

Horticulture Tips

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Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

GARDEN TIPS FOR SEPTEMBER!

David Hillock

Landscape

- Watch for fall specials at garden centers and nurseries since fall is a great time for planting many ornamentals.
- Choose spring flowering bulbs as soon as available.
- Plant cool-season annuals like pansies, ornamental cabbage or kale, snapdragons and dusty miller when temperatures begin to cool.
- You have all of September to plant cool-season vegetables like spinach, leaf lettuce, mustard and radishes, and until the middle of September to plant rutabagas, Swiss chard, garlic and turnips.
- Watch for and control any late infestations of tree webworms.
- Twig girdler insects should be controlled if large numbers of small branches of elms, pecans, or persimmons are uniformly girdled from the tree and fall to the ground.
- Begin to reduce the amount of light on outside tropical houseplants by placing them under shade trees before bringing them indoors for the winter.

Lawn

- Last nitrogen fertilizer application of the year on warm-season grasses should be applied no later than September 15. ([HLA-6420](#))
- Winter broadleaf weeds like dandelion will begin to emerge in late September, which is also the best time to control them with a 2, 4-D type herbicide.
- If pre-emergent control of winter-annual weeds (henbit, chickweed, annual bluegrass, etc.) is desired in lawns, the application should be completed by the second week of September. ([HLA-6421](#)) *Note: Do not treat areas that will be seeded in the fall.*
- Continue bermudagrass spray program with glyphosate products for areas being converted over to tall fescue this fall. ([HLA-6421](#))
- Plan to seed bluegrass, fescue, or ryegrass as needed in shady areas in mid- to late-September. Fall is the best time to establish cool-season lawns. ([HLA-6419](#))
- White grub damage can become visible this month. Apply appropriate soil insecticide if white grubs are a problem. Water product into soil. ([EPP-7306](#))

Crown Gall on Grapes: The Lowdown

Eric T. Stafne

I have seen a tremendous amount of crown gall this year on grape vines throughout the state. This is not surprising due to the Easter Freeze earlier this year. The galls are most often manifested through cold damage. What did surprise me was that grape growers often did not realize what caused the damage, what to do about the damage, what effect the gall has on the vine, or even that it was a problem. Make no mistake, crown gall is a serious problem, and it signals a slow death march (or a quick decline, depending on the extent of the gall, the cultivar, the rootstock, etc.).

Crown gall (*Agrobacterium tumefaciens*) is a well-known disease and affects many plants. However, the unique thing about crown gall on grapes is that it is a different bacteria species, *Agrobacterium vitis*, that causes it. This bacterium lives in concert with grape tissues. It does not live by itself in the soil or on other hosts. Therefore, the majority of the crown gall we have seen in Oklahoma is likely introduced from the nursery where the vines were purchased. The bacterium remains latent until a damaging event occurs and then tumor-like protrusions are often seen in mid-summer. They start out as crème-colored growths that eventually turn brown and hard.

There are no effective controls against crown gall. Once the vine has it, it will always have it. Management of vines that show symptoms can be done to extend the life and productivity of the vine, such as cutting off areas above the damage and re-training a trunk from below the gall. The vine then may not show symptoms and look healthy until another cold event occurs. The vine, however, is weakened just by having the disease and is less suitable for Oklahoma's unpredictable weather conditions. *Vitis vinifera* or European grapes are highly susceptible to this disease, as are many hybrid cultivars; although, hybrid cultivars are often more cold hardy and do not experience cold damage as frequently or as severely as European grapes do.

The best option for reduction of this disease is prevention. A grower should select a good site for grapes (northern or eastern exposure, with elevation – not in a low spot, good air and water drainage, appropriate modification of soil conditions if needed, etc.), choose appropriate cultivars (hybrid and American grapes are more cold hardy than European grapes), and resistant rootstocks (3309C and 101-14). Good management is also important by controlling irrigation, crop loads, and vine vigor. Sanitation also helps by removal of infected vines or vine parts, sanitize pruning shears, and keep a clean vineyard free of weeds and other plant debris.

Even though the vines may still be alive right now or seem largely unaffected by the disease, they may be weakened enough to be killed by stresses incurred by drought, excessive crop load, excessive heat, or cold. This coming winter has the potential to be devastating to a lot of vines throughout the state, especially if early freezing temperatures occur.

Often nurseries may tell growers that their vines are disease-free, but the only way to ensure crown gall free material is to obtain tissue-cultured plants. Even then, they can still be infected once out in the field by other infected vines. Reputable nurseries may be willing to replace vines with the galls, but being diligent before planting is the best way to combat this disease.

Why Won't Melons Sweeten-up?

Lynn Brandenberger

Probably the number one problem that I have seen when it comes to melons (cantaloupes, honeydews, watermelons, etc.) not being sweet is really tied to the amount of sunshine that a field receives. In wet and cloudy seasons it is next to impossible to get a melon to sugar-up. It makes sense because sugar production in any plant is driven by photosynthesis and that is directly affected by the amount of sunlight that plants receive.

Furthermore, during much of the summer we had lots & lots of rain and the corresponding cloudy weather to go along with it. We had a similar set of circumstances a few years ago and we had lots of producers that just could not get their melon crops to sweeten up.

I've listed a few things to do and not to do for melon producers below.

- Take care of the crop, making sure to use preventative fungicide sprays, good fertility, and proper irrigation to maintain a good and healthy plant canopy.
 - Without a good plant canopy a plant will not have the machinery available to produce high sugar levels for melons once the sun has decided to come out, so take extra good care of this aspect of crop management.
- Keep an eye on crop pest problems:
 - Particularly diseases i.e. anthracnose, downy mildew, fruit rots, the list goes on and on. Use preventative fungicide sprays to prevent these from occurring.
 - Weeds often get out-of-hand during these wet seasons. Producers may need to do hand-weeding to clear out large weeds so they can find the crop for harvest. Unfortunately there are very few postemergence herbicides cleared for vegetable crops, but here are a few that are labeled for use on several cucurbits i.e. make sure they are labeled for the specific crop and weed species that is causing trouble: Poast (sethoxydim) is labeled for several cucurbit crops and will control several grassy weeds, Prism & Select (clethodim) are labeled for several cucurbit crops and will control several grassy weeds.
 - Insects are often a problem especially early in the season for developing plants, since we're way past early season I would recommend that producers continue to monitor insect populations and treat with the appropriate materials when needed.
 - Don't forget to remind your producer to read & heed the labels!
- Realize that most crops within the state have received huge amounts of rain and as a result root systems are not particularly well developed. As a result crops this year may need to be looked after a little more closely regarding when irrigate, so keep an eye out for drought stress in crops.
- Don't spend money on snake-oil treatments for the crop i.e. all sorts of fertilizer supplements, magic elixirs that make claims to cure all sorts of crop ills such as low sugar levels etc.

Collecting and Using Landscape and Garden Waste

David Hillock

It won't be too much longer and landscape and garden cleanup will be underway. It is recommended that most of the landscape waste be composted and used as an amendment to improve soil conditions. Composting yard waste keeps it out of the landfills, saving time, space and money for the waste collection systems and you.

Leaves are best handled through composting. To eliminate grass clippings, check out the “*Don't Bag It*” program through your local Oklahoma Cooperative Extension Service Office. Other plant material such as that from the garden or prunings can also be composted. Some items may need to be ground or chipped up first to decompose more quickly.

Below is a quick recipe for making a good compost pile. For more information about composting see [BAE-1744 - Backyard Composting in Oklahoma](#).

How to Make Compost

A compost pile is built by layering organic materials. Compost piles should be 3 to 4 feet wide and 3 to 4 feet high. This volume allows the pile to heat as composting occurs.

- **First Layer:** 3 to 4 inches of dried organic matter, such as leaves or dried grass.
- **Second Layer:** 3 to 4 inches of green material, such as kitchen vegetable scraps, grass clippings, or green plant material.
- **Third Layer:** 1 to 2 inches of manure or 1 cup of fertilizer containing nitrogen.
- **Fourth Layer:** 1 inch of soil to add microbes to the pile or a commercial compost starter.

Do not add pet manure, meat scraps, fat, bones, diseased plants, or noxious weeds to the compost pile.

Fertilizers

David Hillock

Fertilizers are used to prevent or overcome nutrient stress in plants. Fertilizers usually contain one or more of three important elements—nitrogen, phosphorus, and potassium. Fertilizers may also supply other elements essential for the growth of healthy plants.

Slow- vs. Quick-Release

Nitrogen is available in slow-release and quick-release forms.

Slow-release means that the nitrogen does not dissolve in water. The nitrogen must be broken down by soil microbes and by soil chemicals to be in a form that plants can use. Slow-release fertilizers, since they do not leach quickly, can supply nutrients to plants for a longer period than quick-release forms. The slow release rate makes fertilizer less likely to injure plant roots if used in large amounts. But slow-release fertilizers may not release nutrients fast enough to correct a deficiency causing poor plant growth.

Quick-release fertilizers easily dissolve in water. Nitrogen tends to leach and be removed from the root zone of the crop, increasing the risk of nitrate pollution of groundwater resources. You may be able to lengthen the effects of quick-release fertilizers by making smaller applications more often, instead of applying the entire recommended amount at once.

Most “organic” fertilizers are in a slow-release form. The “inorganic” or man-made fertilizers are available in both slow- and quick-release formulations.

Organic vs. Man-Made

Plants do not know the difference between organic and man-made fertilizers. The organic fertilizer materials are broken down by soil organisms into water-soluble materials identical to those in the man-made fertilizers.

Gardeners must consider several factors when choosing a fertilizer:

- cost per pound of the actual nutrients
- rate of release
- ease of application
- number of applications required
- safety to plants, especially seedlings
- hazards to the environment

Application Rates

Once you have chosen a fertilizer, you must decide how much to apply.

Recommendations are usually based on the size of the garden or the area where the application is to be made. If your garden is square or rectangular, multiply the length by the width to determine the number of square feet. For odd shaped gardens, it is often easier to visualize a rectangle that approximates the area of your garden and estimate its size.

Recommended quantities may be measured in pounds of the fertilizer per 1,000 square feet, pounds per 100 square feet, or pounds per acre.

This can cause confusion when gardeners only want to fertilize a small plot or single row. Recommendations may also call for the amount of “actual” pure nitrogen, or other nutrient, in the fertilizer. This makes calculations more confusing, because no fertilizer, whether organic or man-made, contains 100 percent of the nutrient needed.

The following formula can be used to determine application quantity:

$(\text{the recommended quantity per unit area}) \div (\text{percentage of the pure element in your fertilizer} \div 100) \times (\text{sq. ft. of your garden}) = \text{quantity for your garden}$

Example: If the recommended quantity is 2 pounds of actual nitrogen per 1,000 feet, using a 20-10-10 fertilizer (the first number, 20, means that the fertilizer contains 20 percent nitrogen), and your garden is 500 square feet: $(2 \text{ lbs./1000 sq. ft.}) \div (20/100) \times (500 \text{ sq. ft.}) = 5 \text{ lbs. of the fertilizer for your garden.}$

One of the problems with organic fertilizers is that they often contain only small amounts of nutrients. For example, only 7 percent of cottonseed meal is nitrogen. If a soil test recommended 2 pounds of actual nitrogen per 1,000 square feet for your garden, and you wanted to use cottonseed meal as your organic fertilizer, you would need: $(2 \text{ lbs./1000 sq. ft.}) \div [(7/100) \times 500\text{sq.ft.}] = 14.29 \text{ lbs}$ or about 14.3 lbs. of cottonseed meal for a 500-sq. ft. garden.

Depending on the type of fertilizer you choose, you could end up needing very large amounts of the fertilizer to supply the required nutrients, even truckloads, in some instances. In such a case, you may prefer to make split applications—apply only a portion of the fertilizer initially, and later apply more.

The labels on commercially-sold organic fertilizers often do not specify application rates. This can be a problem in deciding how much of the fertilizer to apply to your garden. Look on the label of a similar fertilizer that does list application rates. You will need to know the rate needed of the first fertilizer and the percentage of the nutrient(s) in both fertilizers. Use the following formula to determine the application rate for the second fertilizer: $\text{Rate of \#1} \times \text{Percentage of \#1} \div \text{Percentage of \#2} = \text{Rate of \#2}$.

It is recommended that organic gardeners use a combination of fertilizer materials, not just one kind of fertilizer. A variety of materials may provide a better balance of nutrients for plants.

Planting Turfgrasses

David Hillock

Establishing your lawn involves turfgrass selection, soil and site preparation, planting, and post-establishment care of the new turf. Proper planning and methods employed for each of these steps helps to ensure a successful and satisfactory lawn establishment.

Planting is only one of the factors necessary for good establishment of lawns. For more information about the other factors see [HLA-6419 - Establishing a Lawn in Oklahoma](#). Additional fact sheets that might be helpful in lawn management and establishment are [HLA-6418 - Selecting a Lawn Grass for Oklahoma](#) and [HLA-6420 - Lawn Management in Oklahoma](#).

The critical factors in planting turfgrasses are listed below and discussed in this fact sheet.

1. Plant a recommended turfgrass species and cultivar that is well adapted to the environmental conditions of Oklahoma and one that is also suited to your planting site and interests.
2. Plant the recommended amount of seeds or vegetative material (sod, sprigs, and plugs) to ensure rapid coverage.
3. The amount of actual or percentage of pure live seed (PLS) in a bag varies from variety to variety. It is best to seed based on the amount of pure live seeding rates than simply using a general rate recommendation that does not take into account variation in seed purity and germination viability between sources. To calculate the actual amount of your specific

variety to plant, look at the seed label (usually on the back of the bag) and note the percent of seed purity and percent germination. The amount of this seed to plant per 1,000 ft² =

$$\frac{\text{suggested PLS rate}}{(\text{percent pure seed listed on your label}) \times (\text{percent germination on label})}$$

4. Uniformly distribute seed, sprigs, or plugs over the lawn area to prevent bare spots or areas that are likely to be invaded by weeds and slowly covered by turf.
5. Plant when environmental conditions favor rapid turfgrass establishment. In the case of warm-season turfgrasses this means that there is enough time for good plant development before frost. In the case of cool-season turfgrasses there should be adequate time for growth before hot, dry summer conditions come about.

Upcoming Horticulture Events

OSU Turfgrass, Nursery and Landscape Field Day

September 12, 2007, OSU Botanical Garden, Stillwater

Plant Materials Conference

October 9-10, 2007, Best Western, Stillwater

This workshop will feature speakers lecturing on both herbaceous and woody ornamental species. Both native and non-native plant materials will be presented. For more information, contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

Tree Care Workshop

November 7, 2007, OSU Botanical Garden, Stillwater

University personnel at OSU-Stillwater will host a tree care workshop designed for arborists, horticulturalists, urban foresters and other allied professionals. The workshop will be taught primarily indoors with afternoon laboratories offered at the OSU Botanical Garden. For more information, contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

62nd Annual Oklahoma Turf Conference & Trade Show

November 13-15, 2007, Watkins Center, OSU-Stillwater

For more information about upcoming events, please contact Stephanie Larimer at 405-744-5404 or stephanie.larimer@okstate.edu.