



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.

Clematis

Clematis are reliable plants that give few problems once established. They grow best in full sun with well-drained, evenly moist soil with a pH of 6.6-7.0. Although generally problem free, they are susceptible to Clematis wilt caused by *Phoma clematidina*, formerly *Ascochyta clematidina*. This is a fungal pathogen that causes both leaf spots and stem lesions. When a stem is girdled by the fungus, the flow of nutrients is shut off, and wilting occurs. When the affected stem is sliced open, it appears black inside. Clematis wilt seldom kills the plant. Affected plants almost always immediately begin to produce new growth from the crown. All wilted stems should be cut back to healthy tissue. An ornamental fungicide such as Bayer Advanced Garden-Disease Control for Roses, Flower, Shrubs, or a product containing chlorothalonil or propiconazole, such as Fertilome Liquid Systemic Fungicide, or Fertilome Liquid Fungicide or Monterey Fungi-Fighter may lessen the chance of reoccurrence. Avoid injuring stems when using tools such as weed eaters and mowers.

Clematis wilt-*Phoma clematidina*



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Clematis wilt-*Phoma clematidina*



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Beans

Common bacterial blight of bean, caused by *Xanthomonas campestris* pv. *phaseoli*, can be highly destructive during periods of extended warm, humid weather. Symptoms on leaves begin as water-soaked spots that gradually enlarge, and become brown with a narrow lemon yellow border. The leaves may appear burned when the lesions enlarge and coalesce. Symptoms on the pods are generally circular, slightly sunken, and dark red-brown. Seeds may also be infected. Symptoms on seeds are butter yellow or brown spots. The spots may be distributed throughout the seed coat or be found only in the hilum. Infected seeds have poor germination and vigor, often appearing shriveled. Control measures start with planting



pathogen free seeds that have been tested for Common bacterial blight. Additionally, seeds should be treated with an antibiotic such as streptomycin before planting. A minimum of a 2 year crop rotation between bean crops should be followed. Copper fungicides sprayed before symptoms appear gives decent protection. Avoid working in the field when foliage is wet as this can help spread the bacterium. Avoid overhead irrigation. There are cultivars with high levels of resistance to Common bacterial blight.

Bean Common bacterial blight- *Xanthomonas campestris* pv. *phaseoli*



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Oak

Many insects feed on oak leaves. The Solitary oak leafminer, *Cameraria hamadryadella*, is the larvae of a small brown and silver moth. The larvae tunnel between layers of leaf tissue feeding and causing pale green to brown blisters on the leaves. A few leafminers do little damage, but heavy infestations leads to premature leaf drop. The larvae overwinter in fallen leaves on the ground. The adult moth emerges in the spring and lays her eggs on the leaves, thus beginning the cycle again. There are several generations a year. Another oak

leafminer is the Gregarious oak leafminer. The Gregarious oak leafminer is very similar to the Solitary oak leafminer except you will find more than one larva per mine, sometimes more than a dozen. Control is difficult and usually not necessary. Fallen leaves should be promptly raked up and burned or removed from the property.

Solitary oak leafminer damage- *Cameraria hamadryadella*



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Solitary oak leafminer mines- *Cameraria hamadryadella*



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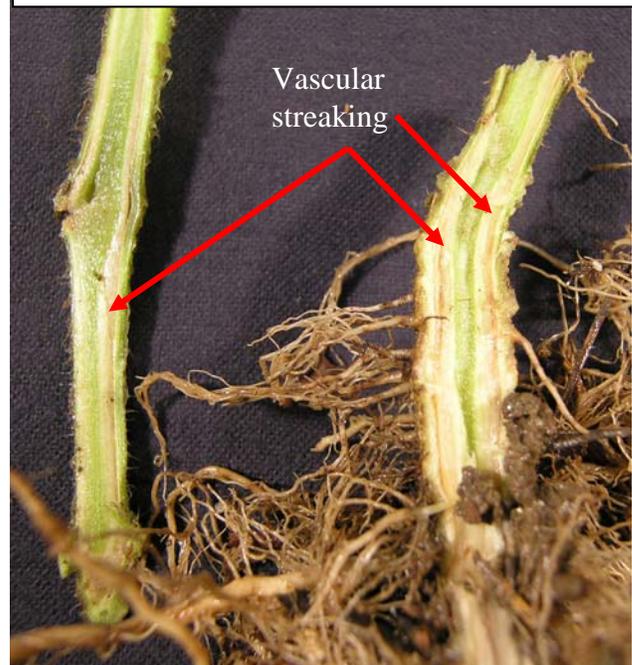
Solitary oak leafminer larva- *Cameraria hamadryadella*



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<http://www.bing.com/videos/watch/video/grafting-of-tomato-plants/108af607abd21a8ab20f108af607abd21a8ab20f-914088920333?q=grafting+tomatoes+video&FORM=VIRE1>

Tomato Fusarium wilt-*Fusarium oxysporum* f.sp. *lycopersici*



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Tomato

Fusarium wilt, caused by *Fusarium oxysporum* f.sp. *lycopersici*, is a serious problem in many tomato producing areas of the world. When infection occurs in young plants, they become stunted with enlarged stem bases and drooping leaves. Older plants often develop symptoms on one side of the plant, or on one side of a leaflet. The affected side turns yellow and begins to wilt. Eventually, the entire plant wilts. When the lower stem is split lengthwise, a brown discoloration may be observed in the vascular tissue. The pith remains healthy looking. Fusarium wilt is a soil-borne disease. It is not treatable or curable. Wilted plants will not recover. The best solution is to plant cultivars with resistance to Fusarium wilt. For those wishing to grow heirloom tomatoes in spite of susceptibility to Fusarium wilt, success has been achieved by grafting the top section of the heirloom tomato onto the bottom of a resistant tomato. The procedure is not difficult, but requires practice. The following video link gives detailed instructions.