What is leafminer and how can it be controlled?

Citrus leafminer (*Phyllocnistis citrella*) larvae feed by creating tunnels between the layers of young citrus leaves. It was not found in California until 2000 and now infects most of So Cal. It is native to Asia, was found in Australia in the 1940s, in the 1970s it started showing up around the world. It arrived in Florida in 1993 and migrated west. As a side note, there are leafminers affecting other types of plants besides citrus.

The critter is a very small, light-colored moth, less than ¼” long. The larval stage is found only inside mines of citrus leaves. As it feeds and develops, the larva leaves a frass trail, observed as a thin, dark line inside the meandering, serpentine mine just under the surface of the leaf. In its last stage the larva emerges from the mine and moves to the edge of the leaf. It rolls the leaf around itself and pupates in preparation for adulthood, creating a rolled and distorted leaf. The adult moth does not damage the leaf and lives only 1-2 weeks. They are most active in the morning and late evening. The larva develop best at temps of 70-85F and >60% relative humidity, but it will adapt.

Leafminer does not affect older trees with large canopies of older leaves. However, it can affect young trees (4 years and less). These young trees may experience a reduction in growth since most of their leaves are new growth.

There are several ways to control leafminer:
1) leave it to natural enemies to control.
2) spray Spinosad on newly sprouted leaves (not flowers.
3) hang pheromone traps that are available at some nurseries. Do not prune off damaged leaves since they still produce food for the tree. Do not apply nitrogen during the active time of year in order to minimize those juicy new leaves. Remove water shoots. Check out this website for more info about this and other things.

Segueing to the reason I am writing about this, researchers have found that Silicon can help reduce damage caused by stressor induced problems such as pests, wind and heat. The resulting damage can be powdery mildew, leafminer damage and stem borer damage. It cannot be used as a standalone remedy and is really geared for commercial growers. Silicon is considered a plant beneficial nutrient. The earth’s crust is made up of 27% silicon, making it a major component of most soils. Crops grown in greenhouses are devoid of silicon. These researchers have shown that adding back silicon makes plants more resistant to stress events. Silicon provides strength to plant structures and mounts a defense against abiotic and biotic stressers.

I thought this was interesting and hope you do as well.
Announcements

1. **Proceeds** - At last meeting for Pennies for Pines were $11.15 and for Opportunity Table Drawing were $64, dues were $68.

2. **Elections** – They will be held at the April meeting. Openings include Membership Chair, Recording Secretary and Treasurer. Nominations for all Board positions shall be heard.

3. **Plant Sale** - Sign-ups for plant sale are still open. Join the fun. There are sitting tasks such as writing prices on labels Wednesday – Friday, sitting at a table to sign up new members Saturday and Sunday, passing out info about our club, sitting with Treasurer to collect sales money and manage cash box, looking up plant info in reference books.

4. **Scholarships** – The MiraCosta College and Horticulture Dept. have been notified that our club will be contributing $2,000 for a fall semester intern and providing 4 scholarships of $1,000 each. The college pays out $500 for each semester.

5. **President’s messages in newsletter** – Let me know if there are subjects in which you are interested that I can research.

Meeting Agenda

Meeting on Saturday, April 1 at 12:30 pm.
MiraCosta College One Barnard Drive, Oceanside, CA Student Center Building 3400 2nd Floor Rooms A and B

12:30 Workshop- Everything There is to Know about Epiphyllums
Host: Member Nell McChesney
Nell will bring flowering examples and share info on how to grow epis successfully.

Program Guest Speaker- Fred Clarke is the owner of Sunset Valley Orchids in Vista and General Manager of the Flower Fields in Carlsbad. He will provide a power point presentation of the flower fields. Fred started Sunset Valley Orchids in 1995. He is an accredited American Orchid Society judge and has received hundreds of AOS awards, including 8 that have received the highest honor, the First Class Certificate.

Vista Gem and Mineral Show
http://www.vistarocks.org

Fri, Apr 07, 2017 - Sun, Apr 09, 2017
9am-5pm

Gem and mineral show with displays of gems, minerals, jewelry and related supplies.

Antique Gas and Steam Engine Museum
2040 North Santa Fe Avenue
Vista, CA 92083  (760) 535-5524

Mother Nature’s Secret Weapon
gardencenternews.com

Worm Castings have 5 to 11 times more nitrogen, potassium, calcium, phosphorus, potash, and magnesium than topsoil. They can be used anywhere you want healthier plants and soil.

Some quick things to know about castings:
Increase vegetables and fruit tree yields
Will not burn plant roots
Improve root and shoot development
Enhance seed germination
Reduce irrigation costs by up to 50%
Increase drought resistance
Have a wide array of insect repellency properties
Suppress fungal diseases
No ground water contamination
Not toxic --reduces your chance of getting sick from pesticides
Odor free/ Eliminates odors

How to Use Worm Castings
As a Fertilizer:
Sprinkle Worm Castings around the base of plants and/or lightly dig it in, and then add water. They can also be sprinkled on a large scale with a spreader. They can also be sprinkled on a large scale with a spreader. Remember: you cannot use too much Worm Castings --it cannot damage your plants.

As a TEA (Liquid Fertilizer):
Worm Castings can easily be mixed with water. Use 1 cup Worm Castings for every gallon of water and soak for 48 hours. This liquid mixture can be used as an excellent fertilizer or leaf foliate spray. It also helps to control insects. Many people prefer this method of application.

As a Soil Conditioner:
If you hoe a layer of barren soil, add a layer of worm castings and give it some water, you will be surprised at the growth of your first season’s plants.

For Germination:
Use 20 to 30% worm castings with sand as an excellent germination mixture. It will also ensure continuous and lush growth for about three months, without you having to add any other plant food.

**Using Fertilizer as a Tool**
gardencenternews.com

All fertilizers have 3 numbers on their packaging X-X-X. This represents the percentage of 100%.

The FIRST number represents Nitrogen = “N” = Up. This makes leaves, twigs, branches and trunks grow green.

The SECOND number represents Phosphorus = “P” = Down. This makes roots grow. It is best to have NO fruit the first year, so the roots can grow big and strong. For established trees: Phosphorus “Charges the batteries” (roots).

The THIRD number represents: Potassium = K = All Around (a little UP a little DOWN). It helps to fight off diseases, bugs and environmental stuff like heat and water.

And don’t forget the “Ten Little Indians” (Trace Elements)
In order of importance:
- **Calcium**: Stimulates root growth.
- **Magnesium**: Essential for chlorophyll production.
- **Sulfur**: Stimulates plant growth and seed formation.
- **Iron**: Promotes GREEN color.
- **Manganese**: Promotes plant maturity.
- **Zinc**: Regulates plant growth and consumption of sugar.
- **Copper**: Helps sweeten Citrus and is important for reproductive growth.
- **Boron**: Essential for root and fruit development.
- **Molybdenum**: Helps with reduction of nitrates for protein synthesis.
- **Chlorine**: Aids plant metabolism

How to use your new fertilizer “TOOL”
- You should feed a minimum of 4 times a year: February, May, August, October or November (per your micro-climate) and just after harvest. Follow with a deep watering for ALL feedings.
- Feed at the “Drip Line” = Circumference of the leaf head or just on the inside of the “Basin”.
- For Gro-Power products - Use approximately 1 to 1.5 cups, per inch of diameter of the trunk, [at 2” above soil line]. If you run out before you finish the drip line / circumference, scoop out some more to finish.
- For Lemons and Limes, that are ever-bearing, feed every month to every other month, as they are always growing.

Who should get what:
All Stone Fruit trees: Peach, Nectarine, Plum.
Apricot... things that lose their leaves in fall/winter.
Feed with a fertilizer with Low “N”, High “P” and High “K”.
Evergreens: Citrus, avocados and most tropical...They should be fed with a fertilizer with High “N”, Medium “P” and Medium “K”. There are always exceptions...but this will give you a good start!

**Penny Pines**
CGCI Chairman: Pat York
pennypines@cagardenclubs.org

In 1941, California’s first Penny Pines plantation was sponsored by the San Francisco Sportswomen’s Association. Recognizing the great need to restore these devastated areas, the association sent their donation to the Shasta-Trinity National Forest in northern California. Since that contribution, the number of participating groups and individuals has grown each year. They include such organizations as the Garden and Women's Clubs, Boy and Girl Scouts of America, civic and sportsmen’s clubs, and many others.

CGCI adopted Penny Pines as a state project in 1957 and it remains one of our major projects today.

Over the years these groups have contributed more than a million dollars to the Penny Pines Reforestation Program. Through these donations, more than 27 million of seedlings have been planted, renewing 88,000 acres of national forest land in California --truly an outstanding achievement.

Where does the money go?

In southern California, contributions may be used to prepare plantation sites for new trees or planting
seedlings grown in Forest Service nurseries throughout California.

Seedlings are grown from local seeds and acorns, and replanted near the areas where the seeds were collected to improve their chance of survival.

The funds may also be used to maintain existing tree stands and improve wildlife habitat or replant burnt or otherwise damaged forests in conjunction with federal funds.

Plantations are important for watershed protection, soil stabilization and shade for recreation areas. Trees help the ground store precious water, protect against soil erosion, and add to the scenic beauty of the national forests.

At the start of the program in 1941, seedlings could be produced for about one cent each. Approximately 680 seedlings were used to plant a typical acre.

Today $68.00 provides support for approximately one acre (one "plantation") which may include up to 350 trees.

Did you know? The national forests in California cover some 20 million acres, or about 1/5 of the state. That is equal to an area just slightly larger than the state of South Carolina. Stretching from the Mexican border to Oregon, these forests include a variety of terrain and vegetation types.

As destructive as fires are, disease and insect infestation destroy seven times more forest vegetation annually than fires because forests pests are scattered and not easily detected, so are harder to control. In time, some land may recover naturally. Penny Pines provides a helping hand. It is a conservation program in which everyone can participate.

You Are What You Eat

It's almost impossible not to notice the impact we have on our planet. And it isn't always positive: fossil fuel depletion, pollution, etc. It's sometimes overwhelming to think about the changes needed to fix everything.

What about the food we eat? Have you ever wondered where your food comes from? For many, the answer is: It comes from the grocery store. But how does it get there? What happens to it on the way? And why think about it at all, especially when lettuce is on sale?

Grocery store produce typically comes from farther away than you’d think. Your grapes likely came from Chile, your apples from Washington, etc. They travelled in refrigerated trucks, sucking up fossil fuels. Those journeys weren’t just a day or so, either; they sometimes took weeks. What happens to the produce during that time? It loses flavor, as well as nutritional value.

Food should be all about health. When you grow your own tomatoes, you know there are no chemicals used (assuming you go organic); but did you know that truly fresh produce has more vitamins? Studies indicate that we eat more fruits and veggies if they come from our own gardens and growing our own saves money, too. Seed packets cost a fraction of the amount of a few tomatoes at the store. And, growing your own food means it didn’t travel farther to get to you than you did on your last vacation!

The taste of fresh produce is unlike anything you’ll find in the store. Vitamins aren't the only thing homegrown has more of – once you’ve tasted a truly fresh-picked tomato, the ones at the store will taste like air. The better something tastes the more of it you’ll want to eat. In the case of fresh fruits and vegetables, that’s great.

You’re also more likely to reduce waste when it’s something you’ve put effort into – like that gorgeous head of lettuce – than you are when it’s something you just tossed in a cart. It, it becomes a matter of pride: From a patch of dirt, to a lush garden! That sense of accomplishment is as good for us as the vitamins in those fresh peppers.

It's also time spent working outside, breathing fresh air and getting some exercise. It is time spent with loved ones, as they work alongside you. That's a win-win if ever there was one. You don’t even have to give up your home in the city and become a farmer, either. Just a small patch of land (yours or a community garden), a container garden on your patio, or a window box on your balcony is all it takes to grow your own!

If growing your own fruits and veggies isn’t an option right now, shop your local farmers’ markets and fruit stands. This is the second-best way to support local agriculture and enjoy the freshest produce.