



## Arkansas Plant Health Clinic Newsletter

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### Camellia

Rust or Russet mites are tiny mites belonging to the Eriophyid group of mites. They are so small that they are very difficult to see even under the microscope. Their shed white skins are much easier to see than the mite itself and are diagnostic for an Eriophyid mite infestation. They are carrot shaped mites and lack all but a pair of front legs. Depending on Eriophyid species and host plant, symptoms may include bronze color patches on leaf surfaces, galls, leaf margins that roll inward or downward, swollen and distorted leaves, russetting on lower leaves, and witches' brooms. The species we see most often on camellia is the Camellia Purple or Ribbed Tea Mite. Unlike spider mites, these mites may be controlled with common garden insecticides including Bio Advanced Insect Control for Trees and Shrubs, fine oils, insecticidal soaps, and Sevin. Predatory mites do an excellent job of control without having to use chemicals. They may be purchased online.

### Camellia Purple Mite (Ribbed Tea Mite)-*Calacarus carinatus*



Photo by John Gavin, University of Arkansas Cooperative Extension

### Camellia Purple Mite (Ribbed Tea Mite) shed skins-*Calacarus carinatus*

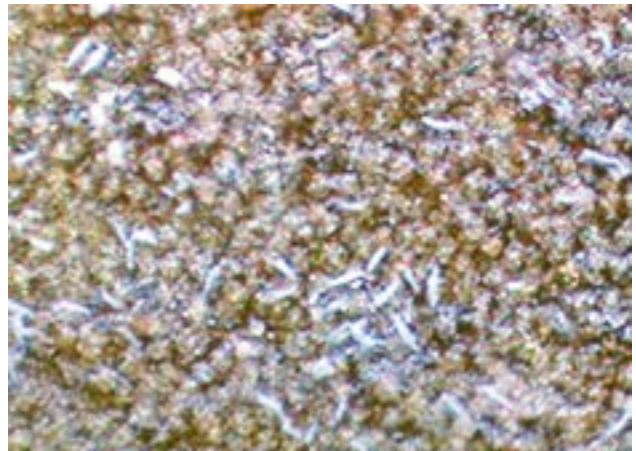


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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## Tomato

Late Blight, caused by *Phytophthora infestans*, is perhaps the most destructive disease affecting tomato and potato crops. Plants are particularly vulnerable when grown under cool temperatures, sprinkler irrigation, or prolonged periods of rain and heavy dew. When the humidity is 100% and temperatures are between 18-24°C (64-75°F), the disease can run rapidly through a field. Leaves, flowers, stems, and fruit may all be infected. Lesions first appear on the leaves, petioles, or stems as small water-soaked spots which grow rapidly into large pale green to brown lesions. A grayish-white fuzzy mold grows on the lesions. Initially the mold can be observed on both sides of the leaf but later is only found on the underside. Affected tissues become brown, shriveled, and die. The lesions on the fruit begin as olive-colored greasy spots. These may enlarge to engulf the entire fruit. Whitish-gray fuzzy mold can also occur on the fruit, followed by fruit rot. Rotted fruit and tomato vines let off a nasty odor. Ideally, tomatoes should be grown on raised beds in well-drained soil. Fruit should be prevented from touching the ground by staking or mulching. Avoid over watering. Ridomil Gold may be applied as a ground surface spray under the vines 4-8 weeks before harvest. Alternatively, it can be applied as a foliar spray beginning when crown fruit are 1/3 their mature size. Quadris 2.08, Quadris Opti, Cabrio 20EG, Gavel 75DF, Presidio 45C, Previcur Flex, and Reason 500SC are also labeled for Late Blight control in commercial fields. Home gardeners may use Maneb or

Mancozeb. There are now some very good resistant cultivars:

- Defiant – Determinate (bush) plants produce round, medium size red fruits, rated at 70 days to maturity.
- Iron Lady – Determinate (bush) plants produce round, medium size red fruits, rated at 75 days to maturity.
- Jasper – Tall indeterminate (cordon) plants bear trusses of red cherry tomatoes starting 60 days after planting. All America Selections winner and RHS Award of Merit.
- Lemon Drop – Indeterminate (cordon) plants bear hundreds of small yellow-green tomatoes in 80 to 90 days. Open-pollinated heirloom variety, a sport of 'Snow White' cherry.
- Matt's Wild Cherry – Sprawling indeterminate (cordon) plants bear scads of tiny red cherry tomatoes starting 55 to 60 days after planting. Open-pollinated heirloom from Mexico.
- Mountain Magic – Vigorous indeterminate (cordon) large red cherry tomatoes, rated at 75 days to maturity.
- Mountain Merit – Determinate plants produce large red round fruits about 75 days after planting. All-America Selection winner.
- Mr. Stripey – Indeterminate (cordon) plants produce medium size round fruits marbled with red and yellow in about 80 days. Open pollinated heirloom.



**Sherrie Smith**  
**Ricky Corder**

- Plum Regal – Determinate plants produce red plum tomatoes weighing 3 to 4 ounces each, rated at 80 days to maturity.

### **Tomato Late Blight sporulation- *Phytophthora infestans***



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### **Tomato Late Blight spore- *Phytophthora infestans***



Photo by Ricky Corder, University of Arkansas Cooperative Extension

### **Tomato Late Blight-*Phytophthora infestans***



Photo by John Gavin, University of Arkansas Cooperative Extension

### **Strawberry**

Many species of plants are susceptible to phytoplasma diseases, including ornamentals, weeds, and fruit and vegetables crops. Anise, asters, broccoli, cabbage, cannas, carrot, cauliflower, celeriac, celery, chicory, chrysanthemums, coconuts, coneflowers, cosmos, dandelion, delphiniums, dill, endive, escarole, flax, gladiolus, lettuce, marigolds,



**Sherrie Smith**  
**Ricky Corder**

white mustard, onion, parsley, parsnip, peaches, phlox, potato, pumpkin, radish, salsify, shallot, spinach, New Zealand spinach, squash, strawberries, sugarcane, tomato, veronica, and zinnia are susceptible, among others. Phytoplasmas are specialized bacteria that invade plant phloem tissue and cause disease. Sap-sucking insects transmit phytoplasmas from plant to plant. Four families of planthoppers and two genera of psyllids, as well as leafhoppers are known to be vectors of phytoplasmas. The bacteria enter the insect's body through its stylet when the insect feeds on an infected plant. From there, the bacteria move through the insect's intestine and eventually colonize the salivary glands. When the insect feeds on an uninfected plant, the bacteria are transmitted to the plant. Phytoplasmas may also be transmitted by parasitic plants such as field dodder. Symptoms include leaf yellowing, smaller than normal leaves, stunting, witches' broom, dieback, poor root growth, and sometimes plant death. A very common symptom is phyllody (the production of leaf-like structures in place of flowers). There is no cure for plants with phytoplasma infection. Plants with symptoms should be destroyed. Good weed control and the use of insecticides where warranted help control the insect vectors.

### **Strawberry Phytoplasmas- *Phytoplasma* sp.**



Photo by Terry Kirkpatrick, University of Arkansas Cooperative Extension

### **Strawberry Phytoplasmas- *Phytoplasma* sp.**



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**Sherrie Smith**  
**Ricky Corder**



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.

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