



J&L Garden Center

The All Season Gift
and Garden Center

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The Gardening Newsletter

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Summer Gardening

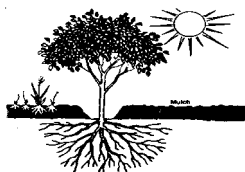
A reminder to all those receiving this newsletter by mail that we have this newsletter available on our website - www.JLGardenCenter.com. Our website newsletter contains a few more articles. We have changed our 'mailed newsletter' format to 4 issues each year instead of the 5 newsletters that we used to send out.

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 for them on our website. You can also un-register for these weekly Gardening Tips as easily as you sign up to receive them. We do not send any attachments with our E-mail tips so they are easy and safe to receive.



Diagnosing Plant Problems

One of the biggest problems in trying to keep trees and plants alive is trying to diagnose what is actually wrong with them. Many different problems may produce similar symptoms but the corrective solution for each problem may be quite different. Once the problem is known, the solution is usually easy to apply. In order to effectively diagnose tree and shrub problems, several questions should be asked and a little investigation should be performed.



1. Determine the history of the plant and the surrounding area as best you can.
2. Check other plants in the immediate vicinity and surrounding areas. Do they show similar symptoms?
3. List the symptoms.
4. Watch the progression of the symptoms.
5. After determining the symptoms, examine the plant and surrounding areas closely for a suspected cause.
6. Find out what the possible solutions are for the problem.

Stop by for a free **Diagnosing Plant Problems** handout that will give you some additional tips about identifying possible causes and solving your plant's problem. Some of the plant problems to watch for this summer are: Coryneum blight in fruit trees, Verticillium Wilt and Heat Stress in trees, Blight diseases in flowers and vegetables, disease problems in Lilac and Eonymus plants, Borer Damage, and 2,4-D damage in plants near the lawn. You can also download a copy of this handout from our website.

Coryneum Blight in Peach Trees

Many peach, nectarine, apricot and cherry trees are showing signs of a disease that could kill them if it is not controlled this year. Coryneum blight, or shot hole fungus, is a disease that

was actively stimulated this spring because of the prolonged periods of rain during the warm spring weather. This disease makes small holes appear in the infected leaves. The leaves look like they have been shot by a shotgun - thus the name 'shot hole fungus'. The small twigs may show signs of sap leaking from them and these small twigs often die. The fruit may have lesions form near the stem and the fruit often rots or looks unappetizing to eat.

If your trees show these symptoms be sure that you take time to treat your trees, or they may die. Stop by and pick up a copy of a fact sheet that the extension service has written about this disease. It is too late to spray the trees now, but you will need to spray your trees with copper as soon as 90% of the leaves drop off this fall. The best you can do right now for infected trees is to water and fertilize them properly this summer. Keep your trees as healthy as possible until you can start treating them this fall.

Anthracnose in Maples, Oak, Sycamore

Many native maples, scrub oak and sycamore trees are not looking too good right now. Unfortunately, many of them are going to look worse before they start to look better. The prolonged wet, warm weather earlier this spring stimulated a disease, commonly known as anthracnose, that has infected many trees throughout the state. Each variety of tree has its own strain of the disease so the disease does not spread to other varieties of trees and shrubs. The conditions that spread this disease are past so there is no need to spray now. The only way to control this disease is to spray the trees every two or three weeks during the wet weather. The trick is to find a time, between rainstorms, that you can actually spray the tree and hope that the spray will remain on the tree long enough to do its job.

Right now, just live with the unsightly leaves until a new set of leaves start to appear later this summer. Fertilize your trees to help stimulate new growth and water your trees properly to keep them healthy. Do not over water the trees, just water them deeply once or twice a month from July through October. Too much water will do more damage than good.

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 their growth down and get ready for the winter weather. Roses growing too fast too late in the year are more prone to winter



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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 after mid-October, so the plants know that 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. Water roses once or twice a week. 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.

Spider mites, aphids, and thrips are the most common insect pests to watch for. Powdery mildew is the most common disease that you may need to control. Even with all the problems you may need to watch for, roses are still one of the easiest of all flowers to grow and enjoy.

Tomato, Pepper, Squash Care

Blossom end Rot is a common problem that you may 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, or squash**. This spot is caused by a calcium deficiency within the plant. This deficiency is often caused by stress within the plant. (Too dry, too wet, too hot, etc.) The best prevention and control for blossom end rot is to prevent stress. Water your garden consistently (not constantly) to keep your plants from getting too wet or too dry. Mulch your garden with bark or grass clippings to help keep the moisture more consistent and to help keep the soil a little more cool. The affected tomatoes, and other fruit, are still good to eat if you just cut off the bad end and eat the rest.

Fruit not setting on tomatoes, peppers, cucumbers and squash is another problem during the hot summer weather. If the night time temperature stays too warm, fruit will not set very well. **Tomato Set** is a spray that can be applied to the blossoms of many plants to help them set fruit. This spray only helps if the plants are blooming and not setting fruit. It does not help the plant produce blossoms.

Cucumber and squash plants start producing male blossoms a week or two before they start producing female flowers. The male flowers are located near the new growth. The female flowers are produced near the center of the plants. Once the plants start to produce female flowers you can use a cotton swab to help transfer pollen from the male flowers to the female blossoms, if the bees are not doing this for you. You have to try pollinating the flowers first thing in the morning, it doesn't work to pollinate them once the temperature gets too hot in the afternoon. The blossom is only ready for pollination for one day before it starts to wither, so try pollinating all the flowers that appear each morning until some of them start producing fruit.

Mystery Squash

Do you ever get a *Mystery Squash*? Maybe a big, round, dark-green squash with yellow spots scattered over the entire surface?

Squash plants cross very easily. The fruit may resemble the mother plant (the plant the fruit is growing on) or it may re-

semble the father plant (the plant where the pollen came from) or it may be something totally different. As long as both parents are edible you can eat the fruit without any problem, although it may have an unusual taste because of the genetics involved. If, however, one of the parents could have been a gourd do not eat the fruit because some gourds can make people sick.

Cucumbers

Cucumbers are very versatile vegetables. They can be used in salads, eaten fresh, and pickled. Cucumbers thrive in dry, warm climates, they hate the cold. This spring was cold and wet. Many gardeners had to replant their cucumbers two or three times before they finally started to grow properly.

Cucumber plants have both male and female flowers on each plant. The male blossoms start blooming first. The female blossoms don't start blooming until the weather is quite warm. Many gardeners get nervous when they see flowers bloom and drop off without forming fruit. Don't panic: be patient; the fruit will eventually start to form.

Cucumbers require full sun and consistent, not constant, watering. Cucumbers are usually trouble free, except for the occasional mildew problem. They tend to have a mildew problem in humid areas and in gardens that are sprinkled. If your plants have a mildew problem try to keep the leaves dry, especially at night. You can also spray with **Greenlight Powdery Mildew Spray** which is supposed to prevent and kill mildew, spider mites, and many other cucumber pests.

The biggest complaint cucumber growers have is that the cucumber is bitter. The exact reason for the occasional bitter cucumber is not completely known but several factors can influence bitterness. **1. Inconsistent watering** (dryness). **2. Lack of adequate fertilizer**. **3. Heat stress**. **4. Over-ripe fruit**. **5. Variety or genetics**. The bitterness is found just under the skin. You can usually peel a bitter cucumber a little deeper and then eat the rest of the fruit.

Summer Pruning

Don't be afraid to give your flowers a little haircut during the summer to help make them more bushy and to help stimulate more flowers for the fall. Petunias, marigolds, geraniums, and most flowers benefit from a light summer pruning. After trimming your flowers be sure to give them a little extra fertilizer to make them flower again quickly. Fertilize them with either **Schultz Bloom Plus** or **Fertiliome Blooming and Rooting Fertilizer**. These fertilizers contain all the right ingredients to make most flowers bloom again very fast. These fertilizers also help many "hard-to-bloom" flowers such as Martha Washington Geraniums, Gerbera Daisies, and hanging basket flowers, to produce more blossoms.

Except for the heavy pruning of fruit trees and roses, you can also trim nearly all ornamental shrubs and trees anytime during the year. Hedges benefit from several light prunings during the summer. Any deciduous tree or shrub that needs shaping can be pruned lightly during the summer. You can prune entire branches on pine trees if necessary, but do not prune the tips of pine trees, and most spruce trees, during the summer. Be sure to only prune the tips of pines and spruce in May.

Potentilla and Spiraea

Potentilla and spiraea shrubs can look leggy and a little

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rough looking if not pruned properly. To keep these shrubs looking their best, prune them lightly once or twice each summer. It is also good to prune them heavily once in a while before they start to grow in the early-spring. By pruning these plants, you will increase their flower production and you will make the plants more compact.

One of the easiest pruning methods is to cut these plants back in the winter - the same way you would prune many of your perennial flowers. Cut all of the stems down to within a foot of the ground. Don't worry about where you make these cuts. New growth will start all along the stems and the plants will start blooming by early summer. Pruning these plants in this manner will keep your plants small. If you want them to be larger plants, just don't cut them back as far. You can trim them as lightly or as severely as you see fit during the winter. Also, you can just prune them severely every two or three years, instead of pruning them yearly. This allows the plant to grow taller the second year after pruning.

Enjoy The Fruits Of Your Labors

It is time to start enjoying the fruits of your labors. You should be harvesting peas, lettuce, broccoli and many other early season plants. Unfortunately, many insects are also enjoying your fruits and vegetables. Be careful when you spray your plants with insecticides. Make sure that you use the correct sprays and that you wait the proper length of time after spraying before you harvest them. Chemical insecticides are safe to use if you apply them correctly and follow the warnings on the label. Each bottle will tell you how long you must wait after applying it until you may safely eat the food. Organic pesticides can be just as dangerous as chemical pesticides if they are used improperly. Whatever pesticide you decide to use, be sure you apply it properly and use it safely.

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

Fall Planting

Midsummer is the season of abundance, when gardens overflow with tomatoes, peppers, squash, beans, cucumbers, and other warm-season crops. With all this bounty, it's hard to think of planting still more crops. But June through August is the time to get started if you want to enjoy a long 'second harvest' that will bring fresh food to your table through late-autumn and even into early-winter.

A fall planting offers several advantages, not the least of which is the fact that the crisp weather of fall actually improves the taste and quality of many vegetables. Green Beans become more tender, Broccoli less pungent, and greens such as Kale and Spinach sweeter still. Lettuce and Peas are barely worth bothering with until a good frost or two have sweetened them up.

June 15			
Broccoli	Plant inside	Cabbage	Plant inside
Cauliflower	Plant inside		
July 1 - 15			
Beets	50 - 65 days	Broccoli	50 - 70 days
Cabbage	60 - 70 days	Cauliflower	50 - 70 days
Green Onions	50 - 60 days	Kohlrabi	50 - 60 days
Parsnips	100 - 120 days	Summer Squash	40 - 50 days
Swiss Chard	50 - 60 days	Sweet Corn (risky)	60-70 days

July 15 - 31

Beets	50 - 65 days	Broccoli	use transplants
Cabbage	use transplants	Cauliflower	use transplants
Carrots	50 - 70 days	Cucumbers	55 - 60 days
Green Onions	50 - 60 days	Kohlrabi	50 - 60 days
Lettuce	30 - 40 days	Swiss Chard	50 - 60 days
Peas	60 - 70 days	Radishes	25 - 30 days
Spinach	40 - 50 days	Turnips	50 - 60 days

August 1 - 15

Beets	50 - 65 days	Carrots	50 - 70 days
Green Onions	50 - 60 days	Kohlrabi	50 - 60 days
Lettuce	30 - 40 days	Onions	Harvest next spring
Peas	60 - 70 days	Radishes	25 - 30 days
Spinach	40 - 50 days	Turnips	50 - 60 days

September 15 - October

Garlic	Harvest next summer
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Water

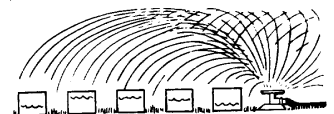
The balance between not enough water and too much water is a never ending struggle. Too much water can be just as bad for a plant as not enough. A common gardening mistake is that newly planted shrubs often die from the lack of water while older plants usually die from too much water - even though they are planted just a few feet away from each other and both are 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 mainly to excessive heat, not enough 'deep' water, or by 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 gardeners will even poke holes twelve to eighteen inches deep around the drip-line 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 a 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 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.

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 **Dr. Earth Lawn Food, Milorganite** or **Pax Iron Plus**. 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 treat-

ment. 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 Weed Free Zone** 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. You can also apply crabgrass preventer next spring (in May) to help prevent these 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 killers 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.

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 reappear 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 major 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. **Kill A Grub Insect Granules** are very effective in controlling most lawn insects. **Dylox Granules** are also excellent for grub control. Dylox kills grubs quickly and effectively. Both Kill a Grub and Dylox need to be reapplied every three to four weeks to keep grubs under control. **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 chemical stays active in the soil for two or three months - all season. Merit does not kill the older, existing grubs - it only kills them when they are young. Later in the season you may need to apply both the fast acting grub killer and Merit, to continue to kill the younger ones as they start to hatch. Choose the chemical(s) that is best for your lawn's needs and be sure to apply it at the proper time.

Lawn Mowing Tips:

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

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.

No one is exactly sure what stimulates fairy rings to start forming or where the fungus spores comes from. However, some believe that gasses from decaying material buried in the soil (old stumps, roots, or even 2x4's from the construction process) stimulate the fungus spores to start to grow. When the conditions are right, toadstools show up in the dark green ring. These toadstools produce the fairy ring spores that can spread to other areas of your yard, your neighbor's yard or even other areas of the city, depending on wind conditions, birds, and other creatures that may inadvertently carry them somewhere else. Over a period of years the dark green rings continue to grow larger and larger in diameter until they eventually disappear. Sometimes the grass in the center of the ring dies but most of the times it stays green. Some years the fairy ring may stay dormant and other years it may produce a nice dark green ring of 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.

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

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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.

Unfortunately, the control of fairy ring is very difficult. There are some chemicals that are listed for use on fairy rings, but do not expect very good results. Sometimes the best control is to fertilize the rest of your lawn so it matches the dark rings - and then wait for the fairy ring to go away on its own.

Another way to help control fairy ring is to make holes a foot apart all the way through the ring - about 12" to 18" deep. Fill the holes with a dish soap and water solution (5 to 10 tablespoons per gallon of water). 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.

Organic Controls.

Sometimes the best way to get rid of bad bacteria or fungus is by using good bacteria. **Dr. Earth Lawn Fertilizer** contains many beneficial bacteria that can help your lawn grow much better than by just using normal chemical fertilizers. A side benefit is that some of these beneficial bacteria may also help to eliminate many harmful bacteria and fungus problems. Unfortunately, organic controls are often much slower getting rid of problems than chemical controls. However, they usually give excellent long term controls - eliminating the need for future chemical controls.

One more possible control for fairy ring is to stimulate good bacteria already in the soil to combat the unwanted fungus problems. Put a teaspoon of **Humic acid** down each hole and apply Humic acid over the surface on the entire lawn. Repeat this treatment once or twice a year for the next 2 years. Humic acid is a natural product that helps stimulate micro organisms to grow. It also helps chelate many minerals and nutrients in the soil that also help plants and organisms to grow faster. Please read the handout 'Garden Soil Activator' for more information about humic acid.

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 sometimes even complete 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 in the fall to help it recover more quickly.

Blue Stakes

Before you start digging anything from a post hole to a basement, you need to make sure there are no underground utilities in your yard. The various underground utilities in your yard could include gas, electric, fiber optic, telephone, cable TV, water and sewer.

The Utah State Law, "**Damage to Underground Facilities Act**" requires anyone engaging in an excavation activity, with the exception of gardening or tilling, on private property, to notify Blue Stakes at least 2 business days, but not more than 7 calendar days before excavation begins.

The Blue Stake service is free both to homeowners and to contractors. Blue Stakes help locate and mark the potential underground services that might otherwise be damaged during the digging process. If you damage one of the underground utility lines without calling Blue Stakes first, you could be liable for the total cost of repairing those lines. If you have Blue Stakes mark the utilities and then damage the lines, outside the marked area, the utility company is liable for all the repair costs. **Remember; Call Before You Dig, Wait the Required Amount of Time, Respect the Marks, Dig With Care.**

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

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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 in the fall as they should be because of many different stress factors, such as heat, soil ph, and moisture conditions.

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. 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 help control this disease and to prevent it from spreading. Spray **Copper fungicide** again in the spring before the leaves appear.

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 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 hot summer weather.

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 holey leaves, or, if a few curled leaves do not bother you, your chemical bill will decrease and your garden will still survive.

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

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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 may be 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 they 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 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 decompose 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, milkweed 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 butterfly protection from it's 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 inhibit 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 type 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

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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 feature. 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.

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.

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 insects 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 awhile 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.

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 specific 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.

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

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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:

Orthene can be used on flowers, trees, shrubs. It cannot be used on fruits or vegetables.

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.

Dividing Perennials

One of the joys of a perennial garden is watching the plants grow and fill the spaces allotted to them. However, perennial flowers can out grow their assigned areas quickly unless they are moved and divided periodically. Most perennial flowers do not know when to stop growing; you need to make that determination for them.

Dividing perennial flowers is not a bad thing for the plant. In fact, many plants are invigorated by dividing them regularly. Don't be afraid of breaking roots or plants as you divide them. This is a necessary evil when dealing with strongly rooted plants. Don't be afraid of throwing away extra or unwanted plants, or giving extra plants to neighbors. The hardy perennial flowers will take over and dominate the weaker varieties, if you don't do some refereeing.

Divide spring and summer blooming perennials in the fall, as soon as the temperatures begin to moderate. Divide fall blooming perennials either in the spring or after they finish blooming in the fall, if there are still several weeks of good weather before the ground freezes hard. Divide perennials as often as the plant overtakes its assigned area. You may need to divide your

Shasta Daisy or Coreopsis every two or three years. Phlox, Astilbe, and Daylilies may only need to be divided every 5 to 6 years. Peonies only need to be divided every 10 to 15 years.

Moving a perennial flower in the heat

It's not ideal, but sometimes you can't avoid moving a plant in the summer. However, this project doesn't have to spell disaster. With careful planning, your plant may survive the move and live to tell about it.

A day before you plan to move the plant check the soil conditions. If it's dry, give the plant a soaking. You don't want the soil to be soggy wet when you dig, but you do want the plant to be well-hydrated.

Dig the new hole before you start digging up the plant. This is important because the less time the plant's roots are out of the soil, the better. Dig your hole a little larger than the plant's root ball will be.

Move your plant when it's cool -- in the morning or in late afternoon or evening.

Size up your plant's size. The goal is to damage as few roots as possible and to get as much soil as you can move. Dig at the plant's "drip line".

Sometimes it helps to tie up the foliage to get it out of the way. Slice straight down rather than at an angle toward the plant. Make a slicing cut all the way around the plant then dig a trench down one spade's depth. Once you've done this, it may be tempting to pry one side out. Instead, pry a little bit in several places so you don't rip the roots.

Soil not attached to roots will probably just fall off. If you have moist, heavy soil, the root ball may stay intact. Sandy or dry soil may fall off and leave the roots completely exposed. If your plant cannot be planted immediately, cover the root ball with wet burlap or newspaper.

Make sure that you get the plant's crown at the level it was before you started moving it, you may need to add soil beneath or dig a little more deeply. Once you have it at the right height, fill in the hole with soil, pat it down, and water. After a few minutes, water it again. Plan on keeping the soil extra moist for the next few days.

For several days, you will want to check the plant frequently. If it's dry, water the foliage to help prevent moisture loss through the leaves. Be careful not to do this in the middle of the day, though, or the drops of water could actually cause the sun to burn the foliage. If your plant struggles, give it some shade, such as an umbrella or a screen. But if you haven't disturbed the roots too much, it may not even miss a beat!

Wonderful Worms

Many home owners who, dismayed at the castings earthworms leave above the soil, try to kill them. While the bumpiness may leave you with a less-than-perfect lawn, earthworms make enormous contributions to your lawn's health. They aerate the soil so that water and air can move through the soil more freely. Earthworms decompose thatch, and create valuable nutrients. Controlling or eliminating earthworms is about as beneficial to your lawn as ripping the motor out of your lawnmower. Try letting the soil dry out, or try making the soil more acidic to help drive the worms to another location. Sulphur is a common chemical that helps to acidify the soil. Worms are pH sensitive

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and will move if they don't like the soil.

Earthworms are a barometer of your soil's health. When you turn over a shovelful of soil, and spot three or four earthworms squiggling away, you know you're working with healthy soil. By the same token, a lack of earthworms in your garden indicates a condition that prevents them from living there. The soil may be fertile, but if no earthworms are present, the situation calls for further attention.

Plants growing in soil with earthworms produce yields three times higher than those grown without worms in the soil. These industrious wigglers have an insatiable appetite and work day and night improving the soil. As one of nature's best recyclers, earthworms feed on organic matter such as decaying leaves, and compost. Organic matter, during its brief stay inside the earthworm, is transformed into "**Black Gold**". Earthworm castings contain five times more nitrogen, seven times more available phosphorus, eleven times more potash, and forty percent more humus than is usually found in the top soil. The worm's digestive tract incubates enormous quantities of the microorganisms essential to the formation of humus. The worm's castings (rich in soil nutrients, enzymes, and bacteria) increase soil fertility. Even in death, earthworms contribute to the soil. Their decomposing bodies release significant amounts of nitrogen and other plant nutrients.

Earthworms also have an important effect on soil texture. Their burrows create extensive channels, allowing air, nutrients, and moisture to penetrate deeply into the soil. Earthworm movements up and down through the soil pull organic matter from the surface down into the deeper layers of soil leaving a trail of castings along their path.

The earthworm is powerful. Pound for pound one worm is 1,000 times stronger than a human. A worm excretes the equivalent of its own weight in castings every day. In one year, one acre of worms living in healthy soil, will plow up about fifty tons of soil and contribute about five tons of nutrient-rich castings.

Increasing the number of earthworms in your soil is as easy, or as difficult, as increasing organic matter in the soil. Earthworms are drawn to organic matter like steel filings are drawn to a magnet. Earthworms migrate to soils that have plenty of leaves, grass clippings, compost, manure, or straw available. Adding earthworms to your garden does not result in an increased population of worms: adding organic matter to your garden does.

Since earthworms thrive in cool, moist places, they prefer soil that has been mulched or has plant cover. Earthworms don't tolerate bare, dry earth; they will migrate to a more moist soil or they will hibernate.

Despite its critical role in building healthy soil, there isn't much respect for this wiggler. The next time you see an earthworm stranded in a puddle or on a dry patch of concrete after a rain, show it a little appreciation. Pick it up gently and set it on an earthy spot in the garden where it can wriggle back into its favorite place: moist, cool soil. With this simple act, your garden will benefit.

Worm Facts

When an earthworm is cut in two, both halves do not live. Depending on where the worm is cut, the half with its head might live and grow a new tail end. The severed tail end dies.

An earthworm has five pairs of hearts. Earthworms are

both male and female. Earthworms mate by attaching their addles (the thick band) to each other; each worm then lays a cocoon containing four or five eggs.

There are thousands of species of earthworms in the world. The night crawler is the largest type of North American earthworms. Common garden or field worms look like night crawlers but are smaller. Redworms, or manure worms, are small (about 1,000 to a pound of mature worms). Earthworms come in many colors ranging from pink, tan, and brown to blue, green and purple.

Most earthworms aren't native to the US. Many species were introduced from Europe, their cocoons probably packed into the soil under the shoes of colonists' horses. They're more prevalent in the humid sections of the eastern United States than they are in the arid West.

Some worms live 60 years or more, but most live less than a year.

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 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.

Mycorrhizae

The word mycorrhizae comes from two Greek words 'mykes', meaning fungus and 'rhiza', meaning root. Mycorrhizae are specialized fungi that establish symbiotic relationships with plant roots.

The mycorrhizal fungus penetrates plant root tissues and the surrounding soil. The fungi capture and use nutrients from the soil, particularly nitrogen and phosphorus. They also share these nutrients with the roots of the plant. In return, the host

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plant provides many carbohydrates, sugars and other nutrients for the fungus to use in its growth and development. The plants also help the fungi grow and move through the soil as the root system develops.

Mycorrhizae are also good soil-binding agents. They tend to accumulate in the soil and remain in the soil for a long period of time. The fungi 'roots' are sticky and physically hold soil particles together. In addition, plant hair roots also secrete a similar sticky substance. Between the two of these sticky substances the soil particles are bound together to form semi-stable aggregates, making more air spaces in the soil, allowing roots to penetrate the soil more easily, and helping the soil to become more friable.

Mycorrhizae helps plants absorb nutrients, assists plants to become more drought tolerant, and helps to improve the garden soil structure.