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.

**Rose**

Downy mildew of roses, caused by *Peronospora sparsa*, is a serious disease of cultivated roses. This pathogen is active during cool humid conditions in the spring and the fall. Downy mildew goes dormant when temperatures get above 80°F. Symptoms may include lesions on canes, leaves, stems, and flowers. Leaf lesions begin as small block-like purplish spots on the leaves. Eventually, the lesions may coalesce to blight large portions of the leaf. Severe defoliation may occur. When lesions girdle stems or canes, dieback occurs. A downy mass of sporangia forms on the undersides of infected leaves and on infected canes during periods of high humidity (85% relative humidity). Leaf wetness of 6 hours is enough to cause sporulation. Heavily infected plants are often killed. Control of Downy mildew is challenging as the pathogen overwinters on rose leaves and canes. As a consequence, good sanitation is critical. Plants should be spaced to promote fast leaf drying. Commercial growers may use Subdue Maxx, or Stature, or Aliette, or Segway. Homeowners may use Aliette. Products containing mancozeb may also prove useful. Some growers destroy infected plants to prevent spread of Downy to nearby plants.
Strawberry Powdery mildew of strawberries, caused by *Sphaerotheca macularis* f.sp. *fragariae*, is a serious problem when environmental conditions are right for infection. Blooms, fruit, leaves and stems can all be infected. Leaves which are severely damaged by powdery mildew have a reduced ability to photosynthesize. This in itself reduces the over-all vigor of the plant. Infection of flowers and fruit can significantly reduce yield. Symptoms are white patches of mycelium on the undersides of leaves. As the amount of powdery mildew increases, the leaf edges roll upward. Purplish blotches also may occur on the affected leaves. Young fruit may be infected during bloom and become covered with powdery mildew mycelia. Severely infected new fruit may die and dry up. Older fruit develop dark, watery areas on the fruit with sunken lesions. The powdery mildew mycelia eventually become apparent on the injured fruit. Strawberries grown in high tunnels and greenhouses are especially vulnerable. Cultivar susceptibility, low light intensity or short days, high humidity and low temperatures are factors in disease development. There are many cultivars with decent resistance to powdery mildew. Commercial growers may use Abound, or Quadris Top, or Pristine, or Switch 62.5 WG, or Inspire Super, Fontelis, or Cabrio EG, or Flint. Homeowners must rely on resistant cultivars and good sanitation.
Peony

Peonies that receive glyphosate injury (Roundup) have chlorotic, distorted foliage. Peonies that got a lighter dose of the herbicide may have unusual purplish coloring and witch’s broom. Since this herbicide is systemic, symptoms may be evident for more than a season or two if the plant is not killed outright.
Request for help from Dr. Robbins:

Root knot nematode populations are needed for our Arkansas species study. I am a nematologist in the department of Plant Pathology in Fayetteville. My student and I are trying to amass populations of as many species of Root knot nematode (Meloidogyne sp.) as possible for species identification using molecular techniques. At present no root knot species in Arkansas have been identified using molecular technology. We are interested in receiving populations from home gardens, shrubs, flowers, trees and grasses. For samples we need about a pint of soil and feeder roots in a sealed plastic bag that is plainly identified by plant host, location (City County, physical address, collector and date of collection). Please send samples to us at the follow address:

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