkansas Plant Health Clinic Newsletter

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Tomato

Septoria Leaf Spot caused by *Septoria lycopersici* is one of the most damaging diseases of tomato foliage. Septoria is favored by warm temperatures and high humidity. Symptoms of Septoria generally appear on the lower leaves after the first fruit sets. Lesions are circular, about 2.6mm in diameter, with dark brown margins with tan to gray centers. A narrow yellow halo may often be observed around the lesion. Small black fruiting bodies of the fungus (pycnidia) may be observed in the centers of the lesions using a hand lens. Lesions may coalesce to form large, blighted areas. Badly affected leaves turn yellow, then brown and fall off the plant. There are no resistant cultivars available. Control measures include crop rotation with a non-host, control of weeds in tomato crops, removal of all crop debris, and avoidance of night watering and overhead irrigation. Protective fungicides at regular intervals during the growing season will be necessary for most growers. Quadris, Cabrio, Flint, Bravo, Mancozeb, and Gavel are labeled for Septoria leaf spot control. Homeowners may use Ortho Garden Disease Control, or Fertilome Liquid Fungicide, or Bonide Fung-onil Multipurpose Fungicide

Concentrate, or Garden Tech Daconil Fungicide Concentrate, or Bonide Mancozeb Flowable w/Zinc, or Green Light Tomato and Vegetable Spray. Organic Gardeners may try Bayer Advanced Natria Disease Control, or Bonide Liquid Copper Fungicide Concentrate, or Kaligreen, or Bonide Remedy, or Bonide Copper Dust, or Hi-Yield Bordeaux, or AgraQuest Serenade.

Tomato Septoria Leaf Spot- *Septoria lycopersici*



**Photo by Sherrie Smith, University of Arkansas
Cooperative Extension**

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Issue 18, June 25, 2018

Tomato/Pepper

Tomato Septoria Leaf Spot- *Septoria lycopersici*



Photo by Keith Grisham, University of Arkansas
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Tomato Septoria Leaf Spot Spores-*Septoria lycopersici*



Photo by Sherrie Smith, University of Arkansas
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Bacterial canker (CMM), caused by *Clavibacter michiganensis* pv. *michiganensis*, is a severe and damaging bacterial disease of tomato. All grow stages of the plant are susceptible to this disease. When plants are infected at the seedling stage, they may die quickly, or produce weak plants. Infected young plants may have wilted branches, and yellowed leaves. There are two types of symptoms on mature plants: systemic symptoms and superficial symptoms. Systemically infected plants may have curling, yellowed, wilted leaves which later become brown and collapse. The vascular tissue becomes discolored, with the stem tissue first becoming streaked with light yellow to brown streaks which later turn reddish brown. This can be obvious at the nodes. The superficial symptoms are caused by secondary infections of the bacterium. Infection usually happens at the margins of leaves but can occur on petioles or stems. Dark brown to black lesion will occur on the surface of infected plants, and fruit may be spotted with pale green to creamy-white blister-like leaf spots surrounded by dark rings of dead tissue. Control of bacterial diseases is always difficult. Growers should use only certified disease-free seed and transplants. Practice crop rotation away from tomatoes and other solanaceous crops for at least 3 years. This includes potatoes, peppers, and eggplants, as well as tomatoes. All diseased plants should be immediately removed from the planting, and all crop debris removed as soon as the crop is finished. Irrigation should occur early in the morning to allow foliage to dry quickly.



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Applications of fixed copper or mancozeb may help control superficial populations of CMM if applied before symptoms appear. Greenhouses should be disinfected using a product designed for the purpose, or by using a 10% bleach solution. Benches, walls, floor, and containers should be treated.

Tomato Bacterial Canker- *Clavibacter michiganensis* pv. *michiganensis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Tomato Bacterial Canker- *Clavibacter michiganensis* pv. *michiganensis*



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Tomato Bacterial Canker- *Clavibacter michiganensis* pv. *michiganensis*



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Cucumber

Anthrachnose of cucumber, caused by *Colletotrichum obiculare* synonym *C. lagenarium*, can be a serious disease on susceptible cultivars. All parts of the plant may be infected, including leaves, petioles, stems, and fruits. Lesions begin as yellowish water-soaked spots that turn brown to black. The spots enlarge and dry out. The centers of older lesions fall out leaving a shot hole effect. Infected fruit have sunken circular black spots of different sizes. Crop rotation and destruction of old vines go a long way toward controlling this problem. Commercial growers may use fungicide applications of Quadris Top, or Quadris 2.08FI, or Cabrio 20EC, or Quadris Opti, or Bravo Ultrex, or Bravo WeatherStik or Equus 720, or Mancozeb 80W, or Pristine. Homeowners may use Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), or Hi-Yield Vegetable, Flower, Fruit, and Ornamental Fungicide, (chlorothalonil) or Ortho Maxx Garden Disease Control, (chlorothalonil), Ortho Disease B Gon Garden Fungicide, (chlorothalonil), or Garden Tech Daconil Fungicide, (chlorothalonil), or Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil).

Pepino by Keiddy Urrea

La antrachnosis del pepino es una enfermedad muy importante para el cultivo de pepino, especialmente para los cultivares susceptibles. Esta enfermedad es causada por el hongo *Colletotrichum obiculare* synonym *C. lagenarium* el cual ataca todas las partes de la

planta: tallos, hojas, peciolas y frutas. Los síntomas empiezan con lesiones amarillas de apariencia húmeda, a medida que las lesiones envejecen toman un color marron y tienden a desprenderse dejando orificios en la superficie de la hoja. En los frutos los síntomas aparecen como machas hundidas circulares de color negro. El manejo de la antrachnosis del pepino se realiza principalmente con el uso de productos químicos, sin embargo la rotación de cultivos y el manejo sanitario de los residuos vegetales pueden ayudar a prevenir el aumento de la cantidad de inóculo. Para productores de cultivos comerciales se recomienda el uso de fungicidas como: Quadris Top, Quadris 2.08FI, Cabrio 20EC, Quadris Opti, Bravo Ultrex, Bravo WeatherStik, Equus 720, Mancozeb 80W, o Pristine. Para controlar antrachnosis en jardines y huertas se recomienda: Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), Hi-Yield Vegetable, Flower, Fruit, and Ornamental Fungicide, (chlorothalonil), Ortho Maxx Garden Disease Control, (chlorothalonil), Ortho Disease B Gon Garden Fungicide, (chlorothalonil), Garden Tech Daconil Fungicide, (chlorothalonil) o Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil).

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Issue 18, June 25, 2018

Cucumber Anthracnose-
Colletotrichum obiculare synonym *C.*
lagenarium



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This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."