

Yavapai Gardens

Master Gardener Newsletter

August 2007



Events & Activities

MG Association Meeting, August 15, 6:30pm, Our speaker will be Steve Yoder. See back page for more information.

Yavapai Rose Society - , September 17, 2 PM First Christian Church, 1230 Willow Creek Rd. more information call Bob or Nancy at 771-9300,

Alta Vista Gardening Club, Prescott, fourth Tuesday of the month, 12:30pm. Call 928-443-0464 for location and information.

Prescott Area Gourd Society, third Tuesday of the month, 6:30 pm, at the Smoki Museum.

Pond Club -this is an informal group that meets every couple of months, usually the 3rd week. Email aquaticgardens@esedona.net for more information.

Prescott Orchid Society, meets 3rd Sunday of the month, 2pm at the Prescott Library, call Cynthia for information. (928) 717-0623

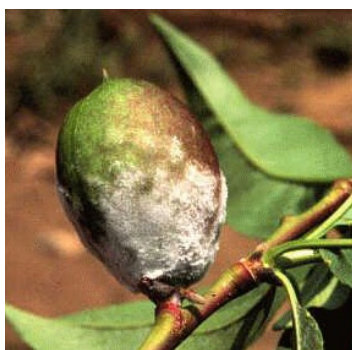
Prescott Area Iris Society call 928-445-8132 for date and place information.

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Powdery Mildew

from the August 1999 Yavapai Gardens
by Nora Graf



With the monsoons on us (hopefully, as I am doing this the first week of July), I thought I would reprint this article on powdery mildew. This is the time of year it tends to show up, as it likes the humid weather.

One of the more common problems on a variety of plants this time of year is powdery mildew; the hot humid weather seems to bring it on very quickly. It appears as a white powdery covering on the leaves, tender stem tissues and flower buds. It can damage, even kill, plants. It is most commonly seen on apples, grapes, roses, squash, melons and cucumbers and some flowers like zinnias and even grass. The surprising part is that it is not the same fungus; each is caused by a different species but look the same and, fortunately, can be treated the same.

Powdery mildew likes warm, damp weather. As a type of fungus, it produces spores. These spores do not need water to germinate—just high humidity and temperatures. This is monsoon time in Arizona.

On most plants you will see a fine powdery growth forming on the leaves. It can spread and eventually cover the entire leaf and then the plant. The leaves shrivel, dry and die. This exposes any fruit to sunburn. Loss of the leaves can also cause small fruit, reduce the flavor and cause poor fruit texture.

On cucurbits (squash, cucumbers and melons) two species are the problem: *Erysiphe cichoracearum* and *Sphaerotheca fulginea*. To grow, the fungus needs a living plant but the spores it produces can survive mild winters, so once it is in the garden in most locations it persists from year to year. The spores are very tiny and fine and are easily dispersed by the wind. Even if you don't have it in your garden one year, it doesn't take much for it to suddenly appear. These two varieties don't even need as high a humidity as others. They can germinate in humidity as low as 46%. *Erysiphe cichoracearum* also



affects some flowers such as, zinnias, dahlias, chrysanthemums, phlox and sunflowers. A closely related species causes mildew on peas.

All members of the rose family, including the garden rose and most fruit trees, are affected by powdery mildew. The mildew first shows up on young stems, then spreads to the leaves and flower buds. While it doesn't usually kill the plant directly, it reduces photosynthesis, causing poor health in the plant. The look of the plant is damaged, along with any fruit.

On roses, the spores over-winter in bud scales and other protected places on canes. It starts growing again in the spring when temperature and humidity go up. The spores produced can be blown by the wind or splashed on other plants when there is overhead watering.

Grapes are affected by the fungus *Uncinla necator*. In our warmer climates, spores survive in bark cracks where they germinate when temperatures rise. Temperatures can range from 68°F to 77°F for germination, although they can develop in a wide range of conditions. It also prefers shaded areas. The infection occurs only on new tissue and the berries, until the sugar content of these reaches a level of about 8%. Some native varieties, or varieties that have crossed with native types, are resistant to the mildew.

Once started, powdery mildew is difficult to control, as the spores are resistant and very mobile. Since most require a high humidity to germinate, avoid wetting the leaves. Providing good air circulation is important also. Don't crowd your plants. Water in the mornings so vegetation has the time to dry out quickly. Drip irrigation is a good way to help prevent infestations of powdery mildew. If, in spite of your best efforts you still have a problem, you can try some of the fungicides on the market. Remember to read the label carefully, espe-

cially if you are spraying it onto any plant with fruit you want to eat. Follow the directions on the container.

Some plant varieties are resistant to mildew. They have developed several, especially cucumbers and muskmelons, but haven't had much success with pumpkins and squash.

Sulfur has been used to control mildew but it can damage leaves, so be careful with it. A less toxic remedy may be made at home with baking soda and water. Mix 1 teaspoon of baking soda with one quart of water and spray on the infected plant. Another version includes horticultural oil: Mix 1 tablespoon baking soda, 2 1/2 tablespoons of a fine horticultural oil and 1 gallon of water. Spray on foliage. This is a case of more is not better. Stronger solutions may damage the plant.



Annual Iris Rhizome Sale



Saturday, August 4,
2007
9:30am till sold out
Sharlot Hall Museum,
under the canopy
415 W. Gurley Street,
Prescott

Includes
locally grown iris
newly hybridized iris
historical iris
potted iris
Also get advice on growing iris and a
free iris culture guide.

Sponsored by the Prescott Area Iris Society

Grow Some Knowledge—Fungus Gnats

Mary Barnes (edited by Pam Bowman)



At the June Master Gardener Association meeting in Cottonwood, the topic previously selected from the flowerpot was fungus gnats. Having tried many methods to eliminate these pests from my home, the Chino Valley Public

Library, a Chino Valley business and the Prescott Cooperative Extension Office, I volunteered to answer the question. The question was: How do I get rid of those pesky flying insects in my houseplants?

Fungus gnats are pesky, brown 1/4-inch long gnats. They fly out of a plant while you are watering. And they fly in your face at any time—while you are eating, reading, watching television . . . These little gnats quickly become a big nuisance.

After mating, a female lays 75-200 eggs in moist soil, rich in organic matter; in other words, the soil you use for houseplants. In four to six days the eggs hatch and the 1/4-inch long larvae live in the soil for up to three weeks. They feed on root hairs and the lower stems of plants, especially seedlings. The larvae turn into immobile pupa and finally emerge as fully formed adults that live about one week—mating, laying eggs and flying in your face. If not treated, the gnats multiply exponentially and drive some houseplant gardeners to toss the offending plants and start with new soil and plants. Unfortunately, the fungus gnats return.

For trapping adults, several methods are recommended. Sticky traps can be placed near all offending plants. Others recommend cups of mouthwash that will lure the gnats to timely deaths, i.e. before they mate and lay eggs, but I did not have much luck with this solution. Finally, placing a half inch of apple cider vinegar and two drops of dishwashing liquid in a small glass may lure these pests to death by asphyxiation. I never tried this method.

Trapping the adults after they have laid eggs will never break the life-cycle of these pests. You need to kill the

eggs and a number of methods are suggested. You can allow the soil to dry out to the leaf-wilting point. I tried this and still saw gnats emerge as I watered. You can cover the soil with sand, rocks or bark and when I tried this, no gnats flew out of the pot as I watered. However, I was never certain whether the adults were just slow to fly out or whether they were truly gone. You can pour a solution of Malathion or Sevin concentrate and water into your plants. This method works, but the lingering chemical smell is not welcome in most homes. You can pasteurize soil prior to planting by moistening and heating in a



160-degree oven for 1/2 hour. This method also produces an offensive smell, and use of a thermometer—which must be dedicated for this single purpose—is recommended to ensure the soil does not reach temperatures that can produce accumulations of toxic materials. You can also purchase beneficial nematodes (Gnat Guard from Gardener's Supply) which are advertised to provide permanent protection against gnats and thrips.

However, this product—a sponge filled with nematodes that you place in one gallon of water—is costly at \$20 and repeat applications are required. Finally, you can purchase Gnatrol – Bti (bacillus thuriangienses, subspecies israelensis) from Amazon for \$32 per quart and make



Darkwinged fungus gnat maggots.

a solution to drench the soil. Using water with a pH of 6.8 – 7.0 or lower (test your water - I add 1/4 teaspoon of vinegar to 1 gallon of water); you add 1 – 2 teaspoons per gallon of water for light infestations and 4 – 8 teaspoons for heavy infestations. Regular follow-up

drenching is required. This appears to be the most cost-effective and efficient way to deal with fungus gnats.

To keep fungus gnats out of my home, the Chino Valley Public Library, a Chino Valley business and the Prescott Extension Office, I use the Gnatrol – Bti soil drench every three to four months. I drench the soil when I pot new plants; place sticky traps in strategic areas and don't leave water in the dishes under the pots. I hope you find that some of the methods described prevent fungus gnats from bugging you.

A Weedy Beauty

by Nora Graf

A monster in fancy dress is lurking out there in the wild. Toadflax, or Eggs and Butter, has spikes of snapdragon-like yellow flowers that are really quite pretty but, because it has a bad habit of spreading where it is not wanted, it is classified as a noxious weed in Arizona. So, if you see it dig it up and get rid of it.

Linaria vulgaris, *L. genistifolia* and *L. dalmatica* are the three species of a perennial that has been naturalized in America. It is native to Europe and Western Asia. It normally grows wild in waste ground, grassy meadows and fields, preferring gravelly soil. It has a creeping rhizome that sends up stems that can reach as tall as thirty inches. The leaves are narrow and bluish green. Yellow flowers top the plants from June through October.

The name toadflax comes from flowers that are supposed to resemble little toads or possibly that toads sheltered under it. The flax reference is because the leaves resemble that of the flax plant (linen is made from flax). Eggs & Butter is a reference to the two-tone color of the flowers.

Historically, the plant was processed to extract a golden yellow dye. It was also boiled in milk to create some sort of fly trap in Sweden. Who knew! It was also used medicinally as an astringent, purgative and diarrhetic. Herbalists also used it for jaundice, liver complaints, skin diseases, ointment for sores, ulcers and wounds, and eye irritations.

But, before you get excited to add this



plant to your garden, remember it's a noxious weed because it spreads easily and is hard to get rid of. It propagates by seeds and the creeping rhizome and root system that can grow deep. And before you say, "so what, I'm going to plant it anyway", the plant is also poisonous. It contains alkaloids that can harm livestock, although most animals seem to shun it. Toadflax can quickly replace native plants and create large stands of a single plant where once many species flourished. A single plant can produce several thousand seeds! On top of that, it can reproduce vegetatively.

There are some controls—some herbicides will kill it and several insects are being looked at for controlling the plant. Simple plucking the plant out of the ground may not kill it but do it anyway. Do not let these plants thrive in your landscape.

If you don't think it's around, look again. I frequently see plants blooming as I'm driving to work in Jerome.

The Point of the Vegetable Garden

by Nora Graf

The point of having a vegetable garden is good eats! Tasty tomatoes, voluptuous eggplant, crispy beans and crunchy peppers should be making their way into your kitchen. I truly relish the taste of ripe tomatoes and basil. I spend a lot of meals eating fresh (preferably home-made) bread with a mix of tomatoes, basil and garlic (all homegrown). But every once in awhile you need to branch out and try something new. Here is a way to use some of those tasty tomatoes and fresh basil and give a treat to family and friends. Enjoy!

Tomato-Basil Tart

1 (11 oz.) can refrigerated soft breadstick dough (or make your own)
8 plum tomatoes, sliced 1/4 inch thick
1 1/2 tsp. salt
1 cup loosely packed fresh basil leaves
3/4 cup (3 oz.) shredded part-skim milk mozzarella cheese
2/3 cup fat-free ricotta cheese
1/2 cup (2 oz.) grated fresh Parmesan cheese
1/4 tsp. black pepper
2 large egg whites
2 tsp. olive oil.

Preheat oven to 425°F.

Unroll dough, separating into strips. Coil 1 strip around itself in a spiral pattern. Add second strip of dough to end of first, pinching ends to seal; continue coiling remaining dough. Let rest 10 minutes. Roll dough into 12-inch circle, fit into bottom and sides of 9-inch round removable-bottom tart pan coated with cooking spray. Cover dough with foil, arrange pie weights or dried beans on foil. Bake at 425°F for 15 minutes, remove weights and foil. Bake additional 5 minutes or until edges are lightly browned.

Reduce oven temperature to 350°F.

Sprinkle sliced tomatoes with salt. Place slices, salt side down on several layers of paper towels. Let stand 10 minutes, pressing down occasionally.

Place basil, cheeses, pepper and egg whites in a blend-

er or food processor; process until smooth. Spread cheese mixture over crust. Arrange tomato slices over cheese mixture and brush with olive oil. Bake 350° for 40 minutes or until cheese mixture is set. Let stand 10 minutes before serving.

Serves 6

Red, White & Blue-Black Eggplant



1 lb eggplant
3 large ripe tomatoes
6 oz sliced mozzarella cheese
1/2 c. olive oil
3 c. sliced onions
Salt, pepper
3 tblsps. chopped fresh basil or 2 tsp. dried

Wash eggplant, do not peel. Remove cap and

slice off other end. Quarter the eggplant lengthwise. Slice each quarter lengthwise, 1/4-3/8 inch pieces. Salt the slices and let drain for 30 minutes.

Core the tomatoes, halve and thinly sliced. Cut the cheese into 6 x 1 1/2 inch pieces.

Heat 2 tablespoons oil, saute the onions until soft without browning, about 10 minutes. Remove from the pan. Pat the eggplant dry and brown the slices, a few at a time, using most of the remaining oil. salt and pepper. Lightly oil a 9 x 6, 2 quart baking dish. Spread half the onion on the bottom of the pan and sprinkle with half the basil. Starting at the end of the dish, arrange alternate standing layers of 1 slice of eggplant, skin side up, 2 or 3 slices of tomatoes (as best fits across eggplant) and then a slice of cheese against the tomatoes. Repeat these three rows, working down the baking dish. When all have been fitted in, top with the remaining basil and onions. Cover the dish tightly and bake for 40 minutes in a preheated 375°F oven. Serves 4 (from The Victory Garden Cookbook by Marian Morash)

Arizona Highlands Garden Conference

October 11 & 12, Thurs.-Friday 2007

Apache Gold Casino

San Carlos, Arizona

This year's conference is promising to be a great event and an opportunity to learn something new. Along with the regular sessions there will be several workshops each day. Check them out.

Judith Phillips, the first speaker on Friday is a well known landscaper and garden writer. You might already have "Plants for Natural Gardens" on your bookshelf, but she has several other books you might have heard of "Southwestern Landscaping with Native Plants" or "New Mexico Garden Guide"

Registration material will be available soon.

Thursday Oct 11

Opening Session—Plants of the Sonoran Desert and their many uses— Don Wells and Jean Groen

Session I

Apache Gardening farming and useful plants of the Apaches—Seth Pilsk
BEE in the Garden—Cayci Vuksanovich

Workshop—Fun Indoor Fountains—Debby Metz



Session II

Industrial-scale Gardening-Reclamation project at Phelps Dodge

Success with fruit trees: easy varieties and tips to trick the weather—Rob Call

Workshop—Indoor Cacti/Succulents-the best in low care houseplants—Carol Clapp

Session III

Edible Herb Varieties and Growing Tips—Catherine-the Herb Lady

Sawflies, caterpillars & beetles, Oh My! The good, bad & ugly of tree insects—Tom DeGomez

Workshop—Decorative Gourds—Nora Graf

Day's End Session

Landscape Basics—First things first—Kim Stone



Friday Oct 12

Opening Session

Gardening in Southwestern Highlands—Judith Phillips

Session I

Backyard Composting—Marta Waddell

Plant viruses of vegetable, vegetable seedlings and ornamentals—Judith Brown

Workshop—Landscape II—Landscape planning—Kim Stone

Session II

Success with Butterfly Gardens—Chris Klein

Shade Tolerant, low water use plants for the high desert—Chris Jones

Workshop—Painting with watercolors, autumn leaves and colors

Session III

Tomato, Chili and herb varieties for the Arizona Highlands—Pat Romero

Tree Pruning-Deciduous and conifer techniques—Jeff Schalau



Workshop—Decorative Gourds—Nora Graf

Days End
Grow! Dirt-eating worms get no respect—Bruce Wales

2007 CALENDAR OF EVENTS

August 15, 6:30 (Cottonwood) MGA meeting, Horticultural Techniques for Plants in Higher Elevations -- Steve Yoder, Executive Director, The Arboretum at Flagstaff

August 25, V Bar V Ranch Field Day, Call Cottonwood office for more information

September 15, (Prescott) Recognition Awards & Picnic, Highlands Center

September 20-23, Yavapai County Fair

October 11/12, Highland Garden Conference, Apache Gold Casino, San Carlos

October 17, 6:30 (Prescott) MGA meeting, Insect Identification--William Currie, Entomologist from Ash Fork

November 14, 6:30 (Cottonwood) MGA meeting, Elections, Flora and Fauna in the Verde Valley--Janie Agyagos, District Wildlife Biologist, Red Rock Ranger District, Sedona and Master Gardener.

Reporting Hours for the Garden Tour

If you worked on the Master Gardener Garden Tour on July 28th as a volunteer, you report Volunteer hours for that time (includes travel time). If you attend the tour (i.e. view the gardens), you get Continuing Education hours for the time you actually spend touring the gardens. You do not get travel time with Continuing Ed.

Yavapai County Fair – Prescott Valley

We need MG volunteers for fair activities from Sep 20th to Sep 23rd. If you can help with checking in produce or judging, contact Sherry Howard, howardpena@cableone.net, 445-5647.

Highlands Center Fall Plant Sale

The sale will be held at the Highlands Center (on Walker Rd behind Costco). This is just a plant sale (no admission, no vendors).

We need MGs to unload plants and setup Sep 20th and 21st and to help with the sale on Sep 22nd. Member preview 7:30am – 9:00am, general public sale 9:00am – noon.

Contact Lynn Hazlewood, klwoodz@cableone.net, 776-1018.

Verde Valley Farmers Market in Camp Verde

Master Gardeners will staff a table every other Saturday, beginning June 30th and ending Oct 6th. Contact Jeannette Teets, jdteets@commspeed.net, 567-6891.

FROM THE EDITOR: Please send or email articles and announcements to the address below. All articles must be in my hands by the 10th of the month. Short announcements (no more than 2 or 3 lines) will be accepted until the 25th.

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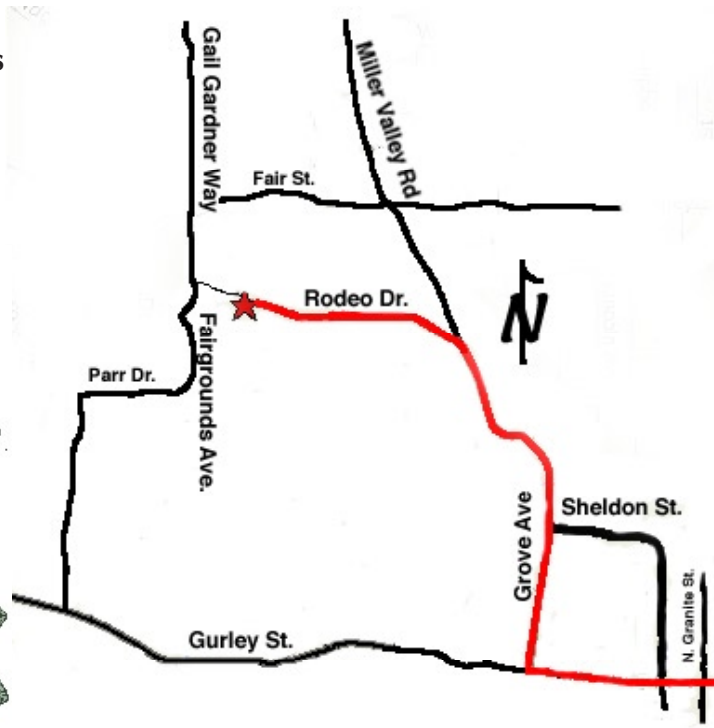
Cottonwood

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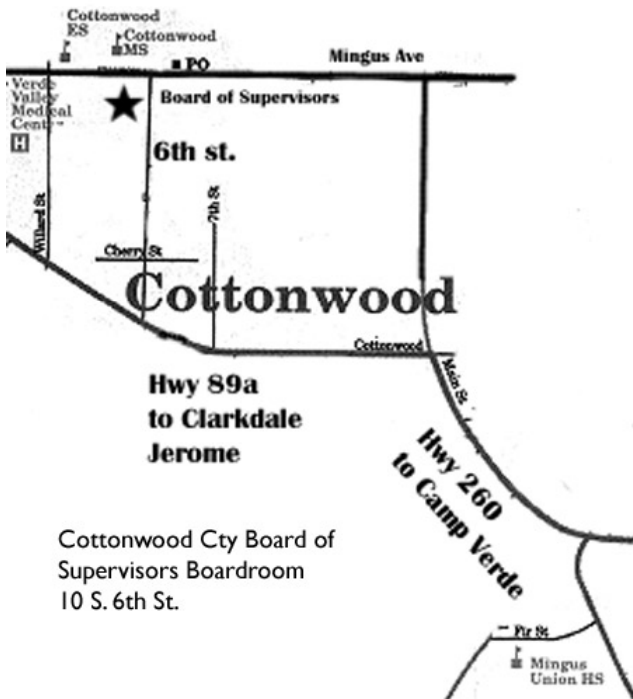
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MG NEWSLETTER



Cottonwood Cty Board of
Supervisors Boardroom
10 S. 6th St.

Next Meeting:

August 15, 6:30, Cottonwood
Horticultural Techniques for Plants
in Higher Elevations -- Steve Yoder,
Executive Director, The Arboretum at
Flagstaff