



GARDEN TIPS FOR MAY!

David Hillock

Trees and Shrubs

- Prune and feed azaleas immediately after blooming.
- Insect Alert: ([EPP-7306](#))
 - * Bagworms on juniper and arborvitae. (Late May)
 - * Elm leaf beetles and larvae on elms. (Late May)
 - * Mimosa webworms on mimosa and honeylocust.
 - * Lace bugs on sycamore, pyracantha and azalea.
- Soak new transplants and newly planted trees unless rainfall is abundant.
- Pine needle disease treatments are needed in mid-May.

Turfgrass

- Cool-season lawns can be fertilized again. If you did not fertilize cool-season grasses in March and April, do so now.
- Warm-season lawns may be fertilized again in May. ([HLA-6420](#))
- Seeding of warm-season grasses such as bermudagrass, buffalograss, zoysiagrass and centipedegrass is best performed in mid-May through the end of June. The soil temperatures are warm enough for germination and adequate growing season is present to promote winter hardiness.
- Dollar spot disease of lawns can first become visible in mid-May. Make certain fertilizer applications have been adequate before ever applying a fungicide. ([EPP-7658](#))
- Nutsedge plants become visible during this month. Post-emergent treatments are best applied for the first time this month. Make certain warm-season grasses have completed green-up.
- The second application of pre-emergent annual grass herbicides can be applied in late-May or early June, depending upon timing of first application. Check label for details.
- Vegetative establishment of warm-season grasses can continue. ([HLA-6419](#))

Flowers

- Annual bedding plants can be set out for summer color.
- Plant summer bulbs such as cannas, dahlias, elephant ear, caladiums and gladiolus.
- Shake a leaf over white paper to look for spider mites. If the tiny specks begin to crawl, mites are present.

Water Gardens

- Clean out water garden and prepare for season. Divide and repot water garden plants.
- Begin feeding fish when water temperatures are over 50°F.

Fruits and Vegetables

- Plant watermelon, cantaloupe, cucumber, eggplant, okra, sweet potatoes, etc.
- Fruit spray programs should be faithfully continued during the next several weeks.
- Late May is the best time to control borers in the orchard. Check for label recommendations and controls.

Thrips can Wreak Havoc on Flowers and Plant Foliage

David Hillock

A small insect, often showing up in the spring and when present in great numbers causes problems to flowers in the garden, is the thrips. A thrips has mouth parts like rasps, which is used to scratch the surface of flowers, buds or young leaves and then lap up the plant juices. This causes distorted and discolored flowers or buds and gray or silvery, speckled areas on the leaves.

Thrips are small cylindrical shaped yellowish/orange insects with wings that sort of resemble feathers. They can't fly very well but move about in the wind. They only live about 40 days, but can have up to 8 generations per year, so they can be present all through the growing season. Thrips may or may not do significant damage in the garden. They may only be present for a period and then blow away. They can do enough damage to warrant control, however. Insecticidal soaps are a good means of treatment. There are several other labeled chemicals; check with your local extension office or garden center professionals for additional recommendations. Sprays may need to be applied 2 to 3 times at 7 day intervals. Thrips have a number of natural enemies as well. Damsel bugs, Pirate bugs and Lacewing larvae feed on thrips.

Mulch, Mulch, and More Mulch!

David Hillock

Mulch is one of the most common and practical tools a gardener can have. It can be relatively cheap, even free in some cases, come in an array of sizes, shapes and colors, is easy to install, and has many benefits. Benefits of using a mulch, depending on the type used, include: reduced surface evaporation, improved water penetration and air movement, control of soil temperature fluctuations, protection of shallow-rooted plants from freeze damage and frost-heave, improved soil structure and nutrient availability, preventing weed growth, keeping fruits, vegetables, and flowers cleaner, and improved aesthetics of a landscape and addition to property values.

There are two types of mulches, organic and inorganic. Organic mulches include such things as wood and bark chips, straw, grass clippings, and seed hulls. Inorganic or inert mulches include polyethylene film, gravel, and weed-barrier fabrics.

The ideal mulch does not compact readily. It does not retard water and air movement into the soil, it is not a fire hazard, and it breaks down slowly. In addition, the ideal mulch is uniform in color, weed-free, attractive and does not blow away.

Selection – The selection of a mulch should depend on the intended use (Table 2). Appearance is sometimes the goal and either organic or inorganic types would work, but is largely based on personal preferences. When the goal is to improve soil conditions, organic mulches that gradually break down work well. The size of the area in relation to the cost of materials and availability should also be considered (Table 1). If the area is used primarily for annual flowers, it often is more practical to use a temporary organic mulch that can be turned under each fall.

When to Apply Mulches – A mulch is frequently applied soon after the emergence of the crop seedlings or following transplanting. A delay in application of mulch may be desirable if the soil has not warmed sufficiently during the spring.

Mulches used to enhance appearance and control weeds may be applied at any time.

If the mulch will be used to protect fall transplants by keeping soil temperatures above freezing longer into the fall (permitting better root growth), apply soon after transplanting.

If the mulch is to be used to reduce frost-heave and delay spring growth, apply after the ground has frozen. This type of mulch often is used to protect small bulbs such as squill and crocus and to prevent early emergence.

Depth of Mulches – Except where landscape fabric is used alone or in combination with chips, stones, or other material, apply most mulches to a depth of 2 to 3 inches. Apply straw, dried leaves, and similar materials to a depth of at least 4 inches.

Some mulches, particularly straw and loose leaves, may harbor rodents. When using these mulches, do not place closer than 6 inches to the base of woody plants. When these types of mulches are placed next to the plant, rodents living in the mulch will chew the bark of the plants, girdling and killing them.

Preventing Nitrogen Deficiency – As organic mulches decompose, the breakdown organisms use some of the soil nitrogen in contact with the mulch. Consequently, nitrogen deficiency may occur. A sign of nitrogen deficiency is a yellowing, primarily of the lower leaves. When this occurs, add nitrogen fertilizers.

For every 100 square-feet of mulched area, add 2 pounds of a complete fertilizer, such as 10-6-4 or one-fourth pound of ammonium nitrate.

Never use a weed-and-feed type of fertilizer in mulched areas.

Table 1: Area covered to a given depth by one cubic yard of mulch.

<u>Area</u>	<u>Depth of mulch</u>
80 square feet	4 inches
100 square feet	3 inches
160 square feet	2 inches
325 square feet	1 inch

Table 2: Types of mulches and their advantages and disadvantages.

Mulch type	Advantages	Disadvantages	General Comments
Organic Mulches			
Cocoa-bean hulls	Long lasting, dark brown color.	Compacts and forms a crusty surface. Harmless if stirred to break crust. Expensive.	Molds may form on surface.
Grass clippings	Readily available.	Must be applied loosely and in thin layers to reduce matting.	Allow grass to dry before applying as a mulch.
Leaves (composted)	Readily available.	Not very attractive. May become matted.	Good soil amendment.
Leaves (fresh dried)	Readily available.	Not very attractive. May blow away. Fire hazard. Wet leaves compact into slimy mats.	Most appropriate in naturalized gardens or shrub masses.

Newspaper	Readily available.	Don't use color inserts or red ink.	Use 3 to 6 sheets thick and cover with organic mulches.
Pine needles	Attractive. Do not compact.	Difficult to obtain in quantity. Can be a fire hazard.	Best for winter protection of fall-transplanted material.
Shredded bark, bark chips, chunk bark	Long-lasting, attractive (chips more attractive than fine shreds).	Cost relatively high. Shredded bark may compact.	Use for informal walkways.
Straw	Readily available.	Blows easily. Highly flammable. Weed seeds often present.	Best used as a temporary mulch around plants needing protection in winter. Anchor with wire mesh.
Wood chips, shavings, pole peelings, recycled shingles.	Long lasting. Readily available.	Texture and color not uniform.	Rustic but usually attractive. Will not compact readily.
Inorganic, inert mulches			
Weed-barrier fabrics	Reduces weeds. Allows air and water penetration. Long lasting if covered with mulch. Easy to apply.	Some may be costly. Most deteriorate in sunlight unless covered with another mulch material such as wood chips. May plug up over time inhibiting water and air penetration.	A good substitute for black plastics.
Gravel, stone.	Available in colors to match or complement the architecture.	Inexpensive. Will not prevent growth of some weedy grasses.	Can use landscape fabric beneath to prevent weeds.

It's The Dirt*

To the uninitiated, gardening seems to be all about plants. Certainly each of the seemingly infinite variety of trees, shrubs, flowers, vegetables, and grasses is fascinating. Artfully combining them to create landscapes and gardens is challenging and rewarding. However, to the initiated, gardening is really all about soil.

It is easy to take soil for granted. After all, soil is almost everywhere. It literally comes with the territory when you buy a home or property. Soil may be largely dense sticky clay, thin gritty sand, or powdery silt. (Only the truly fortunate discover loose woody loam in the yard.) Whichever type, this existing soil constitutes the planting medium for the garden on the property. To improve its ability to support and nourish plants gardeners strive to improve its structure and boost its fertility. Fortunately, there is an abundant, inexpensive magic ingredient that makes this job a lot easier – humus.

Humus Creates Soil – It is not a coincidence that the word “humus” is part of every gardener’s vocabulary and that compost piles, one source of humus, are part of their gardens. Humus transmutes sterile dirt into fertile soil. Derived from organic matter of all kinds, humus is the life support system of soil. The presence of humus among mineral particles and air spaces enables soil to nurture plants two ways. Humus creates a loose structure

that simultaneously holds moisture and drains well. Humus also creates an environment that supports living organisms that convert soil nutrients into a form plant roots can use, building soil fertility. In short, humus brings soil to life.

In nature humus is constantly introduced into soil as plant debris, dead animals, and other organic matter that decomposes on the ground. Through the alchemy of bacteria, fungi and other resident micro-life activity, this organic material is reduced by degrees to its soft, spongy essence, called humus. It permeates the top few inches of the soil through rains, and the good offices of earthworms and other macro-organisms, where it continually revitalizes the soil around plant roots. This natural cycle is repeated over the seasons out in the wild, sustaining the great forests and other natural areas. Where there is lots of vegetation to decay and enrich the soil, such as in woodland areas, the soil is rich in humus and very fertile. Where there is little or no vegetation to provide the organic debris, such as at the seashore or in the desert, the soil has little or no humus and is lean, infertile.

In developed areas, such as residential yards and gardens, where the natural vegetation has been removed or disturbed, this natural decay cycle is disrupted. Organic matter such as leaves, dried plant parts, prunings, animal remains, manures, and other debris is routinely removed before it can recycle into the soil. Intensive planting of crops, turf grasses, and ornamental plants rapidly depletes soil of its existing humus content. Bare soil in garden beds is exposed to the harsh effects of sun, wind, and hard rains, which further reduce its humus content and destroy its structure and fertility. To grow plants successfully gardeners must emulate nature and constantly renew the soil by adding the depleted ingredient, humus.

Humus Solves Soil Problems – There is no such thing as perfect soil. Every soil has problems in structure, texture, and/or chemistry that compromise its ability to nurture plants. The best way to confirm suspected soil problems is to submit a soil sample for laboratory analysis through the local agricultural cooperative extension office. Their computer printouts profile the soils content and structure, pinpointing deficiencies. Fortunately, the addition of organic matter, or humus, can mitigate many of these problems. Here are six soil problems that can be addressed by adding humus.

- **Compaction:** Good soil is loose and crumbly because it has lots of air spaces. Plant roots are able to penetrate soil deeply for extended drought resistance and stability. Air is also essential to the micro-life that lives on its organic content and processes its nutrients to create fertility. Typically soil in a home landscape is compacted, the air compressed from it by the weight of foot traffic, construction, mechanical yard care equipment, and harsh weather. To reduce compaction, regularly add humus in the form of a topdressing to existing lawns. Spread a mulch of some organic material on bare soil in beds and under trees and shrubs year round. Dig in compost, peat moss or the like into garden beds when planting to improve aeration.
- **Sandy soil:** Sandy soil has large particles with large air spaces between them. Therefore, it drains so quickly that it dries out quickly. Also, water-soluble nutrients leach out rapidly before the plants can use them. Humus incorporated into sandy soil acts like a sponge, absorbing and holding moisture and any nutrients dissolved in it. Replenish the humus content of sandy soil at every opportunity.
- **Clay soil:** Clay soils are so thick because they have small particles with correspondingly small air spaces between them. They tend to stick together and cause water to fill up the air spaces. Since moisture does not drain from this soil well, plant roots rot. Adding humus to clay soils discourages the small particles from sticking so tightly. They aggregate into larger clumps creating larger spaces that drain more easily and hold air to improve soil texture.

- Fluctuating pH levels: The acidity or alkalinity of soils, expressed as pH, affects how accessible their nutrients are to plants. Reduced acidity (pH higher than 8.0) inhibits the uptake of iron, boron, copper, and other elements necessary for plant health. Excessive acidity (pH lower than 6.0) discourages plant absorption of other nutrients. Alter pH levels by adding either sulfur to increase acidity or limestone to reduce acidity in amounts indicated by soil test results. Because humus buffers soil against changes in its pH, adding lots of organic matter to the soil will help maintain desirable pH levels.
- Pest insects, disease pathogens in soil: Soil rich in humus is alive. It supports active micro-organisms to process nutrients and harbors beneficial macro-organisms such as ants and ground spiders that prey on soil-dwelling pest larvae and eggs. Humus creates a soil environment that supports beneficial nematodes and also bacteria such as milky spore that homeowners introduce into lawns to combat white grubs. Many other resident microbes attack and control disease pathogens that lurk in the soil. Topdressing and mulching lawns and gardens with organic material such as chopped leaves, compost or shredded bark products discourages soil pest problems.
- Infertile soil: Soil becomes sterile over time as its humus content is reduced by hot weather, removal of topsoil, or intense cultivation without replacement of organic matter. The number and activity of micro-organisms in the soil is depleted. In their absence the production of nutrients in the soil is severely curtailed and it becomes sterile. While fertilizer provides nutrients to plants, it does not solve a soil fertility problem. Supporting resident micro-life in the soil is the long-term solution. Topdressing lawns and perennial beds with humus and incorporating it into cultivated soil every year provides a home for these organisms so they can assure soil fertility.

Composting: Making Humus – Carbon material + Nitrogen material + Air + Moisture = Compost The secret ingredient in this recipe is the micro-life – bacteria, fungi, and other tiny organisms, which live on the surfaces of organic material. Acting as an elaborate food chain within a pile of yard and garden waste, they decompose it as they eat and reproduce. Pile some moist carbon material (dried, brown materials such as fallen leaves or straw) either alone or with a much smaller proportion of nitrogen material (moist, green stuff such as vegetable peelings, fresh weeds, or grass clippings) and let it happen. With sufficient air the organisms thrive, generating heat within the pile. Eventually the assembled yard waste is reduced to soft, dark, humus.

In a hurry? Encourage even more feverish microbial activity by shredding the material before piling it, turning or stirring the pile more often, or adding more organisms such as red wiggler worms.

Some Sources of Humus

Residential

- Leaves (chopped or shredded)
- Prunings, grass clippings
- Leaf mold (semi-composted leaves)
- Non-meat related kitchen waste
- Sawdust (from non-treated wood)
- Weeds, dead plants (disease and seed free)
- Wood chips

Municipal

- Leaf mold
- Composted municipal sludge

Commercial

- Bark products

Topsoil
Mushroom soil
Peat moss
Manures (dried)
Pecan, cocoa hulls
Farm crop residues
Straw

*Source: Today's Garden. National Garden Bureau. Author-Liz Ball

Rehabilitation or Removal?

David Hillock

The decision to save or remove a storm-damaged tree is usually a subjective one, with the choice relying more on opinion than fact. Emotions often are the overriding factor in the decision process, especially when the damaged tree is a very large, old, or 'heirloom' tree. Here are a few points to keep in mind when deciding whether to rehabilitate or remove your storm-damaged tree:

1. Use common sense and ask yourself if the damage has perhaps rendered this tree hazardous? In other words, does it now look vulnerable to any additional wind or ice event that could cause it to fall in its entirety or at least "drop" one or more large branches that could damage nearby property or prove fatal to people and pets?
2. Educate yourself as to the potential growth rate and commercial availability of replacement trees.
3. Even if the tree can be salvaged, assess whether it will ever look "right" again with some semblance of symmetry.
4. If significant bark has been ripped or loosened from the trunk, be realistic about the tree's potential for attack from opportunistic microorganisms and damaging insects outlined later.

Working with Mother Nature

Lynn Brandenberger

Doesn't matter whether you are a big-time farmer or a backyard gardener, working with Mother Nature is an important concept to understand. Recently I received a refresher course in how important it is to work with her rather than fight with her. Spring has sprung and of course we are in a hurry to start our vegetable research at the research station in Perkins. That said we've been forced to patiently wait for sunny weather so the soil can dry out enough to prepare it for planting.

That said, let me make it perfectly understood that I am not complaining about the rain, but of course we want to get started with planting. One of the issues that can result from trying to rush things especially with soil that is too wet to work is that you will damage the soil structure and even if you do manage to "mud" in your crops, most of the time you'll be lucky to get even a spotty stand much less one that will be good enough to produce a viable crop.

That is one example of being patient with Mother Nature rather than fighting her. Another is deciding when to plant as this can have far-reaching effects on being successful or failing. As farmers and gardeners we are usually in a hurry to have the first tomato, okra, or whatever crop you can name. Understanding each crop's

temperature requirements is a key part of being successful with it. As an example heat-loving crops like okra or black-eyed peas planted before soil temperatures are consistently above 70°F would be a waste of time and seed since very little or nothing will come up. It would be better to wait until soil temperatures increase to the optimum temperature then plant those precious seeds.

In summary, it is important to understand that vegetable crops need to be grown during the season that best suits them under the conditions that favor their establishment and production. Furthermore, don't forget that if you decide to fight Mother Nature she is going win, so don't work against her, but with her.



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