



J&L Garden Center

The All Season Gift
and Garden Center

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The Gardening Newsletter

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Summer 2004

Summer Gardening

A reminder to all those receiving this newsletter by mail that we also have this newsletter available on our website. The website version is thirteen pages long instead of the eight pages that we mail out, and it has larger print. We are also sending out a weekly gardening tip through E-mail. If you would like to receive these weekly E-mail Gardening tips just sign up at our website. You can also un-register for these Gardening Tips as easily as you sign up for them. We do not send any attachments with our E-mail tips so they are easy to receive.



Water

The balance between not enough water and too much water is a never ending struggle. Too much water can be just as bad for a plant as not enough. A common gardening mistake is that newly planted shrubs often die from the lack of water while older plants usually die from too much water - just a few feet away from each other and both being watered with the same sprinkling system. Different plants need different amounts of water and similar plants can need different amounts of water even within a few feet of each other. The type of plant, the age of the plant, the size of the plant, the location of the plant, the type of soil, the slope of the ground, and the placement of sprinkler heads all help determine the water requirements of plants. Newly planted shrubs need special attention and extra hand watering while older shrubs can be neglected and still remain healthy.



Lack of Water

Many plants have leaves with brown edges. This condition is known as **summer leaf scorch** and is due to excessive heat, not enough 'deep' water, or hot winds. To help your plants overcome this problem water them deeply once or twice a month, especially your older trees, until late-October. Lawn sprinklers only allow water to penetrate four to six inches deep. Tree roots can be two to three feet deep. When the ground water in the soil dissipates the roots need a little extra water or the leaves may turn brown around the edges. Turn a hose on very slowly, just a small trickle of water, and let it soak around the drip line of each plant. Move the hose every hour or two so that the water can soak in all around the tree. Some gar-



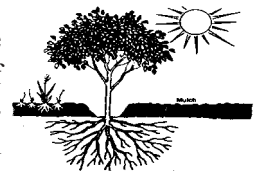
deners will even poke holes twelve to eighteen inches deep around the dripline so the water can penetrate more quickly.

Do not fertilize older plants during the summer, but a little root starter may help newly planted shrubs and trees produce more feeder roots, which in turn will help the plant absorb more water quickly. There is usually plenty of 'deep' water in the soil during the spring but always **water plants deeply once a month from JULY through OCTOBER.**

Example: A friend planted three junipers two feet apart last summer, two lived, one died. When he dug up the dead juniper the ground was dry and hard as a rock while the soil two feet away, by the live plants, was moist and soft. He realized that the sprinkler system was not providing the same amount of water to all the plants.

Excessive Water

Wilting leaves are not always the sign of lack of water. The lack of healthy hair (feeder) roots (sometimes caused by root rot or too much water) also hinders the plant's ability to absorb water. A simple test to determine the cause of the problem is to completely soak a wilting plant. If the plant recovers fairly quickly and the leaves regain their normal appearance, it is very likely that the plant was dry. However, if the plant remains wilted, or if it takes a long time to recover, it is very likely that the plant is suffering the effects of too much water.



The biggest problem with root rot is that by the time you know your plant has a problem it is sometimes too late to save the plant. The best hope for the affected plant is to cut back on the water as much as the plant can tolerate. Do not just cut back on water completely, remember the plant does not have as many hair roots as it should. Stimulate the plant to start growing roots a little faster by fertilizing the plant with a liquid root starter fertilizer. Mix **Root Starter** 1/4 strength with water each time you water the plant. You can also spray this root starter solution on the plant's leaves once or twice a month until the plant starts to recover

Example: A friend planted ten large maple trees six years ago in a lawn area. Two trees died so he replaced them. They died again. While trying to determine the cause of death he found the soil around the two dead trees was

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soaking wet - a swamp. He examined the other trees and found that two of them were not growing and were loose in the soil. The soil around these trees was soggy wet. Two other trees were twice as large as the rest of the trees and were very solid in the ground. The ground around them was a little dry. The rest of the maple trees were growing, but not very fast. The soil around these trees was very moist, but not soggy wet. He has since changed the soil level around the trees so the lawn water drains away from the trees and does not collect around the roots each time he waters his lawn.

Rule of Thumb: Keep your plants moist but not soggy wet.

Rose Care

Fertilize roses every six to eight weeks from mid-April through mid-August with **Systemic Rose and Flower Care**. This rose fertilizer helps stimulate new blossom development and helps kill unwanted insect pests. Roses need regular fertilizing to keep blossoms developing all summer. Do not fertilize your roses after the end of August so the plants will have time to slow down and get ready for the winter weather. Roses growing too fast too late in the year are more prone to winter injury than those that are growing slowly. Be sure to 'dead head' your roses frequently until October, to help keep your plants blooming. Do not remove any blossoms starting in October so the plant knows its time to get ready for winter.



Roses are thirsty plants. Although roses will survive with skimpy watering, they'll bloom their best when their roots are kept moist during the growing season, especially during their blooming season. Do not sprinkle roses. If water gets on the blossoms, the flowers will fade and fall off sooner than if they are left dry. Water on the blossoms also reduces the fragrance the roses produce. Roses do not like to compete for fertilizer or water with weeds, groundcovers, grass, or other perennial flowers. Keep your rose gardens open and free of unwanted weeds and plants.

Summer Lawn Care

The worst time of the entire year to fertilize your lawn is from July 4 through August 30. Do not fertilize during the heat of the summer unless you absolutely have to. Try to let the lawn slow down during the heat of summer.



If you must fertilize during the extreme heat use **Milorganite** or **Pax Iron Plus**. Both of these fertilizers are slow, non-burning fertilizers. **Humate (Garden Soil Activator)** is also a great lawn food supplement that can be applied any time of year. It is not a fertilizer but it will help strengthen the lawn during the summer weather. It will also help prevent some of the lawn diseases that might otherwise start to develop.

The best time to fertilize the lawn is when it cools

down in late-August or September. Fall fertilizer will keep the lawn green in the fall and help the lawn green up quickly in the spring. We suggest **J&L 21-7-7 Lawn Food** or **J&L Fall & Winter Fertilizer** applied in September or October.

Weed & Feed is *not good to apply during hot weather*. Wait until the temperature will stay below 85. **Always spot treat weeds if they must be controlled during the summer. Do not treat the entire lawn. Spot spray for weeds in the late evening for the safest time of application.**

Spurge & Oxalis. Spray these weeds now with a spot treatment. Treat the whole lawn when the temperature will stay below 85. Mix spreader sticker with the weed killer to help the weeds absorb the chemical faster. Apply **Fertilome Weedout Plus** (this product will also kill young crabgrass plants) or **Bonide Weadbeater**. You will need to spray Oxalis two or three times this summer and again in the fall. You will also need to spray again next spring because Oxalis doesn't die in the winter like many other weeds do. Apply crabgrass control next spring, in May, to help prevent these two weeds.

Clover & Morning Glory. September and October are excellent times to control these weeds because the night gets cold and the day is still warm. Wait until after the first frost for best results. These weeds will die much quicker after a light frost because they start sending energy to their root system to store for winter. Use **Bonide Weadbeater** in the lawn and **Roundup** in the gardens. Roundup is stronger but it will also kill the lawn.

Crabgrass, Water grass, Barnyard grass are annual grasses with very shallow roots that will die this winter if you do not kill them now. Spray all annual grasses with **Fertilome Crabgrass Killer**, or with **Fertilome Weedout Plus** in July or August. This spray should not be sprayed throughout the entire lawn, just spot treat the patches of weeds. Crabgrass spray kills the young plants that have not started to produce seeds yet. It does not kill the old, big, plants that have started producing seeds. For best results, pull out the old plants before spraying the young plants. These crabgrass sprays may or may not be able to control all your annual grasses completely because of timing. Be sure to apply a crabgrass preventer next spring to help prevent these grasses from starting to grow next summer.



No weed killer should be used when the temperature will get above 85 degrees in the next 24 hours. When it is above 85 degrees many weed killer will volatilize (evaporate) and drift onto other plants nearby. The chemical may volatilize before the weed can absorb it so the intended plant will not die but nearby plants may be adversely affected.

Lawn Mowing Tips:

Mow your lawn when it is dry; not wet. Wet grass

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tends to plug up your lawn mower. Besides the extra mess, mowing while the lawn is wet can create a compaction problem. Wet thatch and soil is easily compacted by your weight and by the weight of the lawn mower.



Mow in the cool part of the day. Besides helping to keep you cool, your lawn will recover quicker after being mowed if the soil is cool.

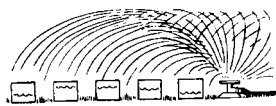
Mow regularly. Don't wait until your lawn looks like an alfalfa field to mow it. Letting the lawn grow to an excessive height and then removing most of the plant creates excessive stress within the plant and root system.

Mow grass at a longer height in the heat of summer. Mow your lawn about 1.5" during the spring and fall. Mow your lawn to about 2" or even 2.5" long during the heat of summer. Long grass provides extra shade for the roots system and it helps prevent as much water from evaporating.

Keep your mower sharp. A dull blade tends to whip the grass rather than cutting it. A dull brown tinge will appear a few days after mowing if the blade was not sharp.

Lawn Watering Tips

Water during the cool part of the day; either morning or evening. The lawn cannot use as much water efficiently during the hot weather, and water evaporates much quicker during the heat of day. Do not water between 8 am and 6 pm because of water restrictions: you might even get a ticket!



Water infrequently. Do not water your lawn every day, even during the heat of summer. Change how often you water as the temperature changes. You may only need to water once a week in April. You may need to water twice a week in May. You may need to water three times a week in June and July. You may only need to water twice a week in August and September. You may only need to water once a week in October. Watch the weather and change your watering schedule accordingly.

Water deeply. Grass roots do not seek for water, they will just grow in the areas that already have water available. Water long enough so water can penetrate 4" or 5" deep into the soil. If the water is just running off the lawn and down the gutter, or into your neighbor's yard, the extra watering time is not benefiting your lawn. You may need to aerate more frequently or water your lawn differently. Try watering half as long but two times on the day you normally water **but do not water every day.** Once the water starts to run off instead of penetrating into the soil, stop watering. Wait for two or three hours and then apply the rest of the needed water, so the water can be absorbed.

How Much Water? A typical lawn needs about 1/2" of water each time you water. Place several tuna fish cans or pie tins throughout your lawn. When you have about 1/2" of water in the container you have watered long enough. You may have to water 10 minutes in the front yard and

30 minutes in the back yard. Don't be too surprised if each zone in your sprinkler system needs a different amount of time to apply the 1/2" of water.

Thatch Problems?

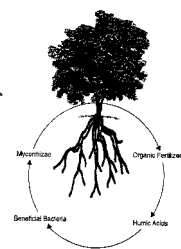


Thatch is the organic layer between the soil line and the green blades of grass. Thatch naturally occurs in your lawn due to dead grass and from grass clippings. A small layer of thatch is beneficial. An extreme thatch buildup is detrimental and can cause several different problems including a breeding ground for insects and an excellent harbor for lawn diseases. Too much thatch can also repel water and stop your lawn from growing normally. Measure the layer of thatch in your lawn. If the layer is less than 1/4" thick your lawn is healthy. If the layer is 1/4" to 1/2" thick you need to watch your lawn closely. If the thatch layer is more than 1/2" thick you need to remove some of the thatch.

Traditionally, power raking the lawn has been the way to remove excess thatch. However, the **Natural Guard Company** has packaged an organic product called **Lawn & Garden Soil Activator** which helps remove thatch naturally. This product contains humic acid. Humic acid not only helps remove excessive thatch naturally but it also provides many microorganisms that helps the lawn to grow better and helps to improve the soil structure. Humic acid is an important part of the soil structure that you can apply any time of the year; spring, summer, or fall. Humic acid can also be used in flower and vegetable gardens to help improve the health of the soil. Please stop by and ask for a copy of the fact sheet about this product.

What is Humic Acid?

Humic Acid comes from the highly compressed and biodegraded remains of ancient plants and animals. Over millions of years, plant and animal remains were converted into complex organic molecules and minerals. When this material is applied to soils, it helps the soil to promote better plant growth and productivity - naturally. Humic acid helps chelate and improve the effects of many fertilizers. Humic acid also helps the soil retain the nutrients, which provides a 'timed released' fertilizer, helping to make plants healthier. Healthy plants are often less susceptible to insect and disease problems, a beneficial side effect.



Besides enhancing the capacity to hold and exchange mineral nutrients with plant roots, humic acid also promotes greater absorption and utilization of nutrients applied to foliage. Humic acid is totally organic and high in carbon. Humic acid can buffer chemicals or fertilizers, preventing phytotoxicity or 'burning'.

Good soil fertility is not the result of just adding chemical nutrients and organic materials to the soil. Instead, good soil fertility is the result of the correct combination of

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nutrients, organic matter, microbial activity, and other 'critters' living in the soil. Soil scientists report that good soil is alive, truly and literally alive. What's more, they contend that no amount of 'plant food' will give the equivalent results of a fertile soil, without giving attention to the humus-forming and plant-supporting microbes. In essence, many experts are saying that "the plant eats what the microbes give it."

The Humic Acid in **Natural Guard's Garden Soil and Lawn Activator** can help restore your soil to a living system of energetic biological activity and help maintain your soil's natural cycle. Use this product in addition to your normal fertilizer, not in place of it.

Grubs, Webworms, Billbugs

White grubs, sod webworms, and billbugs are three (or more) separate insects that invade the lawn. Confusion exists because they are all commonly called grubworms. Although the control is often the same for all three of these insects the time of application can be very different.

Sod webworms are the larvae of a small moth. The larvae are actually caterpillars and they feed on the leaf blades of the lawn. These caterpillars are fairly large and have a greenish appearance; they are easy to find. These pests are active in May and June so spring treatment is necessary. They occasionally re-appear in August, which means a summer treatment may be necessary as well.

Billbugs are the larvae of a small black beetle. This beetle has a long elephant-like snout. The larvae of the billbug are very small (1/8" or smaller) and are usually just below the soil line. They resemble a small white pebble except that they have a brownish head. These larvae are actively growing during the hot summer weather. They feed on the grass roots just below the surface. Treat for billbug problems mid-Summer (July).

White grubs are the larvae of various beetles. They are usually large and are easy to find. They feed on the roots of the lawn. They are active at different times of the summer, depending on that particular beetle species.

Lawn insect problems can vary from year to year. The only problem we seem to have every year is the billbug problem. Sod webworms and white grubs are not a regular problem but they must be controlled when they do become a problem. Several chemicals are labeled for use to control these lawn insects. **Eight Lawn Insect Granules** are very effective in controlling most lawn insects. This product contains **Delta-methryn**, a synthetic pyrethrum. **Dylox Granules** are also excellent for grub control. Dylox kills grubs quickly and effectively. **Merit Granules** are another chemical that effectively prevents lawn grubs. Merit is sold as **Bayer Season Long Grub Control**. It controls lawn grubs as they hatch and the product lasts for two or three months - all season. Merit does not kill the living, existing grubs - it only prevents them. Choose the chemi-



cal that is best for your lawn's needs and be sure to apply it at the proper time.

Sucker-Stopper

Sucker-Stopper is a hormone made from the plant growth regulator NAA (naphthalene-acetate). This product is widely used in commercial agriculture to prevent suckers and as a thinning agent on fruit trees.

Sucker-Stopper can be used to prevent suckers and water sprouts on apples, pears, willows, maples, and woody ornamental plants. Unfortunately, the quaking aspen is not specifically listed on the label, but, the label does indicate it is effective on many '*woody ornamental trees*' and shrubs. It is worth a try to control the aspen suckers in certain areas of the yard; just don't expect this product to stop all your aspen suckers throughout the yard!

Many trees produce suckers every spring. Even though you cut them back, the suckers continue to grow all summer long. After pruning, many trees will also send out suckers around the pruning wound. Apply **Sucker-Stopper** right after pruning to help prevent sucker formation. Thoroughly cover the primary cut and where any existing suckers have been removed. Be sure to treat the area before new suckers are three to five inches in length. The earlier you treat, the better this product works. Control should last about 3 months.

Chemical Recommendations

Sevin Insect Spray is a common insecticide that has been around for years. It is a great pesticide for grasshoppers and other chewing insects. It has an excellent label for vegetable gardens. It is not a good product for controlling flying insects or for plants that have a spidermite problem. It's main drawback is that it is harmful to honey bees because it does not kill insects quickly. The honey bees don't always die before they get back to the hive and then the poison can spread to other bees.



Eight Insect Spray contains permethrin, an organic insecticide. The manufacturer used the name Eight to try to indicate that it is an improvement over Sevin. **Eight Insect Control** is labeled for use on fruit trees and vegetables, along with many other flowers, ornamental trees, and shrubs. This product kills insects quickly and may last up to four weeks for certain types of insects; it has even provided excellent control of boxelder bugs. **Eight Insect Control** is also available in a granular form for use on lawn insects.



Neem Oil is another option for an organic way to control many insects and diseases. The **Greenlight Company** packages this product as **Rose Defense, Powdery Mildew Control**, and **Fruit and Vegetable Insect Control**. We have heard mixed reports of the effectiveness of Neem Oil. Some say it works great and others have not had much success, but it does seem to be worth a try to

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use this product. Neem oil is an insecticide, a miticide, and a fungicide - all in one. The best news is that it is nontoxic to mammals and birds. It's biggest drawback is that it is an oil. Oil can burn plants during hot weather so you need to be careful using this product during the summer.

Malathion is still available for use in a wide variety of uses. It is excellent to control mosquitoes and other flying insects. It kills insects quickly and does not have a very long residual, making it a relatively safe product to use on fruit trees and in vegetable gardens. This is the product that we recommend as a replacement product for Diazinon.

BT (*Bacillus thuringiensis*) is a naturally occurring bacterial disease of some insects. **BT** will not kill mammals, fish, and it will not even kill all insects; only certain insects are susceptible to this product. This product is sold as **Thuricide** in the liquid form and as **Dipel** in the dust form. **BT** controls many caterpillars that love your plants, including: Cabbage Looper, Tobacco Budworm, and Tomato Hornworm. Do not use **BT** in your Butterfly Garden or if you are trying to attract butterflies. **BT** doesn't know the difference between a wanted butterfly caterpillar and an unwanted caterpillar pest.

Insecticidal Soap will kill many soft bodied insects without harming plants (unless you mix it too strong or use the wrong type of soap). Soap does not always kill the hard bodied insects or many of the large insects.

Plain Water will dislodge and drown many insects and is often very effective in controlling spidermites. Be sure to spray the undersides of leaves where aphids and spidermites hangout.

Don't try to kill every bug in your garden. If you can live with a few holy leaves, or, if a few curled leaves do not bother you, your chemical bill will decrease and your garden will still survive.

Organic Pesticides

True or False? Any pesticide that is organic is completely safe to use. An old garden myth is that all organic insecticides are toxic to insects and harmless to human beings. Nothing could be further from the truth. Pyrethrum and rotenone, although low in toxicity to mammals, are still toxic to humans if swallowed or inhaled. They are both highly toxic to fish. Both Malathion and Sevin (chemical pesticides) are much safer to use than Nicotine (organic pesticide).

Some of the organic insecticides that are beneficial if used properly are pyrethrum, rotenone, and deltamethrin. Other non-toxic organic insecticides are Hot Pepper Wax (this product also repels many rodents and animals), Insecticidal Soap, Neem Oil, Dormant Oil, Diatomaceous Earth, Boric Acid, and BT (*Bacillus thuringiensis*). These insecticides will not control all insect problems but they can help control some of them.

Other organic methods to control pests are: **Fly Pa-**

per, Indoor Fly Traps, Hornet & Wasp Traps, Snail Traps, Pantry Pest Traps, Roach Traps, and Spider Traps.

When it comes to garden chemicals, if a little is good, is a lot is better?

This is not only false but it is also dangerous. Doubling or tripling the dose of any garden product can have disastrous results. Weed killers may injure plants that would otherwise be unharmed. Insecticides may kill beneficial insects, harm plants, and leave unwanted residues in the plants and soil. Too much fertilizers will burn plants, cause excessive unwanted growth, and may contaminate the groundwater. Doubling recommended pesticide dosages will also increase your chance of poisoning yourself.

Tomato, Pepper, Squash Care

Blossom end Rot is a common problem we will start seeing in the next little while. This is a physical problem not a disease or insect problem. A black or brown spot appears on the blossom end of the **tomato, pepper, cucumber, squash** etc. This spot is caused by stress in the plant. (Too dry, too wet, too hot, etc.) The best control is to prevent stress. Water consistently to keep plants from getting too wet or too dry. Mulch the garden with bark or grass clippings to keep the moisture constant and keep the soil a little more cool. The tomatoes are still good to eat if you just cut off the bad end.



Fruit not setting on tomatoes and squash. If the night time temperature stays too warm, fruit will not set well. **Tomato set** is a spray that can be applied to the blossoms of many plants to help set fruit. You can also use a cotton swab to transfer pollen from blossom to blossom, much like a bee would do.

Stay Alert!

Be Careful, all insecticides (chemical or organic) are poisons and many organic insecticides will kill animals and people just as quickly as the other types of chemical insecticides. Be sure to wear gloves, use proper eye protection, and wear a mask or respirator when needed. Don't use a dust mask in place of a respirator. The paper dust mask will absorb chemicals and you will still breathe them, sometimes at even a stronger concentration than without a mask.

Good Gardeners never forget that pesticides can be dangerous for people as well as animals, fish and untargeted insects. Be sure to select garden chemicals carefully, apply them sparingly, and always read the instructions before using them.

How Much Mulch?

Many people wonder how much bark they need to buy to cover their flower or shrub gardens. Fill in the blanks

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of this form and you can decide how much mulch you need.

Example: Your garden is 3 feet wide and 60 feet long. You want to put 2 inches of bark over your garden.

$3 \times 60 \times 2 \div 12 = 30$ (cubic feet) $\div 27 = 1.1$ (cubic yards)

A bag of bark is 3 cubic feet so you need either 10 bags of bark or 1 yard of bulk bark to cover this area.

Bumper Crop is a natural fortified soil amendment that is excellent for both vegetable and flower gardens. It is pH balanced and contains long-lasting organic nutrients. This product contains Chicken Manure, Bat Guano, Worm Castings, Kelp Meal, Composted Bark products and Mycorrhizae, a beneficial bacteria. It will not burn any plants - new or old. It helps break up clay soil and helps increase the water holding capacity of sandy soils. It is also an excellent mulch to mix in soil when planting new shrubs. You can add this mulch spring, summer, or fall.

Black Forest Compost is great for mulching gardens, covering lawn seed, and for planting trees and shrubs. This product contains Chicken Manure, Bat Guano, Bark products, and is pH balanced so it will not burn any plants - new or old. Its long lasting ingredients help break up clay soil and improve drainage in compacted soils. It also helps increase the water holding capacity of sandy soils. It contains many of the same ingredients as Bumper Crop but it is a black compost instead of a brown compost. If you want to help darken your soil this is the right product to use.

Lawn Diseases

Fairy rings may appear in a variety of ways in lawns. The most common is large rings of dark-green, tall grass. Mushrooms often appear within these rings. Another common symptom of a fairy ring is an arc of dead, brown grass.

Fairy ring fungi do not attack grass directly, they usually just break down organic matter in the soil. As a result of this process, nitrogen is released that the grass is able to use, forming the dark-green ring. If the fairy ring fungi become very dense, they prevent water from penetrating into the soil. The grass dies of dehydration - the actual cause of the dead grass in the arc. However, fairy ring fungi can also deplete the soil of some nutrients and can produce toxic levels of hydrogen cyanide which can also kill your lawn. The mushrooms that you see within the fairy ring are the fruiting structures of the fairy ring fungi, they are not the actual problem. Remove the mushrooms to prevent children from eating them.

Steps to Determine Mulch or Soil Needs

Measure the area you want to cover (in Feet) and determine how deep you want to add mulch or soil (in inches).
(2" deep, 4" deep, etc.) = Depth

$$\begin{aligned} &L(\text{length}) (\text{feet}) && D = \text{Depth (inches)} \\ &W(\text{width}) (\text{feet}) && \text{of Mulch or Soil} \\ &L \times W \times D = \text{volume} \\ &(\text{--- ft}) \times (\text{--- ft}) \times (\text{--- in}) \div (12 \text{ inches}) \\ &= \text{Cubic Feet} = 27 \text{ cubic feet} = \text{Cubic Yards} \end{aligned}$$

$$\begin{aligned} &R(\text{radius}) (\text{feet}) && D = \text{Depth (inches)} \\ &&& \text{of Mulch or Soil} \\ &3.1417 \times R \times R \times D = \text{volume} \\ &3.1417 \times (\text{--- ft}) \times (\text{--- ft}) \times (\text{--- in}) \div (12 \text{ inches}) \\ &= \text{Cubic Feet} = 27 \text{ cubic feet} = \text{Cubic Yards} \end{aligned}$$

$$\begin{aligned} &L(\text{length}) (\text{feet}) && D = \text{Depth (inches)} \\ &W(\text{width}) (\text{feet}) && \text{of Mulch or Soil} \\ &L \times (W-2) \times D = \text{volume} \\ &(\text{--- ft}) \times (\text{--- ft} - 2) \times (\text{--- in}) \div (12 \text{ inches}) \\ &= \text{Cubic Feet} = 27 \text{ cubic feet} = \text{Cubic Yards} \end{aligned}$$

Fill in the blanks and calculate the amount of soil or mulch you need to buy.

Fairy rings may appear in one spot in the yard and not another because of unknown sources of organic materials buried in the soil such as a rotting stump or root, a buried log, or even buried lumber. Once this organic material decomposes, the fairy rings will often disappear on their own. However the decomposition process can take many years to complete.

Unfortunately there is not an easy control for fairy ring but you can help manage the problem, to at least lessen the visual effects. Do not fertilize as heavily, but fertilize more frequently so all the grass will grow at the same rate. Aerate occasionally and deep-water the rings often to help water penetrate into the fairy ring. You may also try putting humic acid down the holes you make. Humic acid may help to eliminate the fairy ring fungi.

The only sure control for fairy ring is to dig up the entire ring, find the organic food source, and remove as much of the fairy ring fungi as you can. Sound easy? Not so! The fairy ring fungi are usually 18" to 24" deep in the soil.

Chemical controls include making holes a foot apart all the way through the ring about 12" to 18" deep and filling the holes with a dish soap solution. After letting the dish soap soak for an hour or two, fill the holes with a solution of water mixed with either **Consan** or **Fungaway**. These fungicides may provide some limited control of the fairy ring fungi. Chemical controls may need to be reapplied two or three times each summer for two or three years.

Fusarium Do not mistake Fusarium with Fairy ring. Fairy ring does not always kill the grass - Fairy ring usually makes a dark green circle with little toadstools that appear during the summer. Fusarium actually kills the grass.



This disease causes dead half-circles or entire circles in the lawn. Check just below the soil line for a white powder in the soil. If you find this white powder in the dead area then aerate the spot and saturate the area with liquid dish soap and water. Mix 5 to 10 tablespoons per gallon of water. After treating with the dish soap, apply a lawn fungicide such as **Fungaway**, **Fungonil**, or **Fertilome Systemic Fungicide**. Repeat the procedure again in 3 to 4 weeks and possibly a third time a month later.

Melting Out This disease makes the lawn look like it has billbug damage or is dying from the lack of water. This disease causes yellow, brown, or purple lesions on the blades of grass. All lawns have some of these lesions but if there are a lot of these lesions then the disease is active and it is killing the lawn. Spray the infected area (plus a big area around the infected area) with a fungicide such as **Fungaway**, **Fertilome Systemic Fungicide**, or one of the other lawn fungicides. Repeat every 3 to 5 weeks for two or three applications. Lightly rake and reseed the area this fall with Magic Carpet Grass seed to help the

area recover and look better more quickly.

Take All Patch This disease kills your lawn and nothing is very successful in controlling it. The only sure treatment for this disease is to plant a grass that is resistant to it. There are a few varieties of kentucky bluegrass that are resistant to it but it is hard to find them. Hard fescue and perennial ryegrass seem to be the best grass varieties to plant if you get this disease started in your yard. This is a disease that is hard to diagnose because its symptoms are very similar to melting out. Unfortunately the fungicides that control melting out do not work on this disease. The only sure chemical treatment is to hire a professional to spray it with **Rubigan**. Don't try to apply this product yourself even though you can buy this chemical for about \$300.00. **Fung Away** and **F-Stop Lawn Fungicide (Eagle)** are labeled to control this disease but they may not be extremely effective. *I do not know how to distinguish this disease from melting out other than the chemicals just don't work.* The professionals at the Ferta Lawn company (and other lawn care companies) are more up to date on diagnosing and controlling this particular disease than we are.



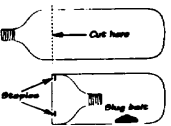
A Common Lawn Disease Mistake

A very common lawn problem during the summer is the lack of water when the weather gets hot. Once a lawn dries out it takes about 3 to 4 weeks to look good again. Many people mistakenly blame a lawn disease or a grub for the problem. If it's dry, it does not do any good to give the lawn extra water, it just needs extra time to recover. Fertilize the lawn as soon as the weather cools down this fall to help it recover more quickly.

Slug and Snail Controls

Slugs and snails are always a problem in both flower and vegetable gardens. There is no simple or easy way to control these pests. Diligence is perhaps the only way to win the battle against these critters. There are many different ways to try. See which of these methods work best for you.

1. Snail traps. You can either buy a snail trap or make a snail trap out of a pop bottle and use something sweet smelling, or snail bait, to attract them. The snails are lured into the trap and then they can't get out. Your trap may need to be emptied every few days if you have a lot of snails.



2. Snail bait. Remember, most slug and snail baits do not kill or poison them. Most slug and snail baits only paralyze them so the sun can kill them - by dehydrating them. Be sure to remove the 'dead' snails before they have a chance to crawl away. Periodically, you may want to change the brand of slug and snail bait you use. Some snails may not be attracted to some baits but may love

another brand. Try using **Corry's Snail Bait** for a while and then switch to a liquid bait called **Deadline**. Both of these products are effective for slugs and snails when used regularly. In large groundcover areas you may have better results spraying **Lilly Miller Slug n Snail Spray** over the entire area instead of trying to spread out the bait.



3. Diatomaceous earth. This sharp sand dehydrates snails, and many other insect pests, as they crawl through it. Diatomaceous earth is a very safe way to control snails. Dust the ground and the plants affected by these pests. Reapply diatomaceous earth regularly, especially after watering.

4. Slug & Snail Barrier Tape. This copper strip prevents slugs and snails from crossing it. Have you ever put aluminum foil in your mouth and been shocked? This copper barrier strip does the same thing to snails. It produces an electrical charge as the snail crosses it. Snails will stay away.

5. Cocoa Mulch is the hulls of cocoa beans. This product is washed to remove theobromine (a chocolate product that can make dogs sick) so it is completely harmless to pets. Once applied to gardens, Cocoa Mulch releases a natural gum product which binds the shells into a porous mat that holds moisture in the soil, suppresses weed growth, and naturally deters slugs and snails. It should not be used in areas where it will stay wet all the time. If it is kept wet, it will decompose quickly and create an unsightly mold during the decomposition process. It does not decompose as quickly in hot and dry areas but snails do not like the hot areas either. Try this as a natural way to repel snails.



6. Plant a few flowers slugs and snails don't like. If a slug or snail is hungry enough it will eat anything but there are a few flowers they are not particularly fond of.

Ageratum	Alyssum	Begonia	Cosmos
Geranium	Lobelia	Nasturtium	Nemesia
Portulaca	Verbena	Zinnia	Columbine
Arabis	Armeria	Astilbe	Aubretia
Campanula	Geum	Day Lily	Candytuft
Lupine	Peonies	Sedum	Thyme

Fertilizer Misconceptions

I am afraid TV advertising has confused many people regarding the use of fertilizers. TV advertising suggests using **Miracle Gro** (or any other brand of soluble fertilizer) exclusively for all of the fertilizer your plants need during the summer. This suggestion is true but what they don't tell you is that you have to fertilize every two weeks, all summer, with **Miracle Gro** (or the other brands) to keep your plants growing the way they should. I don't know about you, but I usually forget to fertilize that often.



In my opinion, the best way to fertilize vegetables and flowers is to mix **16-16-8 Multi-Purpose Fertilizer** in

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the soil before you plant your gardens. Re-apply **16-16-8 Multi-Purpose Fertilizer** again in two months. In addition, you can spray your plants with **Miracle Gro** fertilizer once or twice a month, to give your flowers a little extra boost. Use **Miracle Gro Fertilizer** as a supplement - not as the only source of fertilizer in your gardens.

If you have flowers that will not bloom properly, or if you want to make them bloom a little better for a special occasion, spray them with either **Schultz Bloom Plus Fertilizer** or with **Miracle Gro Bloom Booster Fertilizer** at least two weeks before that special date. This type of fertilizer promotes bigger and better blossoms, and helps produce more of them. Both of these fertilizers are fast acting, but they still need to be applied soon enough for the plants to utilize the fertilizer, at least ten to fourteen days.

Are Bugs Important?

Mother Nature is a very smart lady. Over the years she has taught the insect kingdom how to get along with each other and how to treat their surrounding environment, the plants.

Insects provide us with many benefits. Honeybees provide us with honey. Leaf cutter bees pollinate more flowers, fruit trees, and plants than honeybees. Ants help spread seeds and aerate the soil so plants can grow and spread faster. Millipedes and Dung beetles help decom-



pose plant and animal waste and turn it into fertilizer for plants. Dragonflies eat mosquitoes. Praying Mantids love to eat grasshoppers and other small insects for lunch. Lady bugs help keep the aphid population under control. Decollate snails hunt and eat the larger garden snails. Spiders keep many unwanted insect pests under control while causing relatively little threat or damage to animals and humans. These insects are just a few of the beneficial insects that mother nature has provided to help us gardeners. **Yes, Bugs are important.**

If we just kill all bugs indiscriminately we can upset the natural balance that mother nature has provided and can cause more work for ourselves. Target the harmful insects and try to leave the less harmless bugs alone. Learn to enjoy a few spider webs in and among your plants. A few holes in leaves might be unsightly, but if the plant is healthy, you may enjoy the holes knowing the butterfly you saw a few minutes ago was the culprit. Learn to eat around the worm holes in a few apples. Boil your broccoli and skim the little worms off the top of the water before you eat it.

Other benefits insects provide are not as noticeable. For example, milk weed is a poisonous weed that is kept from spreading and becoming a noxious weed by the Monarch Butterfly larvae. In return, milkweed provides the



food necessary for the butterfly larvae to grow and mature. In addition, the milky sap that protects milkweed from other insects also provides the monarch butterflies protection from its predators.

Plants also fight back against insects. You have probably seen tomato, potato, and alfalfa leaves with a lot of small holes in them instead of the leaf being completely eaten. **Do you know why?** When an insect starts chewing on the leaves of these plants, the leaf releases an enzyme which inhibits the insect's digestive system from working properly. When that happens the insect moves to a different leaf. Another tactic is employed by oak trees to protect themselves from complete annihilation. After gypsy moths defoliate an oak tree, the tree produces a new set of leaves that are much more rich in tannins, which inhibits gypsy moths from eating these new leaves. The oak tree lets the insects have one set of leaves but the tree will not let them have another set of leaves the same year. The oak tree needs its leaves to survive.

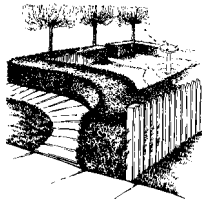
Some willow trees are even more protective than oak trees. Trees that are infested with caterpillars respond by making their leaves less nutritious. They also emit a chemical into the air that signals other trees nearby to make their leaves unpalatable before the insects actually arrive.

Some species in the mustard family contain chemicals that are so repugnant that most insects will not eat them, even if they have to starve to death. However, other insects including some beetles, butterflies, and moths will not eat any other types of plants than those from that same mustard family. **Yes, Bugs are Important!**

Poisonous Plants?

There is no set manner by which plants poison people or animals. Most plants must be ingested to become toxic, while others can just be touched to cause a skin reaction. Toxicity often depends on the part of the plant eaten, or the amount of the plant ingested. For example, the leaves of a cherry tree are 'moderately toxic' but the fruit is 'non-toxic'. The leaves of rhubarb are 'very toxic' but the stems are 'non toxic'. All parts of the sunflower plants are on the 'slightly toxic' plant list. If you eat too many sunflower seeds you will have a toxic reaction (you may get sick). Since sunflowers are a large part of our snack food diet many people are surprised. Sunflower seeds are a good example of the amount of a plant needed to be ingested to cause a toxic reaction. Did you know that the shells from sunflower seeds dropping from a bird feeder may kill the grass below?

Just because a plant produces a poisonous berry or leaf should not automatically exclude it from being used in your home landscape. Most plants are perfectly safe for children. However, there are many plants that contain poisonous substances that warrant precaution. Adults should learn their landscapes and distinguish those plants



that are potentially dangerous. A plant dangerous to one family (or family member) may not be dangerous to another, depending on the age of the person and the location of the poisonous part. For example, the poisonous berries of 'Lily of the Valley' are more hazardous to a small toddler than to a ten-year-old because the berries are at ground level where the toddler may see them.

The best way to protect small children from plant poisoning is to teach them not to pick or eat any plant parts without adult supervision: until they are old enough to be positive that the plant is safe to eat. Teach your children that just because an animal eats a particular plant or berry it does not mean that a human can eat the same plant or berry.

Common Toxic Plants

Yew (berries)	Sunflower (all parts if eaten in excess)
Privet (berries)	Cherry Trees (leaves)
Castor Bean (seeds)	Rhubarb (leaves)
Burning Bush (berries)	Rhododendron (leaves)
Chokecherry (bark-leaves)	Poison Ivy (all parts)
Black Locust (seeds)	Apple (seeds if eaten in excess)
Lily Of Valley (seeds)	Eggplant (all but the fruit)

Stop by to pick up a list of other common plants that could be poisonous. You will be surprised at some of the plants on the list!

Stuck with a stump?

Cut the stump as close to the ground as possible. Drill holes in it with an electric drill and push the bit in as deep as it will go. You can use any size or type of bit: the bigger the better. Or, if you don't want to drill, make cuts into the stump's surface with an axe or saw; rough up the stump. After preparing the stump, you can speed up the decomposition in one of two ways.



1. Mix soil with compost made from tree leaves. Leaf compost usually contains microscopic wood-digesting organisms that don't normally live in regular garden soil. Add a cup or two of blood meal. The blood meal (nitrogen), feeds the micro-organisms and will also help break down the stump. Cover the entire stump with the soil mix, working it into the holes. Depending on the hardness of the wood and the size of the stump, it should rot away in a year or two, or three, or four!

2. Dissolve **Hi-Yield Stump Remover** in a bucket of hot water. Fill the holes with the stump remover. This stump remover chemically burns the stump and provides nitrogen to feed micro-organisms. The micro-organisms are able to enter the wood and decompose the stump more quickly. Depending on the hardness of the wood and the size of the stump, it should rot away in a year or two, or three, or four!



The only quick way to get rid of a stump is to physically dig it out and remove it. However, if the stump is in a good spot, you might want to use it as a garden fea-

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ture. Hollow stumps make good rustic planters. Carve out the center of the stump and fill the cavity with soil. Plant it with some of your favorite annual flowers. The soil inside the stump will also help the stump decay faster.

Or, instead of cutting it down to the ground, turn the stump into a garden pedestal. A stump makes a great base for a sundial, birdbath or other garden ornament. Depending on the height and girth, you could even use it as a garden bench.

Slime Flux Disease

Many willow and poplar trees are susceptible to a disease known as slime flux. This disease causes sap to ooze from a wound in the trunk. The sap ferments quickly, it usually has an unpleasant odor and it attracts many insects. Slime flux is often fatal, especially if it is left untreated for several months. The best treatment for slime flux is to cut away all the damaged bark and wash the trunk with a disinfectant, such as a mixture of clorox and water. Stop by for a more detailed information sheet about this tree problem.

Burning Bush - *Euonymus alatus*

Burning bush (*euonymus alatus*) has one of the most spectacular fall leaves. It has almost fluorescent-red leaves. It also has an interesting branching habit and an unusual cork-like bark that makes an excellent addition to indoor flower arrangements.

Some gardeners have had a hard time making their burning bush **'BURN'**. Occasionally burning bush are not as spectacular as they should be because of many different stress factors.

Many burning bush either die during the summer or look very sick by fall. This problem can be caused by a disease that specifically attacks euonymus, or it can be caused by extremely hot, dry conditions. Unfortunately you cannot control this disease during the summer, you have to spray in the late-fall and early-spring to prevent euonymus blight from getting worse. The best control during the summer is to keep your plants as healthy as possible during the hot weather. Fertilize them regularly with **Blooming and Rooting Fertilizer** and make sure they are kept moist. Your goal is to try to keep them growing as much as possible until you can spray for this disease later in the fall. Spray with **Copper fungicide** as soon as the leaves drop off this fall to prevent it from spreading.



Garden Myths

Myths abound in the lore of gardening, clouding issues and veiling the truth. The following are some common gardening myths.

Myth - *Nightcrawlers are bad for your lawn.*

Although nightcrawlers may leave you with a bumpy lawn their benefits outweigh their disadvantages. The lack of nightcrawlers in a yard is a sign of trouble.

Nightcrawlers are a sign that your soil is at least somewhat healthy. Nightcrawlers migrate to moist areas with plenty of organic matter. If your lawn is the main source of night crawlers in your yard it may mean that you are keeping the lawn too wet; try letting your lawn dry out a little to see if they will migrate to another area of the yard. Nightcrawler mounds may also be a sign of poor soil structure or excessive compaction. Try aerating your lawn several times over the next year or two to loosen the soil.

Pruning Spiraea and Potentilla

One of the best things you can do for many of your flowering shrubs is to prune them properly. Don't be afraid of pruning these types of plants severely in the spring and pruning them lightly all summer long. One of the best ways to keep potentilla bushes, dwarf spiraea shrubs, barberry plants, dwarf weigela, and many other small shrubs stay short is to prune them to about 6" to 18" tall just before they start to grow in the spring. By pruning them severely you will keep them smaller than normal but they will look more natural (and look like they are newly planted) during the summer. Trim them occasionally during the summer to remove spent flowers and many of your flowering shrubs will bloom again later in the summer.

Some of the taller growing shrubs also respond well to severely pruning, just don't prune them as short. Prune the taller shrubs to about 3' to 4' tall just before they start to grow in the spring. Cistena plum, dogwood, tall weigela, and the taller spiraeas all respond well to severe spring pruning. Wait to prune the early blooming plants, such as forsythia, quince and flowering almond, until after they finish blooming. **Do not prune lilacs this severely or they will not bloom properly.**

Making Sense of Botanical Names

Botanical names are also know as scientific names, or Latin names. Latin was chosen as the official language because it is not used anywhere in the world, which prevents words, meanings, names, and terms from being changed. You have noticed that words, meanings, names and terms in English used 100 years ago do not always mean the same today.

All plants are identified in a binomial system (*bi*- meaning two, *nom*- meaning name) **Two-Names**. The botanical name of a specific plant is the same in France, England, or South Africa. Even if you do not speak a foreign language you can call a plant by its botanical name and the person will know what plant you are talking about.

Plants are know by their *genus* (gen erically) and *species* (speci fically). Your own name is also patterned after this classification. Generically (Smith, Jones, Brown, Etc.) and specifically (Gary, Brenda, Brian, etc.) Peppermint is called *Mentha* (it belongs to the mint family) *piperrata* (means it is peppermint, not spearmint).

What happens when several people are given the same

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name? Margaret, for example. We often give nicknames to identify which Margaret we are referring to; Margie, Maggie, Meg, Peggy, etc. The same with plants, they are often given many different common names but need a *variety* name to know which one you are referring to.

Plants that only differ slightly with each other are given a variety name. The curly leaf peppermint is called *Mentha piperata var. undulata*.

A hybrid (a plant that was cultivated by humans and does not reproduce itself in nature) is given a cultivar name (Cultivated Variety). For example an apple tree is *Malus pumila*. A Red Delicious apple tree is *Malus pumila 'Red Delicious'* and a Jonathon apple is *Malus pumila 'Jonathon'*.

Many plants have the same common name. If we didn't use botanical names we wouldn't know which plant the person was referring to. Example, Black Eyed Susan. This plant name could either mean a vining annual flower *Thunbergia species* or a very striking perennial daisy flower *Rudbeckia species*.

Botanical names can tell you a great deal about the plant. The genus name is always a noun. The species name is commonly an adjective, describing the genus name. The variety name is also an adjective that can describe either the genus or species name. For example *Wisteria chinensis* is the common lavender wisteria that originated in China. *Wisteria chinensis 'alba'* is the white chinese wisteria and *Wisteria chinensis 'rosea'* is the pink chinese wisteria.

Many english words were derived from Latin words so even if you do not know what a particular plant is you can often guess some of the plants characteristics. Example, what can you tell about these euonymus varieties: *Euonymus japonica*; *Euonymus japonica grandifolium* (big leaf); *Euonymus japonica 'Gold Spot'*; *Euonymus japonica var. aureomarginata* (yellow margins); *Euonymus japonica var. aureo variegata* (yellow variegated); *Euonymus japonica var. albo marginata* (white margins); *Euonymus japonica microphylla* (small leaf); *Euonymus japonica microphylla 'Variegata'* (variegated small leaves).

Root Weevil or Leaf Cutter Bee?

Many people see damage from the leaf cutter bee and become panicked. Leaf cutter bees are beneficial insects. The leaf cutter bee is one of the most important pollinating insect in this area. It is not really a bee and does not sting people. Their damage will not harm the trees or shrubs in any way. Leaf cutter bees eat large semi-circle holes in the leaves of roses, redbud trees, and a few other plants. They eat the leaves to build nests. The rest of the time they eat pollen.

Root weevil on the other hand are devastating insects that kill many trees and shrubs. Lilacs, privet, strawberries and roses are just a few of the plants affected by root weevil. Root weevil eat very



small semi-circle holes in the edges of the leaves. Spray **Orthene** right at dark, on all infected plants. You must spray every two to three weeks, from late May through August to prevent root weevil damage. Do not use Orthene on edible plants. **Bayer Rose & Flower Insect Spray** is also labeled for use for control of beetle larvae, the root weevil definitely falls into this category.

Another possible control for root weevil is to apply beneficial nematodes. **Beneficial Nematodes** are tiny insects that feed on soil dwelling insects. They may take a while to reduce the root weevil population, you may not see any results the first year, but they give good long term results. Beneficial nematodes may be used in vegetable gardens and in all other gardens in the yard. Beneficial nematodes do not always survive through the winter so you may need to re-apply them every two or three years. You can spray an insecticide and apply Beneficial Nematodes the same year because insecticides will not kill nematodes.

Where does fragrance come from?

Fragrance in flowers is nature's way of encouraging pollination. Just as fragrance draws people to take a deeper whiff, it lures insects to blossoms hidden by leaves and other plants. Some flowers are fragrant only at night and attract only night-flying pollinators. Other flowers are more fragrant during the day and attract day flying insects. Still other flowers perfume the air both day and night, attracting both day and night insects.

The fragrance itself comes from essential oils called *'attars'* that vaporize easily and infuse the air with their scents. They are present in different combinations in different plants, but often they're markedly similar; which is why there are some Irises that smell like grapes. Watering the blossoms stops the fragrances from being as noticeable so try to keep the water away from the flowers.

Flower Types

When it comes to reproduction, the birds and the bees certainly have a less complicated time of it than plants do. Did you know that whether or not a plant will bear fruit or seeds is an incredibly complex process, tied to the sex of the plant? That's why some plants need a similar type of plant growing near them in order to produce desirable fruit. For example, some plants produce only male or female flowers; to produce seeds, both male and female flowers are needed.

The following terms may help you understand some of the intricate aspects of plant reproduction.

Perfect flowers-These flowers have both male and female reproductive organs, meaning they can produce both pollen and seeds. The male organs, known as stamens, produce pollen. The female organs, known as pistils, contain ovaries that will eventually hold seeds if the flower is pollinated. A perfect flower can often pollinate

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itself if the pollen from the stamen falls onto the pistil or is brushed there by a visiting bee or some other insect. Most common flowers, including African violets, roses, daffodils, potatoes, strawberries, and pears produce perfect flowers.

Imperfect flowers Sometimes a flower contains only male or female organs, so we call these male or female flowers. Since these flowers lack the full set of parts, they are considered “imperfect,” and as such, cannot be self-pollinating. A bee or other insect must travel from a male flower to a separate, female flower either elsewhere on that same plant or on a nearby plant in order for pollination to occur to produce seeds or fruits. Plants with imperfect flowers include squash, walnut, apples, cherries, birch, and many begonias.

Polygamous Some plants can have both perfect and imperfect flowers at the same time. One flower may have both male and female parts, while another flower on the same plant has only male or female parts. These plants can produce their own fruits, but they usually produce more fruits if there is also a similar plant growing nearby to act as a pollinator. (Bees and other insects transfer the pollen from one plant to another on their body.) Some maples and smokebush are polygamous.

Dioecious To add another level of complexity to the confusing business of plant sex, some plants themselves are either female or male in that they have only male or female flowers. These are the plants that must be planted in pairs or other multiples containing at least one male and one female in order to produce fruit or seeds. If you don't want your plant to produce seeds or fruit, look for male plants.

Dioecious plants include many hollies, ginkgo, asparagus, and willows. For many types of holly to produce their fruits, pollinator male plants such as ‘Blue Boy’ or ‘Blue Prince’ must be planted near the female plants. For Asparagus plants to produce seed ‘Jersey Knight’ must be planted nearby. Because they act as pollinators, these male plants cannot bear their own fruits.

Knowing the sex of some plants is handy in other ways: Many gardeners and landscapers avoid planting female ginkgo trees, because the fruit emits a bad smell.

Butterfly Gardening

Butterflies make a lovely ornament in a garden, and creating a butterfly garden is fun for the gardener and rewarding for the butterflies. You can attract butterflies for much of the year by growing a succession of flowers and herbs that bloom from spring through fall.

Butterflies have a few simple needs; sunlight, nectar sources, host plants on which to lay eggs, water, basking areas and roosting areas.

Food has to be available for the adult butterflies (which sip nectar) and for their caterpillar offspring (who eat spe-



cific plants). Some of the nectar plants for butterflies are Aster, Liatris, Coreopsis, Purple Coneflower, and Butterfly Bush. Most flowering herbs are also popular with butterflies. Try staggering wild and cultivated plants, as well as blooming times of the day and year. Groups of the same plants will be easier for butterflies to see than singly planted flowers. Place short species in front and tall ones in back, and clump them by species and color. Butterflies are attracted particularly to red, yellow, orange, and purple flowers. Avoid big showy flowers bred for their size; they are often poor sources of nectar.



Caterpillars are highly selective in what they eat, and somehow butterflies remember their youth well enough to lay eggs on appropriate plants. If you want butterflies in your garden, you will have to tolerate caterpillars munching on your plants from time to time. If caterpillars are eating excessive foliage from a prominent or desirable part of a plant, try moving them (with gloves on if they're hairy) to the backside or another less noticeable portion of the plant. Put in some extra plants and you may not even notice. Some species of butterfly larvae eat only one species of plant. The striking green, black and white/yellow caterpillar of the black swallowtail, for instance, prefers parsley, dill and fennel. A butterfly book or insect guide will list the various host plants.

Like all creatures, butterflies require moisture. They also need the minerals and nutrients they get from mud and muddy water. If you don't have a naturally wet or boggy area, water the same spot in the garden every day to create a small puddle. You can also submerge a bowl of water or wet sand in the ground and place soil around the edges. Overripe fruit, allowed to sit for a few days is a very attractive substance (to them!) as well.

Butterflies are most active in the morning and afternoon before it gets hot. Since their enemies, such as birds, are active during the same time, butterflies need the shelter of shrubby plants where they can take refuge.

Locate your butterfly garden in a sunny area where it gets eight to ten hours of sunlight each day. An area that is sheltered from the wind is good for these lightweight creatures who need to bask frequently in the sun. Provide them with some flat rocks for sunning and some shady spots for resting in the heat of the day.

Although we find them delightful to watch, butterflies are insects, of course, so go easy on insecticides in the garden.

Bees - Be Careful!

Bees are vital to the pollination of many crops. As flowers and vegetables bloom, bees are out in force. To protect bees, apply pesticides in the early-morning or late-evening, when bees are still in the hive. Dusts, especially Sevin Dust, are more



harmful to bees than liquid sprays. Try not to apply any insecticidal dusts if honeybees are working in the area.

Vacation Preparation

If you take a few steps to prepare your plants, hanging baskets and gardens before you leave on your vacation, you can have a nice looking yard when you get home. The best way to take care of your yard while you are gone is to have a friend check and water your plants regularly. Since this is not always practical, preventative steps can be beneficial.

1. Move planters into shady areas. Group containers together to help increase the humidity.

2. Stop fertilizing plants two or three weeks before you leave so the plants will not be growing as fast; slow growing plants require less water than fast growing plants.

3. Apply a layer of mulch to the gardens to help preserve water.

4. Prune some of the leaves and stems to reduce the amount of water the plant will need.

5. Water thoroughly as soon as you return. Do not fertilize plants for a few days after you return. With a little care and planning your yard will look as nice when you get home as it did when you left.



Gardenias

Q. Every year I buy gardenias for pots on my patio. A few flowers open, but most of the buds drop off. What am I doing wrong?

A. Rapid changes in temperature and low humidity can cause buds to drop. For buds to form, gardenias require temperatures around 70 degrees during the day and above 60 degrees during the night. Buds will drop if the temperatures get too high or too low. Gardenias like moist soil and high humidity. Misting their leaves increases the humidity but it can cause fungus problems. So, instead of misting, set the container on a tray of gravel and fill it with water to raise the humidity. Do not let the pot sit directly in the water or the roots may begin to rot. Keep the soil moist but do not keep the soil wet. Use a moisture meter as a guide to help keep the soil moist.

When indoors, potted gardenias need full sun, but outside, they prefer part shade, especially during the hottest part of the day.

Spidermite Controls

Spidermites are a very troublesome pest to marigolds, roses, junipers, alberta spruce, and many other plants. Spidermites are not an insect; they belong to the spider family so many insecticides do not control them effectively. Spidermites are so tiny that they cannot be seen with the naked eye. The best way to test for spidermites is to place a white piece of paper under the leaves of the affected

plant. Shake the plant vigorously and watch the dust that falls on the paper. If any of the dust particles start to move, your plants have spidermites.

Controlling spidermites is a major problem for most homeowners. Mite damage is costly and controlling them is difficult, time consuming, and expensive. Spidermites feed on plant tissue by sucking the sap out of the leaves and destroying the chlorophyll. The damage first appears as stipples. As feeding continues the leaves turn silver or yellow. If left uncontrolled, dense webbing will appear and the plant will defoliate and die. Even light infestations may adversely affect the appearance of both the foliage and the blossoms.

Spidermites thrive in hot climates: they are flourishing this summer! The female can lay up to a hundred eggs in her 30 day life span. One female, in one month, through successive generations, can generate a population of millions. Spidermites do not always die in the winter. In cold weather, spidermites can survive under leaves and in other sheltered places. When warm conditions return, female spidermites resume eating plants and reproducing new spidermites.

Spidermites are a stubborn pest. They are difficult to detect, very adaptable, and they are known to develop resistance to chemical controls quickly. Some pesticides that give adequate control may burn or kill leaves on some plants during hot weather, which makes control even more difficult. Other products leave a residue that makes them unavailable for use on edible plants.

The most difficult part is that spidermites feed on the underside of leaves. Good control is difficult unless the spray comes in direct contact with the mites, on the underside of the leaf. A high pressure sprayer, (hose sprayer) is more likely to make the leaves move enough for the chemical to come in contact with the mite than an aerosol container, or a small trigger sprayer.

Some general recommendations are:

Ortho 'Isotox' is good for flowers, trees, shrubs. It cannot be used on fruits or vegetables.

Fertilome 'Ornamental and Evergreen Spray' provides fair spidermite control for flowers, trees, shrubs. This spray cannot be used on edible plants.

Bayer 'Rose & Flower Spray' will control spidermites on flowers but cannot be used on fruit trees or in vegetable gardens.

Hi-Yield 'Kelthane' is one of the best spider mite controls for most vegetables. It can also be used on flowers, but it is not as strong as some of the other miticides available.

Greenlight 'Neem Oil' is an organic oil that effectively controls spidermites, many insects, and some diseases on all types of plants, both edible and non-edible. Be careful using this product during the summer heat because it can burn plants if the temperature is too hot.