



Retail Nursery Newsletter

An Information Source for Retail Nursery Professionals

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Healthy Garden— Healthy Home

*Helping to improve
water quality in
San Diego County
through the
implementation of
Integrated Pest
Management
practices.*

It's The Water That Connects Us!



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TIPPING THE SCALES WITH IPM

By Vincent Lazaneo, Urban Horticulture Advisor

Scale insects that feed on woody plants are often overlooked because the pest does not look or act like most other insects. Scales do not move during most of their life cycle, and they feed under protective covers which look like small bumps on plant parts.

Armored scales have hard, plate-like covers – less than 1/8 inch in diameter. The cover of soft scales is less than 1/4 inch in diameter. They are usually rounder, more convex and may be waxy or cottony. The soft scale's cover is part of its body and can not

be separated from the insect, but the armored scale's cover is separate and can usually be removed.



Armored San Jose Scale

Scales may look harmless, but large infestations damage plants. The insect has piercing mouth parts and feeds on plant sap. Soft scales excrete large quantities of clear, sugary liquid

called honeydew. Leaves soiled with the sticky residue are often covered with black, sooty fungus. Honeydew also attracts ants, which cherish this source of food and protect scale from natural enemies.

Armored scales do not produce honey dew but they secrete a toxic substance as they feed, which damages plant tissue. Heavily infested plants often look water stressed and their leaves may turn yellow and drop. Infested twigs or limbs may die, and the bark may crack and exude gum. Armored scale

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TREES: THEIR SELECTION, PLANTING, AND CARE

By Donald R. Hodel, UCCE Los Angeles Environmental Horticulturist

Trees are the most important and valuable element of the home yard and landscape. Forming the superstructure or the garden or landscape, they provide a stage upon which the shrubs, groundcovers, vines, and color plants play out their various, supporting roles. Trees also enhance the environment, provide numerous amenities, convey a sense of warmth, hospi-

tal, and serenity, and add significantly to the dollar value of your property. To realize fully the potential amenities and benefits trees can provide, though, one must select, plant, and maintain them with the utmost care.

SELECTION

It is most important to select the right tree for the right place in the home yard or landscape. When selecting a

tree, know its ultimate size, growth form and characteristics, and adaptability to a particular environment, and be sure they are compatible with the intended site and use. Give trees enough space so that when they reach full size, branches and roots are not clashing with adjacent structures, trees, pavement, utility lines, and other plants. Select

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may also produce blemishes or halos on fruit, but this damage is primarily cosmetic.

Most soft scales only produce one generation each year, but brown soft scale and most armored scale have several generations each year. The eggs of both types of scale are usually hidden under the adult female. The eggs hatch into tiny, usually yellow crawlers, which have legs. Crawlers move about on the plant surface and may be blown by wind to other plants or unintentionally transported by birds or people. After a few days, crawlers settle, molt and begin to form their characteristic cover. Most scales remain immobile the rest of their lives.



Scale Crawler

Plants should be checked periodically. Infestations are easier to control if detected early. If scale populations, especially armored species, are abundant, control measures should be taken. For

soft scale, controlling ants and washing dust off foliage may be sufficient to bring about gradual control as natural enemies increase.

- Check plants for scale crawlers, mature females and ants. Examine deciduous plants in winter after leaves have dropped. Remove a few scales and check with a hand lens to determine if they are live or dead scales from a previous generation.
- Prune off heavily infested twigs or branches if an infestation is limited to a part of a plant. Prune to open the canopy of a tree where summers are warm to increase scale death from heat exposure.
- Wash plants with a forceful spray of water to remove dust which hampers beneficial insects.
- Control ants that climb trees and tend soft scale. Apply a sticky barrier like *Tanglefoot* around a tree's trunk on a protective collar. Place ant baits near nests and along trails under plants.
- Spray deciduous trees with horticultural oil in winter after leaves have fallen. For sycamore scale and oak pit scale, spray during the "delayed dormant period" after buds swell but before they open.
- Spray evergreen trees like cit-

rus and avocado or deciduous trees, with horticultural oil in spring or summer to control crawlers. To find out when crawlers are hatching, tightly wrap double-sided transparent tape around a portion of several scale infested twigs or branches before eggs hatch. Remove the tape weekly and examine it with a hand lens to check for crawlers (yellow or orange specks). Spray after a sharp increase in crawlers or when their numbers peak and begin to decline.



Scale Crawlers in Tape Trap

- Avoid spraying plants with broad spectrum insecticides like malathion, carbaryl or pyrethroids since they leave a toxic residue on foliage which harms natural enemies long after the insecticide is applied. Soil application of imidacloprid (Bayer Advanced Garden, Tree and Shrub Insect Control) can provide long term control of soft scale, but not armored scale.

FREE Integrated Pest Management Community Workshop Series for Your Customers

The **Healthy Garden –Healthy Home** program is conducting a series of FREE community workshops integrating the concept of Integrated Pest Management (IPM) with a variety of topics. The underlying message of each workshop is to demonstrate how residents can be an important part of the solution to improve water quality in San Diego County. Monthly workshops will include topics such as *Weed Control, Ants, Snails & Slugs, Backyard Citrus*

Pests, Irrigation & Lawn Maintenance, Plant Selection, Beneficial Insects, Whitefly, Composting, and Tomato Pests & Diseases. Our next workshop is on **Controlling ANTS** which will be held at the *Discovery Center* in Carlsbad starting at 10:00 AM on Saturday, February 25, 2006. The first 50 attendees will receive a FREE gift. For additional information contact Scott Parker at **858-694-2184** or saparker@ucdavis.edu

**Control Ants
The Healthy Way!**

FREE Gift for the first 50 attendees!

**FREE Community Workshop
Saturday
Feb 25 06**

Time 10:00am to 11:30am

Topic Controlling Ants in Your Home & Garden

- How to Make Your Home and Garden Less Attractive to Ants
- When to Do When Ants Invade Your Home
- When to Do When There Are Ants in Your Plants
- Why Spraying Chemicals Does Not Provide Effective Control of Ants
- How and Why Ants Make Healthy Plants

Speaker Carolyn Kinnon
Environmental Horticulturist and
Licensed Pest Control Advisor

Location Discovery Center
Agnes Haderich Leggett Foundation, 1640 Carver Rd., Carlsbad CA 92008

For additional info: UCCE San Diego County Farm & Home Advisors Office
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IT'S THE WATER THAT CONNECTS US!

FOR MORE INFORMATION, CALL 858-694-2184
OR VISIT US AT www.healthygarden.ucdavis.edu

UNIVERSITY OF CALIFORNIA, CENTER FOR RURAL DESIGN, AND THE REGIONAL DEPARTMENT OF NURSERY OPERATIONS

HEALTHY GARDEN
HEALTHY HOME

TREES: THEIR SELECTION, PLANTING, AND CARE *continued from page 1*

a tree with growth characteristics desired to fit the intended use, whether it is for shade, parkway, screen, windbreak, or landscape accent. Although most trees are tolerant of a wide variety of environmental conditions, such as temperature, wind, soil, humidity, water, pests, and fire, some have unusually limited conditions in which they will grow well.

When selecting trees, look for healthy, not overly vigorous individuals with a well formed crown in proportion to the size of trunk and container – not too large, not too small. Future main branches should be well spaced up and down the trunk and attached at wide angles. The trunk should be widest at the base and gradually taper toward the top. Remove the container so you can inspect the roots. The root system should fill most or the entire container without being root bound. Avoid selecting trees with diseased, damaged, or severely kinked, circling, or girdling roots.

PLANTING

Dig the hole to a depth about two inches less than that of the soil in the container or root ball but at least twice as wide. Carefully remove the plant from the container and place it in the hole. Use the same soil from the hole to backfill around the root ball without any added amendments. Water thoroughly to firm the backfill and remove large air pockets. Avoid compacting the soil. Mound excess soil to form a water basin three inches high and at least as wide as the hole. Place a two-inch layer of mulch in the basin and water thoroughly. Keep the root ball and surrounding soil moist by not wet for 6 to 12 months. Keep grass and weeds away from the stem and root ball.

Remove the nursery stake at planting. If the tree stands without support, do not restake. If it tends to lean, try thinning out the crown to reduce weight and wind resistance. If it still leans after thin-

ning the crown, it must be staked. Use two, sturdy stakes, one each on opposite sides of the trunk, positioning them so that a line drawn between them would be at right angles to the prevailing wind. Make the stakes as short as possible, barely high enough to hold the tree upright under calm conditions. The tree should return to vertical after the wind has bent the top. Loosely tie the trunk to each stake so that it is allowed to move a little.

To determine the proper point at which to tie a tree, hold the trunk in one hand, pull the top to one side, and release. The height at which the trunk will just return to upright when the top is released is the point at which to attach the ties. Ties should have a broad surface to minimize rubbing or girdling and have some elasticity to provide greater flexibility as well as support. As the tree grows and becomes better established, remove or lower ties and shorten the stakes so they do not rub against the trunk and cause rubbing or girdling injury. Remove stakes as soon as possible, probably by the end of the second growing season.

Plant most containerized trees anytime in mild winter areas of Southern California. Plant heat-loving subtropicals in late spring so they can take advantage of the long summer growing season. In winter, a variety of deciduous trees is usually readily available as bare-root plants. They are normally less expensive than containerized trees and grow just as well if handled and planted properly. For bare-root trees, make the hole large enough to spread the roots out evenly without bending or crowding, and plant as you would for container-grown trees.

IRRIGATING

When to water and how long to water depends on the weather and type of tree and soil. Trees vary from species to species in their water needs. Also, they generally need more water during the warmer months when growth is

most active and water loss is greatest. However, even in the cooler months it might be necessary to water if rains are insufficient. A tree will require about the same amount of water regardless of the type of soil in which it grows. However, lighter, more frequent applications are necessary on sandy soils while heavier but less frequent applications are called for on a clay soil. The general rule of thumb is to water established trees as deeply but as infrequently possible, usually when the soil one to two inches deep dries out. Apply enough water each time to wet the soil at least 12 inches deep. Use a shovel or probe to check water infiltration if necessary. Once established, trees in lawns or flower and shrub beds usually survive adequately on the water given to the surrounding grass and other plants.

FERTILIZING

Most healthy, mature, well established trees need little fertilizer. However, fertilizer is usually beneficial to promote more rapid growth and faster establishment in newly planted trees or if older trees are showing deficiency symptoms.

Evenly broadcast a high-nitrogen but complete fertilizer (15-5-15, 11-4-8, etc.) at the recommended label rate over the soil surface at least out to the drip line of the tree. Follow label rates, or 1/3 to 1/2 pound of nitrogen per inch diameter of the trunk. Fertilize newly planted trees after planting. Fertilize older, established trees with one-half the total amount desired in spring prior to most rapid growth and then again with the remaining one-half in mid summer. Irrigate thoroughly after fertilizing to move the nutrients into the soil.

MULCHING

Mulch is beneficial to trees and most other plants. Fallen leaves from trees and other plants can remain on the ground to form a natural mulch where possible and practical, or apply an organic, commercially available mulch.

HEALTHY GARDEN—HEALTHY HOME

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FREE Point-of-Purchase Educational Materials and Training Workshops Available for Local Nurseries and Garden Centers!

As part of the **Healthy Garden – Healthy Home** Integrated Pest Management (IPM) outreach effort, research based educational materials, and the fixtures necessary to display them, are available to nursery and garden centers throughout San Diego County. Materials include water resistant pest cards and informational tear-off sheets. Pest Card topics include; *Ants, Aphids, Cockroaches, Earwigs, Fleas, Giant Whitefly (coming soon), Head Lice, Snails & Slugs, Spiders, Termites, Safe Use & Disposal of Pesticides, Lawn Insects,* and *Gardening with Good Bugs*. Tear-Off Sheet topics include; *General IPM Information, Ants,* and *Snails & Slugs*. And coming soon; *Aphids, Giant Whitefly,* and *Gar-*

dening with Good Bugs.

In addition to these Point-Of-Purchase items, several educational videos ranging in length from 15 second to 3 minute are available for use in your store. Both DVD and video format are available.

Workshops for nursery staff focusing on topics related to IPM and Water Quality are also available for booking.

For more information about any of these opportunities or to make arrangements for your nursery or garden center to participate in this program please contact Scott Parker by phone, 858-694-2184, or email, saparker@ucdavis.edu.



**Sample Pest Cards
Display Racks**