Help Keep Lake County’s Fruit Industry Healthy and Our Rural Character Intact

White blossoms lining rural roads have been a special part of Lake County’s heritage for over 100 years. Today however the pear industry faces serious threats from unmanaged pear and apple trees in backyards and on other properties formerly in commercial production. Unless properly cared for, such trees may serve as hosts for pests and diseases which can spread to commercial crops and result in unnecessary chemical treatments. Growers and the County of Lake have developed a multi-faceted program to address this problem.

Preserving A Way of Life

The first commercial pear orchards were planted in Lake County in the 1870’s. The county’s rich volcanic clay loam soil and favorable climate make it a premier location for production of fresh pears with excellent taste, unique high sugar content and attractive appearance. Although recent global market trends have caused a decline in acreage, pears remain the second most important agricultural commodity in the county. Crop diversity strengthens the local farming industry and allows many auxiliary businesses employing local people to exist. Agriculture and its pleasing rural character complement the many natural scenic attractions in Lake County; together they form the basis of our local tourist industry.

The trend toward reduced pesticide use in agriculture has led to the introduction of non-chemical methods such as pheromone mating disruption for the control of codling moth, the principal pest of pear and apple. Local growers and researchers have received two statewide awards from the California Department of Pesticide Regulation for successfully reducing pesticide use. In addition to codling moth, other important pests and diseases attacking commercial orchards include web-spinning mites, pear rust mite, pear blister mite, pear psylla, pear slug, fire blight, and pear scab.

The Problem with Unmanaged Trees

Newer “soft” pest management programs can open commercial orchards to potential attack from pests multiplying on nearby, unmanaged trees. Codling moth mating disruption is likely to fail when mated female moths fly in from nearby unmanaged trees, causing chemical sprays to once again be needed. These sprays can then reduce beneficial species capable of controlling pear psylla and some kinds of mites, thereby requiring even more spraying.
Growers must produce damage-free fruit in order to compete in local markets and abroad. Unmanaged trees can negate much of the progress the pear industry has made toward achieving reduced pesticide use. Growers and homeowners can all work together to assure that local fruit continues to be produced with minimal pesticide use. A healthy pear industry will help preserve the economy and keep Lake County the beautiful and special place that it is.

**What Can I Do? The most important step you can take is:**

- **Remove** unmanaged pear and apple trees **within 1/4 mile** of commercial orchards.

**If you do not want to remove your trees:**

- Remove all fruit as soon as it forms, bag each piece of fruit, or apply registered insecticides for each codling moth generation.*
- Prune out fire blight infections 12 inches below the site of infection as soon as they become visible.
- Apply sulfur or other fungicides to control scab in the spring, just ahead of every rain, when green tissue is present.
- Apply sulfur in the spring and fall to control rust and blister mites. Apply dormant oil sprays in the winter to lower numbers of overwintering pear psylla.

*Codling moth traps can be used to monitor moth population, but do not catch enough moths to be an effective codling moth control method. Mating disruption only works in orchards larger than 4 acres.

As you can see, management of pear and apple pests is a difficult undertaking. Pesticides and non-chemical methods are expensive, labor intensive and must be applied at exactly the right time to match the vulnerable stages of the target pests. Six to eight pesticide applications may be required each growing season. While there are some biological control techniques available to reduce codling moth and other pear pests, they are complicated to plan for and carry out successfully, especially on a small scale. Proper maintenance requires a dedicated investment of time and effort.

**It’s Not Just a Good Idea**

Controlling fruit pests is not only the right thing to do, *it’s the law*. The California Food and Agricultural Code (Chapter 7) lists the circumstances making a neglected plant a public nuisance and authorizes the County Agricultural Commissioner to abate the nuisance.

*Codling moth entry point
*Fire blight infection
*Pear scab
*Pear psylla
*Codling moth adults*
Lake County has adopted several local ordinances related to pear pest abatement. Ordinance #455 requires that pear psylla be managed. Ordinance #743 requires fire blight infections be immediately removed. Ordinance #2895 was adopted in March 2009 in order to maintain effective non-chemical control of codling moth and other pests. This requires pear and apple trees within 1/4 mile of commercial orchards to be managed or the County may require removal of the crop or trees at the owner’s expense.

What defines an “unmanaged” apple or pear tree?

The following are signs of an unmanaged fruit tree.

While this list is by no means inclusive, it does cover some of the more common signs of insects and diseases on neglected trees.

On trunk, branches, or twigs:
- Branches crowded, growing inward or crossing
- Dead or diseased branches
- Cracks in the bark on the south or west side of the trunk
- Gummy or light brown lesions on trunk or branches
- Small bumps on the branches

On leaves, blossoms, and fruit:
- Shriveled, blackened shoots or fruit
- Significant numbers of “wormy” fruit
- Scabs or black moldy spots on fruit
- Spotted, deformed or blistered leaves
- Blackened or burnt looking leaves
- “See through” patches on leaves
All types of fruit trees require proper maintenance to stay healthy and productive. **Pear trees are one of the most high-maintenance fruit trees one can grow.** University of California Cooperative Extension (UCCE) and the local pear industry have worked together over many years to develop an integrated pest management (IPM) program that utilizes alternatives to traditional pesticide applications. Pest levels are monitored weekly and only controlled when they reach a research-based threshold. Pheromone mating disruption to control codling moth, the main insect pest of pears, has been adopted by nearly all local orchardists. Growers are also applying new generation insecticides that are much less harmful to humans, natural enemies, and wildlife.

These newer “soft” IPM programs have resulted in significantly less insecticide use, but will only work if not undermined by the presence of external sources of pests. If there are unmanaged apple and pear trees near commercial orchards, more frequent applications of harsher insecticides become necessary, creating an economic and environmental burden.

**Ordinance #2895** was adopted by the Lake County Board of Supervisors in 2009. It “**mandates that sources of pests be controlled when they pose a threat to nearby commercial orchards**” (specifically within 1/4 mile). The Unmanaged Apple and Pear Tree Outreach Program (UAPTOP) is an outgrowth of this ordinance and was conceived to:

- **encourage residents to remove** unmanaged apple and pear trees which can serve as hosts for pests and disease, and
- **educate** residents who wish to keep their trees **how to properly manage** them to reduce movement of pests into neighboring commercial orchards.

Removing pear trees without removing the stumps will create a greater problem when new growth sprouts in two or three years.
If you own property within a 1/4 mile radius of a commercial pear orchard, as specified by the ordinance, we recommend that you remove your unmanaged apple or pear tree(s), as the level of commitment required to bring a previously unmanaged tree into compliance can be intimidating even for the seasoned hobby gardener. If the trees are mainly kept for shade, our lists of recommended shade trees for Lake County (SMALL SHADE TREES, see month of January in this calendar, MEDIUM SHADE TREES, month of February, and LARGE SHADE TREES, month of October) will help you choose low or no maintenance replacement trees. If you decide to keep your apple or pear trees, please refer to Caring for Backyard Apple and Pear Trees, following the month of December. A list of LOW MAINTENANCE FRUIT AND NUT TREES appropriate for Lake County appears in the month of November.

For any questions that are not covered by the literature listed in this calendar, your local UC Master Gardeners are available to answer your questions. They can be reached by calling (707) 263-6838, or by sending an email to celake@ucdavis.edu. The resources below can be purchased at the UCCE office, 883 Lakeport Blvd., Lakeport, CA 95453.

**Integrated Pest Management for Apples and Pears, 2nd edition (# 3340, $30.00)**

**The Home Orchard: Growing Your Own Deciduous Fruit and Nut Trees (# 3485, $25.00)**

**Tree Fruit Pest Identification and Monitoring Cards (flashcards; # 3426, $15.00)**
There are many beautiful low maintenance shade trees that are suited to growing in Lake County climate and soil. Some of them are almost maintenance free, once they are established; others need some supplemental watering and occasional pruning. These trees grow 5-35 feet tall.

The golden rain tree (*Koelreuteria paniculate*) pictured below, is a slow growing, small tree that will not exceed 25-35’ maximum. It tolerates poor, alkaline soils common in this area, is heat, cold and drought tolerant, good in lawns, has non-invasive roots and pretty yellow flowers.

The purple-leaf plum (*Prunus cerasifera*) (pictured above), is generally considered a garden tree. It is a fast-growing, deciduous tree that grows to heights of 25’ and spreads of 15-25’.

Consider these other small shade trees:

**Western redbud** (*Cercis occidentalis*) – deciduous, 6-20’, native, drought tolerant, deer resistant, magenta spring flowers.

**Crape myrtle** (*Lagerstroemia indica*) – deciduous, 30’, slow growing, hardy, drought tolerant, showy summer flowers of white, pink, fuchsia, lavender, red, or violet, fall colors of bronze, orange and red.

**Toyon** (*Heteromeles arbutifolia*) – evergreen, 6-15’, native, drought tolerant, shrub/ tree, white summer flowers, winter red berries.

**Amur maple** (*Acer ginnala*) – deciduous, 20-30’, moderate growth, pest free, tolerates most soils, good small garden tree, red fall color.
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New Year’s Day

- New Moon
- UC Master Gardener Meeting
- Martin Luther King Day
- Full Moon

December 2010

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February 2011
MEDIUM SHADE TREES

These trees grow 30 to 50 feet tall.

**Chinese pistache** (*Pistacia chinensis*) – Deciduous, 30-50’, slow growing, pest free, tolerates heat, drought and poor soil, resistant to oak root fungus, fall color (yellow-orange to orange-red).

**Red horse chestnut** (*Aesculus carnea*) – Deciduous, 30-50’, moderate growth, needs water, best in sheltered, cooler areas, flowers attract butterflies and humming birds.

**Chitalpa** (*Catalpa x Chilopsis*) – Deciduous, 35’, fast growing, hardy, drought tolerant, tolerates most soils, spectacular summer flowers (pink to violet).

**Idaho locust** (*Robinia ambigua*) – Deciduous, 40’, moderate growth, hardy, tolerates drought and poor soils, showy deep pink flowers spring to summer.

**Hedge maple** (*Acer campestre*) – Deciduous, 35’, slow growing, very hardy, tolerates drought and poor, alkaline soils, spring yellow-green flowers, autumn leaf color.
**February 2011**

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- **February 1**: Groundhog Day
- **February 4**: Chinese New Year
- **February 8**: New Moon
- **February 14**: Valentine's Day
- **February 20**: UC Master Gardener Meeting
- **February 21**: Presidents Day
- **February 13**: Valentine’s Day
- **February 15**: UC Master Gardener Meeting
- **February 16**: Presidents Day

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While apples are not commercially important in Lake County, they are an all-time popular fruit for backyard orchardists. Our climate can be challenging for apple growing, so make sure you plant varieties that are suited for this area. Contact the UC Cooperative Extension office for a list of suitable varieties for Lake County.

All varieties of apple trees should be cross-pollinated with another apple or crab apple variety. In backyard plantings, two semi-dwarf apple varieties that bloom at the same time should be planted within 50 feet of each other. Two dwarf apple varieties with similar bloom periods should be spaced less than 20 feet apart to ensure the transfer of pollen between trees.
March 2011

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Beautiful Blossoms

Some of the most beautiful sights to behold in Lake County in April are the pear orchards in bloom in Kelseyville, Scotts Valley and Upper Lake. Let's make sure that our grandchildren and great-grandchildren will also be able to enjoy them!

Bartlett, the variety that originally put Lake County on the map as pear capital of the world is still the main variety grown here. You will not see bee hives in pear orchards during bloom because fruit set in this area is parthenocarpic, meaning produced without being pollinated. Where pollination is required nearly all pears are suitable pollinators for other varieties that bloom at the same time. Pear flowers produce only a small amount of nectar, which is low in sugar; therefore, more bees or other pollinators are needed for pears than for any other fruit.

Pear blossoms, left

The trees pictured below are selected from our list of recommended trees to replace unmanaged pear and apple trees. Not only are they beautiful in bloom, drought tolerant once established, and non-invasive, they are low maintenance trees. The catalpa (Catalpa speciosa), lower left, makes a terrific shade tree as a bonus.

Catalpa tree flowers  Western redbud trees in bloom  Crape myrtle
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April Fool’s Day

April 2011

New Moon

UC Master Gardener Meeting

Full Moon

May 2011

Arbor Day

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The infamous "worm" in the apple and pear fruit, codling moth is difficult to manage in the home orchard. Soon after hatching, larvae bore into apples, pears, and less frequently, plum and walnut fruit, and feed, leaving reddish-brown droppings (frass). Early-maturing fruit varieties are less likely to suffer damage. Use an integrated pest management (IPM) approach that combines several methods. Trees heavily infested every year may require carefully timed sprays, or better yet, consider removing and replacing them with shade trees! Details of the methods described below are in the free Publication - Codling Moth: Pest Notes for Home & Landscape (#7412), available from the UCCE office or download from [http://anrcatalog.ucdavis.edu/](http://anrcatalog.ucdavis.edu/).

Reduce codling moth numbers with sanitation practices.
- Remove infested fruit from trees as soon as you see them. Look for worm entry points ("stings") marked by tiny mounds of red-brown frass.
- Rake up and destroy dropped fruit, especially in May and June.
- Consider banding trunks with corrugated cardboard to catch pupating codling moths in May and August.

Traps help but do not completely control the pest.
- Hanging out traps may help reduce moth numbers.
- Traps are mostly effective where trees are isolated from other infested trees.
- Pheromone traps capture males so they don't mate with females. Use 2 to 4 traps/tree hung as high as possible. Check weekly, remove dead moths, change sticky bottoms regularly.
- Homemade bait traps using a milk jug with a cider vinegar, molasses, ammonia, and water mixture may also be effective.

Bag when fruit is 1/2 to 1 inch in diameter (4 to 6 weeks after bloom).
- Bagging protects fruit without chemical sprays, even with severe infestations.
- Cut a 2-inch slit in the bottom of a standard (#2) lunch bag.
- Thin fruit to one per cluster and slip it through the slit and staple bag shut.
- Remove bags just as fruit are ripening.
- Bag only the number of fruit you want to protect.

Use low-toxicity insecticides where infestations are severe.
- Combining low-toxicity insecticides with non-chemical methods is the most environmentally sound approach when insecticides are needed.
- Insecticides are only effective if precisely timed to kill worms as soon as they hatch.
- Granulosis virus (trade name Cyd-X®) is a biological insecticide now available to homeowners. Newly-hatched larvae ingest GV when they bite into fruit.
- Spinosad is another low-toxicity insecticide that can be made more effective by adding 1% summer oil.
- Insecticidal oils alone suffocate eggs before they hatch, but give only partial control.
- Carbaryl is effective when properly timed, but is toxic to natural enemies, honey bees, and other non-target organisms.
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- May 2011

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TRAPS

USDA Entomologist Dr. Alan Knight (right) places a pear-based kairomone trap in an apple orchard to attract codling moths. As opposed to pheromone traps which attract male moths with the scent of female moths, kairomone traps lure both sexes with the scent of food. For the backyard grower, pheromone—as well as kairomone—traps are valuable for monitoring codling moth numbers, but will not control them.

MATING DISRUPTION

Pheromone dispensers saturate entire orchards with the scent of female codling moths in order to prevent males from finding the females. They are successfully used by many growers in Lake County. Mating disruption works well in orchards 4 acres and larger as long as the overall pest pressure is relatively low and there are no infestations from nearby properties. Mating disruption is not usually an option for the backyard grower because of the small number of trees. For detailed information on mating disruption and pear and apple pest management, see the RESOURCES FOR OWNER OF APPLE AND PEAR TREES page preceding the month of January.

USDA Entomologist Dr. Carrol Calkins discusses the placement of codling moth pheromone dispensers in a pear orchard with technician Brad Higbee and grower Dale Olsen (left).

Pheromone puffer made by (Suterra, LLC, Bend Oregon) confuses male codling moths looking for mates by discharging the scent of female moths throughout the orchard (right). These and other types of dispensers hang in pear orchards throughout Lake County.
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883 Lakeport Blvd., Lakeport, CA 95453
Phone (707) 263-6838
Fax (707) 263-3963
E-mail: celake@ucdavis.edu
Website: http://celake.ucdavis.edu
The preceding pages demonstrate how insect pests can play a role in the marketability of pears grown in Lake County. This page addresses diseases which can be harbored in neglected backyard trees, abandoned orchards, or trees re-sprouting from stumps (rootstock) left after trees have been removed. Pear diseases are of bacterial, fungal, or phytoplastic origin. These organisms are too small to see with the naked eye, and some of them have no known biological control. What is shown here is the damage after infection.

Pear tree diseases are expensive to treat and like insect control, applications of bactericides, fungicides, and dormant oil sprays require exact timing.

Preventing these diseases by removing or managing your pear and apple trees in the vicinity of commercial pear orchards is another way to help save the beautiful rural landscapes of our Lake County agricultural community.

Photo No. 1: Pear decline (phytoplasma organism)  Photo No. 3: Pear fire blight (bacterial)  
Photo No. 2: Blossom blast (bacterial)  Photo No. 4: Pear scab (fungal)
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Did you know that pears are the only common fruit that need to ripen off the tree for optimum quality and flavor?

Pears are harvested when they reach the desired sugar content, but are still firm. They are kept in cold storage until marketed. Once taken out of cold storage, they will finish their ripening process in a few days. Lake County pears are known for their high sugar content and ease of ripening.

Pears can be tested for perfect ripeness by pushing gently near the stem: if this spot is soft, then it is ready to eat!

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Picture Perfect Fruit
takes more than sun and water. Since most apple varieties ripen late in the year, keeping them free from codling moth pest damage requires careful planning and constant vigilance. Our free IPM publications listed on the Caring for Backyard Apple and Pear Trees page following December will instruct you how to grow mouth-watering fruit. You can also purchase “The Home Orchard: Growing Your Own Deciduous Fruit and Nut Trees” (# 3485, $25.00) from the Lake County UC Cooperative Extension office.

USDA Entomologist Brad Higbee, right, examines a Golden Delicious apple for codling moth damage.

Gravenstein, left
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August 2011

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October 2011

883 Lakeport Blvd., Lakeport, CA  95453
Phone (707) 263-6838
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E-mail: celake@ucdavis.edu
Website: http://celake.ucdavis.edu
LARGE SHADE TREES

Beauty without the fuss; our selection of low maintenance shade trees for Lake County leaves you time to actually enjoy that shade! These trees grow 40 feet tall or more.

Valley oak (*Quercus lobata*) pictured right – Deciduous, 60-75’ in deep soil, native, deer resistant, heat, wet and wind tolerant, easily disturbed and killed by construction impacting root zone.

Red oak (*Quercus rubra*) – Deciduous, up to 75’, fast growing, deer resistant, drought resistant, beautiful fall color (red, orange or russet),

Zelkova elm (*Zelkova serrata*) – Deciduous, 60-80’, moderate growth, tolerates drought once established and most soils, fall color (gold-bronze).

Norway maple (*Acer platanoides*) – Deciduous, 60’, fast growing, tolerates most soils, leaves easily scorched in dry heat, roots can be invasive, tolerates placement in lawns.

Red maple (*Acer rubrum* “Red Sunset”) pictured upper left – Deciduous, 60’, fast growing, needs water, needs pH 6.5 or lower, good lawn tree, small, red spring flowers, fall color (orange-red.)

American (white) ash (*Fraxinus americana*) – Deciduous, 80’, fast growing, hardy, needs some water, tolerates placement in lawns, fall color (yellow to purple shades).

Maidenhair tree (*Gingko biloba*) pictured left– Deciduous, 45’, fast growing, tolerates most soils, deer resistant, resistant to oak root fungus, good lawn tree, fall golden leaf color.

Catalpa (*Catalpa speciosa*) – Deciduous, 40-70’, moderate/fast growing, tolerates hot, dry conditions, showy white summer flowers.

Japanese pagoda tree (*Sophora japonica*) – Deciduous, 50-75’, fast growing, tolerates heat and drought, likes some shade, yellow summer flowers.

Paradox walnut (*Juglans hindsii x Juglans regia*) – Deciduous, 40’, fast growing hardwood tree, wide canopy, sterile hybrid between western Black walnut and English walnut developed by Luther Burbank.
# October 2011 Calendar

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**Notes:**
- New Moon
- Columbus Day
- UC Master Gardener Meeting
Chestnut
Chestnuts have traditionally been grown in the Tuscan highlands in Italy as a main carbohydrate source of the native people, and were consumed in place of cereal grains for at least half of the year.

Pomegranate
Recent research has shown that pomegranates are extremely high in antioxidants and are credited with helping in the prevention of cancer and heart disease. Pomegranates symbolized hope in early Christian art and prosperity in the Jewish tradition.

Persimmon
Revered by the Greeks as "fruit of the gods," which is the translation of its botanical name, persimmons are one of the few fruits that benefit from freezing. In parts of China they are left to freeze outside to speed up the ripening process.

Fig
Figs are one of the first crops cultivated by humans, before the domestication of wheat, barley and legumes, and have been an important food crop for thousands of years. Although commonly referred to as a fruit, the fig fruit is actually the flower of the tree, known as an inflorescence (an arrangement of multiple flowers), a false fruit or multiple fruit, in which the flowers and seeds grow together to form a single mass.

The fig flower is not visible as it blooms inside the fruit. The small orifice visible in the middle of the fruit is a narrow passage. Most fig varieties are parthenocarpic, meaning they don’t require pollination to produce fruit. If you choose a Smyrna fig it must be cross-pollinated with the capnfig which hosts a small wasp to transfer the pollen.
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Daylight Savings Time Ends

UC Master Gardener Meeting

Thanksgiving

New Moon

October 2011

December 2011

883 Lakeport Blvd., Lakeport, CA 95453
Phone (707) 263-6838
Fax (707) 263-3963
E-mail: celake@ucdavis.edu
Website: http://celake.ucdavis.edu
Poached Pears
8 to 10 firm, ripe, unblemished fresh California Bartlett pears 
2 quarts water and 4 tablespoons lemon juice in a bowl 
1 quart fine strong dry white wine or 3 cups dry white vermouth and 1 cup water 
Zest (colored part of peel only) and juice of 2 lemons 
1 1/2 cups sugar 
2 sticks or 1 teaspoon cinnamon

Sabayon Sauce
1 egg
2 egg yolks
1/4 cup fruit poaching liquid or a sweet white wine plus a little vanilla
1/4 cup white vermouth
1/4 - 1/3 cup sugar, depending on sweetness of liquid added

Peel, halve and core pears, dropping them into the lemon water as you go to prevent discoloration. Meanwhile, simmer wine with lemon zest and juice, sugar, and cinnamon for 5 minutes. Drop in the pears (adding only so many that the cooking liquid covers them, or add more wine plus 6 tablespoons sugar per cup). Maintain liquid at just below the simmer for 8 to 10 minutes, just until pears are tender when pierced with a knife. Let them cool in the syrup for at least 20 minutes. Serve warm or cold; store in a covered bowl in the syrup under refrigeration.

For Sabayon Sauce: Whisk all Sabayon Sauce ingredients together in a stainless or enameled saucepan. When well blended, whisk over low heat until mixture is thick, foamy and warm to your finger. Do not bring too near to simmer or the eggs will scramble, but you must have enough heat to do the job - a wisp of steam rising over the surface usually indicates the sauce is done - about 2 to 4 minutes of whisking. Serve within 20 to 30 minutes. Note: With a longer wait, the sauce will usually separate but can be re-homogenized by beating again over heat. It will not be a foamy sauce if reheated; it will usually be a smooth yellow cream, like a custard sauce.

Sabayon Sauce can be made in a double boiler over simmering water.
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December 2011

883 Lakeport Blvd., Lakeport, CA 95453
Phone (707) 263-6838
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E-mail: celake@ucdavis.edu
Website: http://celake.ucdavis.edu
Caring for Backyard Apple and Pear Trees

These two leaflets give general care guidelines, including pruning and irrigation:

Apples and Pears: Calendar of Operations for Home Gardeners (#7258)
Calendar of Operations for Backyard Pear Trees in Lake County

For information on how to manage individual pests—provided you know which pest you are dealing with—download free “Pest Notes” from the UC Integrated Pest Management (UCIPM) web site: http://www.ipm.ucdavis.edu/PDF/PESTNOTES/index.html

The following web pages will help you identify specific pests. Click on the name of the pest to view photos:

http://www.ipm.ucdavis.edu/PMG/GARDEN/FRUIT/pears.html
http://www.ipm.ucdavis.edu/PMG/GARDEN/FRUIT/apples.html

The following free publications also include management guidelines specifically for the home orchardist. Many other publications are also available in Spanish. Please call UCCE at (707) 263-6838 for more information.

Fruit Trees: Training and Pruning Deciduous Trees (# 8057)
Fruit Trees: Pruning Overgrown Deciduous Trees (# 8058)
Codling Moth (# 7412)
Apple and Pear Scab (# 7413)
Fire Blight (# 7414)
Hiring a Pest Control Company: Pest Notes for Home and Landscape (# 74125)
Pesticides: Safe and Effective Use in the Home Landscape (# 74126)
Pesticidas: uso seguro y eficaz en el hogar y en jardines (# 74138)
Bordeaux Mixture: Pest Notes for Home and Landscape (# 7481)
Biological Control and Natural Enemies: Pest Notes for Home and Landscape (# 74140)
MONTH-TO-MONTH GARDENING GUIDE

JANUARY

WHAT TO PLANT THIS MONTH:
Pansies, calendula, gladioli, bareroot roses, bareroot fruit trees and grapes, ornamental trees and shrubs.

WHAT TO REMEMBER:
• Start a weather diary. If you compare the actual situation on your property with the local weather forecast (www.westernwx.com/lakeco), you will have a good tool for gauging future events.
• Plan your spring garden. Rotate crop locations from last year.
• Begin dormant pruning of fruit and nut trees and grapevines. Remove fruit mummies and all old leaves and debris to prevent disease next spring.
• Prune fruitless mulberry trees, avoid “pollarding” if possible.
• Clean up all yard debris to reduce disease transmission.
• Apply dormant oil to control insect and mite eggs on roses and other deciduous plants, if needed.
• Use the needles from pine trees as mulch for acid loving plants.
• Protect sensitive trees and shrubs by moving indoors, covering, or using sprinklers for frost protection.
• Divide crowded perennials for additional summer blooms.

FEBRUARY

WHAT TO PLANT THIS MONTH:
Bareroot fruit trees, strawberries, transplants of broccoli, cauliflower, cabbage, and lettuce. Plant spring color including calendula, dianthus, pansies, Iceland poppy, alyssum and viola by mid-month.

WHAT TO REMEMBER:
• Cover your compost pile during periods of heavy rain. It can’t heat up if it’s soaking wet.
• Leave frost damaged leaves and stems on plants as they will protect basal growth from further freezing.
• Clean up old flowers around azaleas and camellias to reduce petal blight.
• Prune ash and sycamore trees infected with anthracnose.
• Apply dormant spray for all fruit and nut trees no later than bud swell.
• Plant summer bulbs, corms, tubers, and rhizomes such as lilies, agapanthus, amaryllis, cannas, and gladiolus.
• Service your lawn mower and have the blades sharpened to avoid chance of lawn diseases and torn grass blades.
• As the temperature begins to rise, look for slugs and snails.
• Plant bareroot berries, roses, vines, shrubs, fruit, nut, and shade trees.
• Feed asparagus, artichokes, and strawberries.
• Pull weeds while the ground is soft.
• Mulch around roses and fertilize.
**MARCH**

**WHAT TO PLANT THIS MONTH:**
Delphiniums, pansies, viola, marigolds, geraniums, Shasta daisies, columbine, and potatoes.

**WHAT TO REMEMBER:**
- Fertilize indoor plants as needed.
- Flush irrigation systems, repair sprinklers, and check drippers.
- Avoid overhead watering of roses to avoid black spot and rust. Remove diseased leaves and treat as needed.
- Plant annuals in flower beds for spring and summer color.
- Feed camellias, azaleas, acid-loving plants after bloom; feed 3 times during year: early spring, summer, and early fall.
- Prune spring-flowering shrubs and trees right after bloom is over.
- Plant citrus in the warmest part of the garden.
- Begin monitoring for codling moth in apples and pears.
- Look for aphids on all plants. Use a strong blast of water to remove them, or apply insecticidal soap.

**APRIL**

**WHAT TO PLANT THIS MONTH:**
Marigolds, nasturtiums, petunias, impatiens, begonias, vinca, and lobelia.

**WHAT TO REMEMBER:**
- Seed or reseed lawn.
- Continue frost watch through May.
- Check for leafroller caterpillars on oak and fruit trees. Spray weekly with *Bacillus thuringiensis* (BT) for organic control.
- Fertilize indoor plants as needed.
- Control snails, slugs, and earwigs. Hand removal in the evening/early morning is effective.
- Treat pears and apples with copper for fire blight disease throughout bloom.
- Treat stone fruit for blossom, fruit, and brown rot during bloom and early fruit thinning.
- Raise mowing height of lawn mower for the summer.
- Weed roses as needed.
- Apply chelated iron to azaleas, camellias, and citrus if leaves are yellowish with green veins.
- As the temperature rises, look for slugs and snails.
- Remove spent bulb flowers, leaving the green leaves until they yellow. These provide nutrients for next year’s bulbs.
- Paint the trunks of young trees with 50/50 solution of white interior (water-based) latex paint and water to prevent sunburn and borer problems.
- Check fruit tree crops and thin fruit if necessary.
MAY
WHAT TO PLANT THIS MONTH:
Coreopsis, daisies, zinnias, salvia, cosmos, marigolds, sunflowers, sweet corn, tomatoes, and other summer vegetables.

WHAT TO REMEMBER:
• Feed roses, control pests, and remove faded blooms for continued blooming.
• Continue to treat for fire blight on pears and apples until the rains stop. Cut out infected limbs 12” below visible blight. Sterilize cutter between cuts to avoid spreading disease.
• Fertilize indoor plants as needed.
• Continue composting. Turn piles to allow oxygen to come into contact with microorganisms.
• Apply sulfur to grapevines for powdery mildew.
• Generally speaking, the danger of frost is small after the middle of May. Plant your summer vegetables.
• Fertilize lawn and established perennials.
• Protect ripening fruit, like cherries, from birds with garden nets.
• Check your watering system for plugged spray heads.
• Apply mulch to garden, 3-6 inches thick, to reduce heat stress and suppress weed growth.
• Deep water trees to encourage deep root growth. Rebuild water basins around trees and shrubs.

JUNE
WHAT TO PLANT THIS MONTH:
Green onions, pumpkins, and basil

WHAT TO REMEMBER:
• Second feeding for azaleas and camellias.
• Early morning is the best time to water. Water as early as 3:00 a.m. to minimize plant diseases.
• Monitor stinkbugs on cole crops and squash.
• Fertilize indoor plants as needed.
• Dig and divide daffodils and other crowded bulbs.
• Continue to apply sulfur to grapevines until berries begin to sweeten.
• Tie vine plants to trellises and stake tall bloomers before they topple.
• Deadhead faded annual flowers to encourage new blooms and to keep the garden looking neat.
• Reapply mulch around trees and shrubs as needed. Keep mulch 6 inches from base of trees to prevent crown rot.
• Your compost pile may need to be watered more often. Keep as damp as a wrung-out sponge.
• Don’t allow roses to dry out. Apply mulch to retain moisture and ensure more flowers in late summer and fall.
• Water tomatoes, squash, cucumbers, and melons deeply (2 feet).
• Potted citrus need frequent irrigation. Water daily when temperatures rise and twice weekly during the rest of the season.
**JULY**

**WHAT TO PLANT THIS MONTH:**
Delphiniums, impatiens, coleus, foxglove, marigolds, zinnias, petunias, and portulaca.

**WHAT TO REMEMBER:**
- High temperatures may inhibit fruit set of tomatoes, melons, and squash.
- Adjust your irrigation system for more frequent watering during long hot days.
- Encourage bushy growth and more blooms on geraniums and fuchsia by regularly pinching tip growth.
- Control caterpillars on flowers and vegetables with *Bacillus thuringiensis* (Bt).
- Hang traps for walnut husk fly. Contact the UCCE office for detailed information on monitoring and control.
- Catch earwigs with rolled, damp newspapers.
- Keep vegetables picked to encourage production. Pick them early in the day.
- For best flavor, harvest beans, cucumbers, and squash while they are young.
- Plan for color in the fall and winter.
- Pick up and discard fallen fruit to prevent the spread of disease. Thin out wormy apples and pears.
- Water infrequently but deeply to prevent blossom end rot on tomatoes, peppers, squash, and melons.
- Bitterness in cucumbers can be corrected by adding calcium to the soil, and by consistent, deep watering.
- Protect pumpkins, melons, and winter squash from rot and insects by setting them on boards.
- Water container plants frequently.

**AUGUST**

**WHAT TO PLANT THIS MONTH:**
Gloriosa daisy, gerbera, delphinium, and seeds of broccoli, cabbage, beets, spinach, and sweet peas.

**WHAT TO REMEMBER:**
- Harvest Bartlett pears when still green but the stem separates from branch easily. Ripen at room temperature. Check the neck for slight give to indicate ripeness.
- Pick melons when stems slip easily from the fruit.
- Keep compost pile moist. Turn to aerate.
- Plant early flowering sweet peas now through October.
- Start seeds for fall and winter plants indoors.
- Check trees, shrubs, and plants for water stress; it may be time to give them a deep soaking.
- Adjust your automatic watering for the weather.
- Fertilize mature fruit trees with a pound of nitrogen per tree.
- Monitor and treat walnut husk fly until husks split.
MONTH TO MONTH GARDENING GUIDE

SEPTEMBER

WHAT TO PLANT THIS MONTH:
Flower bulbs, seeds of pea, carrot, lettuce, and beets. Transplants of calendula, pansies, primroses, stock, and snapdragons.

WHAT TO REMEMBER:
- Apply heavy mulch for weed control and to suppress winter seedlings.
- Tidy up garden by pulling and composting spent plants and fallen fruit.
- Prepare soil for fall and winter annuals and vegetables. Add compost and fertilizer as needed before planting.
- Harvest winter pears (Bosc, Comice, Seckel) when firm. Store in the fridge at least 1-2 weeks to trigger the ripening process.
- Begin planting fall and winter vegetables and annuals.
- If weather is hot, shade new seedlings temporarily until established. Keep soil moist.
- Chill tulip and hyacinth bulbs in refrigerator in a well ventilated paper bag (away from apples) for at least 6 weeks.
- Fertilize perennials, shrubs, and trees with slow release fertilizer.
- Lift and divide iris. Allow them to dry before replanting.
- Sow wildflower seed for spring bloom. Plant fall cover crops to improve soil fertility.

OCTOBER

WHAT TO PLANT THIS MONTH:
Spring blooming bulbs, alyssum, seeds for peas, spinach, lettuce, garlic, onions, leeks, beets, and sweet peas.

WHAT TO REMEMBER:
- Fall is an optimum time to add drought tolerant plants to your garden.
- Continue to harvest late apples. Prepare to harvest walnuts. Apply chelated iron to azaleas, citrus and gardenias according to label, only if they show yellowing.
- Reseed or plant new lawn. Aerate and de-thatch existing lawn.
- Divide and replant perennials. Share extras with other gardeners.
- Spray citrus with copper for brown rot.
- Be prepared to cover tender plants in case of early frost. Continue to irrigate trees and shrubs if there is no rain.
- Last chance to seed for erosion control on slopes, and plant a cover crop.
- Continue to clean up flower and vegetable gardens. Add plant material to compost pile.
- Begin preparing beds for spring by adding compost and manure.
- Feed compost pile with nitrogen to keep it working as the weather gets cooler.
- Hand pick snails and slugs from the garden in the early morning.
- Remove water basins around trees and shrubs before the winter rains.
NOVEMBER

WHAT TO PLANT THIS MONTH:
Seed wildflowers, plant spring flowering bulbs, corms, tubers, garlic, potatoes, pansies, violas, alyssum, stock, and snapdragons.

WHAT TO REMEMBER:
• Plant spring blooming bulbs at a depth of 3 times the size of the bulb.
• Turn off automatic sprinkler and drip systems. Continue to irrigate trees and shrubs if there is no rain.
• Plant amaryllis bulbs in pots for indoor color.
• Compost disease free plant material such as leaves, twigs, and spent annuals.
• Chop or shred twigs and leaves to speed up composting.
• Water if rainfall is sparse.
• Clean and sharpen gardening tools.
• Prune perennials back as needed.
• Apply first dormant spray for fruit trees. Use fixed copper spray after the leaves fall off.
• Remember to water plants on patios, under eaves and porches where the rain doesn’t reach.
• Remove excess buds on camellias to produce larger blooms.

DECEMBER

WHAT TO PLANT THIS MONTH:
Bareroot roses, fruit trees, asparagus, strawberries, artichokes, and rhubarb.

WHAT TO REMEMBER:
Apply at UCCE to become a Lake County Master Gardener!
• Prune trees and shrubs while they are dormant.
• Look at catalogs for seed starting supplies and plants.
• Keep poinsettias in a sunny, warm location. Feed monthly and soak the soil when you water.
• Plant asparagus, rhubarb, and artichokes mid-month.
• Outdoor lights provide warmth to frost sensitive plants.
• Keep leaves and debris from piling up; they shelter disease and insects.
• Apply second dormant spray for fruit trees.
• Protect citrus, bougainvillea, and other cold sensitive plants with non-plastic wraps when necessary.
The UC Master Gardener Program of Lake County

The University of California Cooperative Extension (UCCE) in Lake County established the local Master Gardener program in 1993. Master Gardener volunteers provide research-based information, problem solving expertise, and educational opportunities related to home gardening for Lake County residents at various venues, as well as on the phone or in person at the UCCE office at 883 Lakeport Blvd. in Lakeport.

Master Gardeners are available Tuesday through Thursday from 9:00 a.m. to 12 Noon, 1:00 p.m. to 4:00 p.m., and can be contacted at 707-263-6838, e-mail: celake@ucdavis.edu. The UCCE website is http://celake.ucdavis.edu. Scroll down to the UAPTOP program page for easy access to downloadable free publications and informative links.

The UC Master Gardener Program is structured to expand and embrace new ideas as community home gardening needs change. If you love gardening and want to do community service, the Master Gardener program is for you! Annual training starts in January. Register early!

Calendar Resources

This calendar was produced in an effort to inform home gardeners in Lake County about the importance of managing their fruit trees and the impact they have on commercial pear orchards and the future of Lake County.

Resources used for this calendar include: UC IPM and UC Backyard Orchard websites, UC Agriculture & Natural Resources publications, Unmanaged Apple and Pear Tree Outreach Program, and the Lake County Pear Association.

2011 Master Gardener Calendar Committee: Rachel Elkins (UC Master Gardener Advisor), Gabriele O’Neill (UAPTOP Program Representative), Nicole Gentry, Barbara Haddon, April Lynch, Paul Lynch, Shirley Morse, and Barbara Starke.

Lake County Pest Control Advisers and Pear Experts: Mark Hooper, Bob McClain, Bill Oldham, Dave Vierra and Broc Zoller.

Recipe: California Pear Advisory Board (www.calpear.com)
To order a copy of this calendar, please send a check for $12.00 (includes postage) to the following address:

**UC Regents**  
UC Cooperative Extension  
883 Lakeport Blvd., Lakeport, CA 95453  
Phone: (707) 263-6838  FAX: (707) 263-3963  
Email: celake@ucdavis.edu  
Website: http://celake.ucdavis.edu