



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.

## Fennel

Fennel, *Foeniculum vulgare*, is a hardy perennial herb with yellow flowers and feathery leaves. Although native to the Mediterranean, it has become widely naturalized in many parts of the world, favoring dry soils near the sea-coast and on riverbanks. Fennel is a highly aromatic and flavorful herb used in cooking, and also has medicinal uses. Fennel is also a major attractant in butterfly gardens, providing food for lepidopteran larvae. The bulb, foliage, and seeds of the fennel plant are all edible and a staple of many kitchens world-wide. The small flowers of wild fennel are the most potent form of fennel, but also the most expensive. Dried fennel seed is an aromatic, anise-flavored spice, widely used in cheese spreads, vegetable and fish dishes. Fennel leaves are delicately flavored and similar in shape to those of dill. The bulb is a vegetable that can be sautéed, stewed, braised, grilled, or eaten raw. Young tender leaves are used in many ways; for garnishes, to add flavor to salads, to flavor sauces to be served with puddings, and also in soups and fish sauce.

In the proper environmental setting, fennel has few problems. However, it can't tolerate soggy soils and may develop root rots caused by *Pythium* and *Phytophthora* species under those conditions. Other soil pathogens that can cause problems are wilts caused by *Rhizoctonia* and *Sclerotium*. Fennel also may develop fungal leaf spots caused by *Alternaria*, *Corynespora*, *Stemphylium* and *Cercospora* species. Poor air circulation and high humidity may lead to an outbreak of powdery mildew, caused by *Erysiphe polygoni*. Control of foliage diseases is largely cultural. Avoid excess fertilization. Sulfur application can be used when infection occurs early in season.

## Fennel Powdery Mildew-*Erysiphe polygoni*



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## African violet

The cyclamen mite, *Steneotarsonemus pallidus*, is a serious pest of many ornamental plants, including cyclamen, African violet, begonia, gerbera, ivy, chrysanthemums, geranium, fuchsia, larkspur, petunia, snapdragon, and other greenhouse grown plants. Cyclamen mites feed by piercing plant cells and sucking out the contents. Their feeding activity causes leaf streaking, cupping, puckering, thickening, and sometimes plant death. The crown may have excessive hairs on the leaves. Flowers may be streaked, twisted, or deformed. Secondary bacterial and fungal infections may occur via entry through mite feeding sites. Cyclamen mites are parthenogenetic, meaning they can reproduce asexually and one mite can become a colony. They are easily transferred plant to plant via tools, clothing, gusts of air, and close plant proximity. Control can be challenging. Isolate infested plants. Severely infested plants should be discarded. The pots should not be reused until they have been soaked for 30 minutes in a solution of 1 part household bleach to 9 parts water. Neem oil, or Ortho Houseplant Insect Killer, or insecticidal soap may be used. One method that has been used successfully is to submerge the plant in 110°F water for 30 minutes.

## African Violet Cyclamen Mite- *Steneotarsonemus pallidus*



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## African Violet Cyclamen Mite- *Steneotarsonemus pallidus*



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## Boxwood

Boxwoods are a very popular landscape plant. They are normally used as hedges or in a mixed shrub border. People like their relatively small size, and that they are evergreen, and that they lend themselves to shearing. The optimum soil pH for boxwood is between 6.5 and 7.2. They can be planted in full sun or part shade, but appreciate some afternoon shade in the mid-south. Boxwoods are normally healthy plants, but cannot tolerate constantly boggy and/or heavy soils. Grown under those conditions, boxwood will develop root rot caused by *Phytophthora*. The plant starts to yellow all over, becomes brown and dies. When the roots are examined they will be blackened, rotted and slimy. Plants in this condition are not savable. Improve drainage and adjust watering practices before replanting.

Perhaps the most common problem we see at the clinic is Boxwood blight, caused by *Volutella buxi*. Symptoms become noticeable as certain branches or individual plants do not put on new growth in the spring. Leaves turn from normal to light green to tan. Leaves on infected branches turn upward and lie close to the stem



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instead of spreading out like leaves on a healthy stem. The bark at the base of an infected limb shows gray to black discoloration under typically peeling bark. During wet weather, small pink to orange colored waxy fruiting bodies of the fungus may be observed on the branches and leaves. Control consists of removing infected branches as soon as they are seen, cleaning up all leaves caught within the shrub and on the ground, and the application of copper based fungicides or lime sulfur during the dormant season before new growth starts in the spring. Fungicides containing chlorothalonil, or mancozeb or thiophanate-methyl are effective during the growing season. Begin in early spring at new growth and continue until late spring. Applications may be applied again in the fall prior to dormancy with boxwood that have a history of the disease. It is very helpful to maintain a proper water regimen during the entire year to reduce stress. Boxwoods need watered during the winter if it is a dry winter.

**Boxwood Phytophthora Root Rot-*Phytophthora* sp.**



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**Boxwood Phytophthora Root Rot-*Phytophthora* sp.**



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**Boxwood Volutella Blight-*Volutella buxi***



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