



High on the Desert Cochise County Master Gardener Newsletter

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The University of Arizona and U.S. Department of Agriculture Cooperating

The Virtual Gardener—Stuck on Cactus

Recently I was invited over by some friends to see a spectacular display of *Echinopsis* and *Trichocereus* hybrid cacti in bloom. Wow! What a sight, hundreds—if not thousands—of blossoms in dazzling reds, yellows, whites, and delicate multi-shades that fade subtly from one color to another. Truly candy for the eyes.

Echinopsis and *Trichocereus* cacti have become very popular with collectors in recent years because of the many hybrids that have been developed with spectacular flowers (a list I copied from the Internet includes more than 135 named varieties!). I have only a handful in my garden but would like to have more. The nice thing about them and other cacti is the ease with which they can be propagated vegetatively. Buy one and you can start a whole family. Simply lop off a piece, let it harden off in a shady place for a few days, and stick it in the ground.

Tricho hybrids can often be found for sale in local garden shops, but to find unique specimens it is usually necessary to visit a specialty cactus nursery. There are several in Tucson and online (even on Ebay!). When buying them, you either must see them in bloom for yourself to determine what the flower will look like or trust the nursery to tell you.

Formerly *Echinopsis* and *Trichocereus* were considered to be separate genera, but recently *Trichocereus*, as well as several other genera have been subsumed under *Echinopsis* to form a single large (128 species) genus, but the name *Trichocereus* is still commonly used in the nursery trade. These cacti are all natives of South America and range in size from very tiny to large and tree-like (*E. terscheckii* is often sold as an alternative to our native saguaros). The *Echinopsis* cacti growing in my garden are surprisingly

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cold hardy and survived last winter's cold snaps without extra protection, although some growers like to protect them with an inverted black plastic nursery pot on the coldest nights.

Echinopsis cacti are generally cylindrical in shape with ribs and may or may not have branches. The flowers may appear apically (at the ends of the arms) or grow out of tubes along the side of the arms and may open during the day or at night. Blooms are at their best early in the morning and quickly fade in the heat of the day. The plants may only bloom once a year or several times. One of the most amazing features of the flowering is that the flowers often appear simultaneously in multiple locations around town or even regionally. For example, simultaneous blooming often occurs here in Sierra Vista and in Tucson.

Echinopsis, like most cacti, are easy to grow and require only a little care. The only thing they are really fussy about is drainage. If you have a really fast-draining sandy soil, you might want to mix in a little compost or other organic material before you plant your cactus. This will store a little moisture that the cactus can use over time but not so much that the roots will rot. If you have compacted clay with no drainage like I have, your best bet is to create raised beds heavily amended with sand for your cacti. Experienced growers point out that light watering in summer, especially after a bloom, is good for the cacti but they should never be given supplementary water during the



winter, even when they look shriveled and uncomfortable. Experts also agree that light fertilization is beneficial, but be careful not to over-fertilize. Use a half or even quarter-strength solution of a balanced water soluble fertilizer.

If you would like to find out more about growing *Echinopsis* and other cacti, check out some of the following Web sites or do a Google search on growing cacti:

<http://cactiguide.com/>, which contains an extensive list of cacti (with pictures), searchable by name and by habitat as well as lots of other useful information.

<http://hgic.clemson.edu/factsheets/hgic1502.htm>, which has a good description of different types of cacti that can be grown indoors and how to grow them.

<http://plantanswers.tamu.edu/publications/cactus/growingcactus/index.html>, which contains a good general description of cacti as well as tips on growing them.

Until next time...Happy Surfing.

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Cuttings 'N' Clippings

* The next CCMGA meeting is 5:00 p.m. Thursday, August 3 2007 at the University of Arizona South campus. There is no meeting in July.

* Saturday, July 7th is the Rain Water Harvesting Tour. See residential rainwater harvesting systems on this free tour. Call a Cooperative Extension office for a map and details.

* CCMGA has donated 13 *Square Foot Gardening* books to the Cochise County Libraries. Be sure to look for them.

Congratulations

On June 13, fourteen members of the 2007 Master Gardening Class graduated. Two of them, Terrie Gent and Helen Morgan, have completed their 50 volunteers hours and became Master Gardeners. Clifford Blackburn, Donna Blackburn, Jeannine Grabowska, Jennifer Johnson, Jacqueline Jones, Lori Kovash, Merrienne Lange, Linda Nichols, Madlyne Sandell, Blu Sherry, Shu Lin Telford, & Robert Welton are working on their volunteers hours.

Robert E. Call

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Food for Thought

What are you doing to help the environment? You may be one of those people who would like to do more but don't feel like you have enough information to arm yourself for change. Doing the right thing for the environment is not convenient or easy but it is necessary. Recycling is a good place to start.

Something I do in my home that I feel makes a difference is to recycle my aluminum and tin cans, my glass, my plastic, my boxes, and paper. Sierra Vista currently has curbside pick-up for single family residences. You can go to City Hall located by the police station on Coronado and get a big orange bag. I am not thrilled about the big orange bag and the limited items they pick up (paper, magazines and aluminum), but I digress. This program is designed to see how serious Sierra Vista is about recycling. Recycling is not a money making business and if no one will take part it is a lose-lose situation. So start there. If you want to make a bigger dent tell lazy people you will take their paper and cans.

Next I recycle all the other "stuff" in Tucson. Yes, I bag my stuff up and take it to Tucson. I looked on-line for a recycling location when I first moved to Sierra Vista three years ago. In Tucson I take it to a school on Kolb Road about a block South of Broadway. There are a number of locations. You don't even have to separate it there. I don't bring my paper, magazines or cans as I want Sierra Vista to know I am serious about recycling.

Honestly, I have way more recyclables than garbage. That is a really good feeling. I also bring my own bags to stores when I go shopping. I always buy more than I think I will so I always bring extra bags. You will be amazed at the response you get. "Oh, what a great idea. I should do that!" You can carry more groceries and it is easier on your hands than those stupid plastic bags. I know, I hear you saying, "But I reuse my plastic bags." All I have to say to that is Poo! The only garbage can I line is my kitchen garbage. If you use your bags to pick up dog poo, go on-line and buy one of many recyclable doggy bags. The one I use it called "Dogi pot." Plastic bags are bad news and did you know they are made out of petroleum, yes oil!

Below are sources on what your efforts do in helping the environment. It is so necessary. It isn't inconvenient for me any more; it is just a way of life. Make it your way of life too!

Aluminum

- ◆ Recycled aluminum saves 95% energy vs. virgin aluminum; recycling of one aluminum can saves enough energy to run a TV for 3 hours (Reynolds Metal Company)
- ◆ Recycled aluminum reduces pollution by 95% (Reynolds Metal Co.)
- ◆ 4 lbs. of bauxite are saved for every pound of aluminum recycled (Reynolds Metal Co.)
- ◆ Enough aluminum is thrown

July Reminders

- ◆ Keep the pests under control
- ◆ You can still plant something
- ◆ Keep watering!

away to rebuild our commercial air fleet 4 times every year.

Glass

- ◆ Recycled glass saves 50% energy vs. virgin glass (Center for Ecological Technology)
- ◆ Recycling of one glass container saves enough energy to light a 100-watt bulb for 4 hours (EPA)
- ◆ Recycled glass generates 20% less air pollution and 50% less water pollution (NASA)
- ◆ One ton of glass made from 50% recycled materials saves 250 lbs. of mining waste (EPA)
- ◆ Glass can be reused an infinite number of times; over 41 billion glass containers are made each year (EPA)

Paper

- ◆ Recycled paper saves 60% energy vs. virgin paper (Center for Ecological Technology)
- ◆ Recycled paper generates 95% less air pollution: each ton saves 60 lbs. of air pollution (Center for Ecological Technology)
- ◆ Recycling of each ton of paper saves 17 trees and 7000 gallons of water (EPA)
- ◆ Every year enough paper is thrown away to make a 12' wall from New York to California

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Plastic

- ◆ Plastic milk containers are now only half the weight that they were in 1960 (EPA)
- ◆ If we recycled every plastic bottle we used, we would keep 2 billion tons of plastic out of landfills (Penn State)
- ◆ According to the EPA, recycling one pound of PETA plastic saves approximately 12,000 BTU's
- ◆ We use enough plastic wrap to wrap all of Texas every year (EPA)

Source: University of Massachusetts, Amherst. Produced and maintained by the Office of Waste Management.

Further Facts

- ◆ A ton of recycled paper equals or saves 17 trees in paper production.
- ◆ Production of recycled paper uses 80% less water, 65% less energy and produces 95% less air pollution than virgin paper production.
- ◆ If offices throughout the country increased the rate of two-sided photocopying from the 1991 figure of 20% to 60%, they could save the equivalent of about 15 million trees. (from *Choose to Reuse* by Nikki & David Goldbeck, 1995).



- ◆ Global paper use has grown more than six-fold since 1950. One fifth of all wood harvested in the world ends up in paper. It takes 2 to 3.5 tons of trees to make one ton of paper. Pulp and paper is the 5th largest industrial consumer of energy in the world, using as much power to produce a ton of product as the iron and steel industry. In some countries, including the United States, paper accounts for nearly 40 percent of all municipal solid waste. Making paper uses more water per ton than any other product in the world.

Source: The Worldwatch Institute.

- ◆ Over a ton of resources is saved for every ton of glass recycled—1,330 pounds of sand, 433 pounds of soda ash, 433 pounds of limestone, and 151 pounds of feldspar. Also, a ton of glass produced from raw materials creates 384 pounds of mining waste. Using 50% recycled glass cuts the waste by 75%.
- ◆ Recycling one glass bottle saves enough energy to light a 100-watt bulb for four hours.

Source: <http://www.earth911.org/master.asp?s=lib&a=energy/EnergyFacts.html>

Lori Kovash
Associate Master Gardener

The Agent's Observations

Light Brown Apple Moth (LBAM) New Pest for California

Common Name : Light Brown Apple Moth (LBAM)

Scientific Name : *Epiphyas postvittana* (Walker)

Order and Family: Lepidoptera, Tortricidae

A new pest has been found in California and may affect Arizona in the future.

In August 2006, a new insect pest, Light Brown Apple Moth, was first detected in California in the Bay Area. In March 2007, 27 additional moths were detected in survey traps and the statewide search began. This pest is designated as an A-rated pest which means the insect is not known to occur or be established in California. This moth can affect a wide variety of plants, flowers, fruits and vegetables. It's feared that it will become a major threat to California agriculture.

This moth is originally from Australia and has become established in New Zealand, New Caledonia, Hawaii and the British Isles. Its discovery in California is a new North American record.

Adults are light brown, yellowish moths with varying amounts of darker brown, with a wingspan of 16-25 mm (Figures 1 and 2).

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Figure 1



Figure 2

checked by a biologist every 2 weeks. The Septa lure is replaced once a month.

If a moth is caught, then additional traps are placed within a 1-mile area and monitored daily to see if this was one rogue moth or if a population is attempting to establish. Still not time to panic. If additional moths are caught, then searching begins for a second stage in the life cycle; eggs, pupae, larvae. Still not time to panic. The ultimate question will be can the insect survive a cold winter? Winters can be very mild throughout California. This could have direct correlation to the early LBAM detection in the Bay Area.

This systematic search is part of the Pest Detection program which is carefully orchestrated by the California Department of Food and Agriculture (CDFA). CDFA works in conjunction with UC Davis and USDA to determine who, what, where, when, and why each time a new pest is found in California. The majority of counties in California have contracts with CDFA to fund these surveys. While the local Agriculture departments are doing the ground surveys, CDFA, UC Davis and USDA are working on control methods (chemical and biological), preferred hosts of the pest and better understanding of the life cycles, potential damage to the agricultural industry and preventative measures to limit the distribu-

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Eggs are pale white and deposited slightly overlapping each other in groups of 20-50. Larvae are green and about 18 mm long at maturity. Pupae are brown and about 11 mm long. They are in the same family as codling moth, spruce budworm, oblique banded leaf roller and other common leaf roller insects.

Development is continuous, with no true dormancy. In Australia, this moth typically has three generations per year and overwinters as a larva. Adults deposit egg masses containing 20-50 eggs on the upper leaf surface or on fruit. Larvae disperse and construct silken shelters on the underside of leaves, usually near a midrib or large vein. Older larvae roll together leaves and buds or fruit with webbing. Larvae damage fruit by feeding on the surface and will occasionally enter the fruit to feed. Pupation takes place within the larval nests.

This insect has a host list of over 250 plants and the list is growing. Since one of the preferred hosts is

apples, concentration of trapping surveys will be in the apple orchards (Figure 3 on back page), and other important agricultural areas. Specific ornamental plants are also on the preferred host list so survey traps will be placed in nurseries and new developments where the moths could have been transported with nursery stock. Grapes are also on the host list, but the determination still needs to be made if trapping a vineyard is a good choice.

How does trapping work? The Jackson trap (Figure 4 on back page) is a triangle-shaped trap made of cardboard coated with wax, similar to a milk carton. These traps were originally designed for Mediterranean fruit fly trapping in the 1980's to be inexpensive, disposable and safe. The second component is a sticky bottom board to capture insects and the third component is Septa lure (containing the female sex pheromone). Once the trap is assembled, they are hung with a special wire trap hanger and placed on the host plant, then

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tion of the pest within California. Specific protocol will be written by CDFA for trapping, searching for the second life cycle and what to do if that second life cycle is found. Since LBAM is new to North America these protocols will change weekly—if not daily—when insect behavior and impact on commercial agriculture is better understood. CDFA, UC Davis and USDA also write the Environmental Impact Reports (EIR) when a pest is discovered in California. These EIRs cover each county in the state so uniform surveying, control and prevention is done throughout California.

With Californians' changing habits of travel, commuting, trade

and mail order, new pests are found each year in California. This keeps USDA, CDFA and the County Departments of Agriculture jumping each spring and summer. New information will be released as it become available to keep the public informed of the survey and the changes with LBAM.

Source: Marian Chambers-Master Gardener, *Tuolumne County Master Gardener Newsletter*, May 2007, pages 3-4

http://cetuolumne.ucdavis.edu/newsletterfiles/Master_Gardeners_of_Tuolumne_County_Newsletter11472.doc

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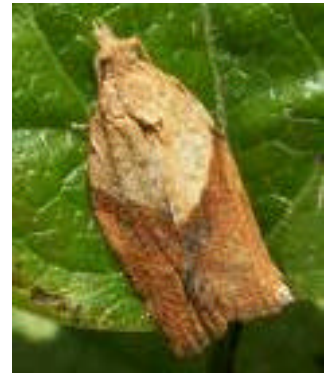


Figure 3



Figure 4. Jackson Trap