

Horticulture 2008 Newsletter

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FRUIT

Pruning Newly Planted Fruit Trees



Fruit trees planted this year should be pruned at planting to begin developing a strong structure of the main or scaffold limbs. This will help to prevent limbs from breaking over the years when the scaffolds carry a heavy fruit load.

Apples, pears, apricots, cherries and plums

Young apple, pear, apricot, cherry and plum trees are generally trained using the central leader system. The growth pattern for these trees is for a center branch to be dominant.

Trees that have no branches or those that have only one or two small branches should be cut back so the tree is only about 30 inches high. This pruning will promote branch development along the tree trunk. The lowest branch should be about 20 inches above the soil level.

Newly purchased trees that have already developed branches should be pruned so there are no more than two to four branches for permanent scaffolds, plus the central leader, or main center branch remaining. The rest of the branches should be removed.

The scaffold branches should:

- Form wide angles (about 60 to 80 degrees) with the trunk.
- Be distributed on different sides of the tree for good balance.
- Be spaced about 6 to 10 inches apart on the trunk with no branch directly opposite or below another.

Peach and nectarine

Peach and nectarine trees may be pruned to either a central leader (described above) or open center method since they do not have a strong tendency for one shoot or branch to dominate the growth of other shoots or branches. Open center trained trees will usually produce more fruit. This is the training method recommended for peach and nectarine trees unless space is a limitation.

Here are directions for pruning an open center tree:

Prune the newly planted tree or whip to about 30 inches at planting time. Newly purchased trees that have already developed branches should be pruned so there are no more than three to four

branches for permanent scaffolds. The central leader, or main center branch is removed.

Scaffolds should:

- * Form wide angles (about 60 to 80 degrees) with the trunk.
- * Be distributed on different sides of the tree for good balance.
- * Be 4 to 6 inches apart and the lowest scaffold about 14 to 18 inches above the ground with no branch directly opposite or below another.

Training at planting is important to insure the tree gets off to a good start. (WU)

Planting Fruit Trees



Fruit trees and many small fruit plants are usually sold bare root, and it is vital that roots never dry out before planting. When plants arrive from the nursery, open the bundles immediately and check for moisture. If the roots are not moist, they should be soaked in water for six to 12 hours before planting. Packages with moist roots can be repacked and placed in a cool, sheltered area if the trees will be planted in a day or two. If wet soils will prevent planting for several days, plants should be heeled in. To do this, dig a trench in a

sheltered, well-drained area out of the sun. The north side of a building often works well. Lay the plants so the roots are in the trench, and then place soil over the roots. Firm the soil and add water if the soil isn't already quite moist. You should not leave plants heeled in for more than two to three weeks.

Plants can be placed in a bucket of water as planting holes are prepared. Make the planting hole wide enough to accommodate all the roots without twirling them inside the hole. If there is an especially long root, cut it to fit. Twirling long roots inside the hole may eventually girdle the tree. Do not add organic matter to the backfill soil. Amended backfill soil allows water to pass through quickly, and the planting hole may fill with water and suffocate the roots.

Planting depth is important. For apples, make sure the graft union is between 3 and 4 inches above the soil surface after the tree is fully in place. If the graft union is below the surface, the tree will develop scion roots. The graft union for peaches should be buried below the soil surface. Other fruit plants should be planted at the same depth they were in the nursery. Bark color normally allows you to identify the original planting depth. Water the plants in immediately after planting to eliminate air pockets and ensure there is plenty of water for root uptake. Do not fertilize. (WU)

Apple Tree Sprays

Two common diseases on apple trees are cedar apple rust and apple scab. Though some apple varieties are resistant to these diseases — including Liberty, Jonafree, Redfree, Freedom, Williams Pride and Enterprise — most varieties are susceptible. For a description of disease-resistant varieties, go to



<http://ohioline.osu.edu/hyg-fact/1000/1401.html>.) Fungicide sprays during April and May are critical to preventing disease on susceptible varieties. A fungicide that is available to homeowners and very effective for control of apple scab and cedar apple rust is myclobutanil (Immunox). There are several formulations of Immunox, and only one is labeled for fruit. Check the label. Bayleton (Green Light Fung-Away) is excellent on rust but poor on scab. Captan, a common component of fruit tree sprays, is excellent on scab but does not control cedar apple rust. Sprays should be done on a 7- to 10-day schedule to keep the protective chemical cover on the rapidly developing leaves and fruit. An insecticide will need to be added to this mixture after petal drop to prevent damage from codling moths that cause wormy apples. Methoxychlor, carbaryl (Sevin), or malathion can be used as an insecticide. In order to protect bees, DO NOT use any insecticide during bloom. Also, do not use Sevin within 35 days of bloom because it will encourage fruit drop.

Although gardeners may continue to use myclobutanil throughout the season, certain other fungicides are more effective on summer diseases such as sooty blotch and fly speck. Consider switching to Captan or to a fruit spray mixture about June 1.

A spreader-sticker can be added to the fungicide-insecticide chemical mixture to improve the distribution and retention of the pest control chemicals over the leaves and fruit. A hard, driving rain of about 1 inch or more will likely wash chemicals from the leaves and fruit. In such cases, another application should be made. (WU)

VEGETABLES

Asparagus Time!



Asparagus is one of those vegetables where freshness is incredibly important. If you have never eaten asparagus fresh out of the garden, try it. It may convince you to grow some of your own.

For those who have an asparagus patch, the new spears are starting to emerge. The first asparagus that comes through the ground always seems to take a long time to reach harvest size. That is because asparagus growth is temperature dependent. The higher the day and nighttime

temperatures, the faster it grows. Also, the longer the spear, the quicker the growth. As the season progresses and spears get longer, the growth rate increases.

Harvest asparagus by snapping or cutting. Snapping is quick and easy. Simply bend the stalk near the base until it breaks. Snapped ends dry quickly so refrigerate or use soon after harvest. Cut asparagus using a sharp knife to detach the spears slightly below ground level. This base is woodier than snapped asparagus, so it doesn't lose water as quickly. Woody ends should be cut off before cooking. (WU)

Bolting and Buttoning in Cole Crop Plants



Chinese cabbage, broccoli and cauliflower are three cole crops that will often bolt (produce a seed stalk) or button (make a small, premature head) if not grown properly. These plants need to stay actively growing. Anything that slows growth, such as delayed transplanting or a lack of fertility can lead to the above problems.

If you are buying plants, choose small, stocky, dark green plants. If you grow your own plants, keep the environment cool and light levels high to prevent rapid, succulent growth. Succulent plants often

undergo a shock when planted in the garden leading to a slow-down in growth.

Fertilize the area before transplanting according to soil test or at the rate suggested on the fertilizer bag. Also use a transplant solution (also called a root stimulator) to water in the plants. Sidedress the plants three weeks after transplanting (see related article).

Buttoning and bolting are irreversible and will prevent the plants from producing even if the seed stalk or small head are removed soon after they form. (WU)

ORNAMENTALS

2008 Pine Wilt Update



I know. Pine trees aren't turf. But many of you also work with trees, and I tend to get a lot of questions about pine wilt, so here is an update.

Background:

Pine wilt is caused by the pinewood nematode, a microscopic worm. The pine sawyer beetle spreads the nematode. The nematode feeds and multiplies in the tree's resin canals, causing wilting and death in several weeks to several months. The nematode and beetles spend the winter in the infected tree. In spring, the beetles emerge around May 1, carrying nematodes to new trees and continuing the cycle of infection.

The disease is common in the eastern half of the state, and it is spreading west around 10 miles per year. Scots pines are particularly susceptible, and many Scots pines in eastern Kansas have been killed. Austrian pines are also susceptible. Western

Kansas is not yet infested. In the last few years there have been several isolated pine wilt cases in western Kansas, including Colby and Dodge City in 2006, and Hays and Garden City in 2007. Some of those findings were affiliated with infested firewood coming from the east. We are not sure if the Hays finding is due to accidental introduction, or by natural movement of the beetle. These particular introductions have been eradicated through timely sanitation and scouting.

Symptoms:

In Kansas, new pine wilt infections are most visible from August to December. Trees wilt and die in a short period of time, from several weeks to a few months. In the first stages, the needles turn grey or green, then yellow and brown. The discoloration sometimes occurs branch by branch, sometimes all at once. The brown needles stay on the tree for up to a year after the tree has died. Another key symptom is reduced resin. On a healthy tree, sticky resin bleeds from the site of a wound. In contrast, if a tree has pine wilt the resin is often reduced or absent, and branches become dry or brittle.

There is a Web site with color photos and descriptions at the following link:

<http://muextension.missouri.edu/explorepdf/miscpubs/mx0858.pdf>

So, what can we do?

1) Sanitation

The most important step is sanitation. If a tree is suspected to have pine wilt, contact your local K-State Research and Extension office, the Kansas Forest Service, or the K-State Plant Disease Diagnostic lab. If the test is positive, the tree should be cut down by May 1 at the latest, before the beetles emerge. In fact, April 1 would be a better deadline just to make sure no beetles emerge. Cut the tree to the ground — don't leave a stump. Chip or burn the wood immediately to destroy the beetles and nematodes. Don't keep pinewood around for firewood.

2) Avoid stress.

The beetles are attracted to drought-stressed trees, or trees affected by other diseases or insects. If possible, provide water during dry periods to prevent drought stress.

3) Preventative injections

There are two products on the market for prevention of pine wilt. There is nothing available to cure pine wilt. The two products are called Greyhound and Pinetect. Both products contain 2% of the active ingredient abamectin, and both are injected into the tree. Both products need to be applied by a trained tree care professional.

The Nebraska Forest Service studied the Greyhound product, and the precursor to Pinetect was studied at K-State. In both studies, trees with preventative injections had about an 80 to 90 percent survival rate compared to 40 to 50 percent in untreated trees. So, it is not a 100 percent guarantee, but it did increase survival. Remember: it only works preventatively—there is no curative activity.

The label and other information about Greyhound is available here:

http://www.arborsystems.com/chemicals_greyhound.html

Information about Pinetect is available by contacting Rainbow Treecare

<http://www.rainbowscivance.com/> (go to the "contact us" link)

Injections can be costly and need to be repeated every two years.

4) Prevent new infestations (especially in the western half of Kansas)

Don't import pine firewood from contaminated areas. Be wary of pine nursery stock from infested areas, and monitor nursery stock carefully.

If pine wilt is introduced, remove the tree, and continue to monitor surrounding pines to make sure it has not spread. Careful scouting and sanitation can eliminate sporadic outbreaks before they get out of control. Contact K-State, the Kansas Forest Service, or Kansas Dept of Agriculture for assistance.

For more information on pine wilt, including photos, see:

http://www.ksda.gov/plant_protection/content/184/cid/1276

<http://www.hfrr.ksu.edu/DesktopModules/ViewDocument.aspx?DocumentID=1353>

http://www.na.fs.fed.us/spfo/pubs/howtos/ht_pinewilt/pinewilt.htm

<http://www.extension.iastate.edu/Publications/SUL9.pdf>

(MK)

PESTS

Asian Lady Beetles Appearing in Homes



Most people are familiar with lady beetles and know they are beneficial because they feed on certain insect pests such as aphids. Though the Asian lady beetle (*Harmonia axyridis*) does feed on other insects, as do other lady beetles, it differs from its cousins in ways that can make it a nuisance. Though lady beetles usually cluster together when overwintering, only the Asian lady beetle tends to do so around (or in) buildings. This is the time of year when these insects emerge from their hiding places and seek a way outside. They

will fly around lights and crawl on furnishings. When disturbed, Asian lady beetles emit a yellow-orange liquid (their blood) that produces a foul-smelling odor. This material can stain walls and home furnishings. More beetles mean a more intense smell. The beetles can also pinch when they land on bare skin. Fortunately, they are unable to break the skin's surface.

Control of these insects is practically impossible in the spring. A vacuum can be used to control those that are in the open but the bag must be sealed after use to prevent escape. Eventually the problem will go away after all the lady beetles have emerged. (WU)

MISCELLANEOUS

Transplant Solutions and Sidedressing

Transplant solutions are mild fertilizer solutions that are applied to newly transplanted vegetables and flowers. Transplant solutions are also called starter solutions or root stimulators. Plants not given a transplant solution often develop a purplish tinge to the leaves caused by a phosphorus deficiency. Surprisingly, the soil may have plenty of phosphorus but plants often have difficulty



taking up nutrients in cool soils. The starter solution places soluble nutrients near the roots so the plants get off to a good, strong start.

Transplant solutions are available for sale but are often sold under the name of root stimulators. It is also possible to make your own transplant solution from a fertilizer that contains more phosphorus than nitrogen or potassium such as a 5-10-5, 10-20-10 or 11-15-11. Mix 2 to 3 tablespoons of one of the above fertilizers in a gallon of water several hours before use. The fertilizer won't completely dissolve but enough will go into solution to get plants off to a good start. Use about 1 cup of transplant solution for each transplant.

Sidedressing is a fertilization done after the plants are established. A fertilizer containing primarily nitrogen is used to keep plants growing and productive. Nitrate of soda (16-0-0) is often used at the rate of 2 pounds fertilizer per 100 feet of row. More commonly available lawn fertilizers such as a 30-3-3, 29-5-4 or something similar can also be used but cut the rate in half. Be sure any lawn fertilizer used does not contain weed preventers or weed killers. Note that most fertilizers weigh about 1 pound per pint of product.

We have a sidedressing sheet available that lists crops, rate of fertilizer application and timing of application(s) for many common vegetables as well as annual flowers. The sheet can be viewed at

<http://www.hfr.ksu.edu/DesktopModules/ViewDocument.aspx?DocumentID=1991> (WU)

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To view Upcoming Events: <http://tinyurl.com/fswqe>

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