

COOPERATIVE EXTENSION

University of Arizona and U.S. Department of Agriculture cooperating.

the Cochise County Master Gardener

NEWSLETTER

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WHAT TO DO ----- WHAT TO DO ----- WHAT TO DO ----- NOVEMBER

Jackie Dillon-Fast
Staff Writer

THE BUG THAT WOULDN'T LEAVE: This month you are probably having more trouble with bugs in your house than in your garden. However, aphids are one of the few garden pests that we never seem to be rid of. Aphids will find a sheltered plant in your garden and continue to feed and reproduce throughout the winter. When the weather warms again, they will be ready to launch an all out attack on your garden's new growth. How do you stop them? Seek them out in the sheltered areas of your gardens with an insecticidal soap spray. Review T.J. Martin's "What's Bugging You?" column on aphids (MG Newsletter, May 1990) for more on this truly fascinating insect.

TO WRAP OR NOT TO WRAP: There has been a lot of tree planting activity this past year, and many young trees are facing their first winter exposed to the elements. We now have to decide whether to wrap the tender trunks of our new trees. Wrapping doesn't hurt a young tree, and it does provide some extra support in our winter winds. The real reason to wrap tree trunks is to protect them from weather variations in the spring months. Some trees are vulnerable to early sap flow during warm winters or early springs. The sap then freezes when Old Man Winter returns for one last hurrah. The damage (splits or soft sunken areas on the trunk) usually appears on the southwest side of the tree where the sun is most concentrated. Painting a tree trunk with white tree paint or wrapping it with white tree wrap reflects some of the heat off of the tree's trunk, and lessens the likelihood of early sap flow and "southwest injury". So, do we wrap now or later? If you have a tree that is marginal for this area, that has had southwest injury in the past, or that is newly planted, go ahead and wrap it now. By the way, wrapping a tree trunk is often more effective at preventing southwest injury than painting it.

(Continued on next page)



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GOOD TIME FOR A DRIP: Now is a good time to install that drip system you've talking about for the past few months. There's a lull in gardening chores, the weather is great for working in the gardens, and you will have six months to tinker with it before the dry and dusty June days put it to the test. Many of the more recent garden books have sections dedicated to drip irrigation and Cooperative Extension has several pamphlets that can help you design your system.

OUT WITH THE OLD, IN WITH THE NEW: Though this isn't always the best advice, it is a smart practice when it comes to mulch. In the spring we advised you to rake up the winter mulch and put down fresh mulch for the summer months. Now we are offering the same advice again, and with the same aim - to remove as many as we can of the eggs or larvae that will produce next year's insects. Rake up what's left of the top layer of your summer mulch and bag, burn, or compost it. Work the finely broken down lower layer into the top several inches of your soil and add a layer of fresh mulch (use ground bark, wood chips, straw, grass clippings, leaves, compost, even shredded black & white newsprint). Apply a layer 1 to 2 inches thick for fine mulches, 2 to 4 inches for coarser mulches.

WINTER HERB GARDENS: Just as there are cool-season vegetables, there are cool-season herbs. With all the cooking that the winter holidays bring, a planting of parsley, mint, cilantro, chives, sage, thyme, oregano, marjoram, and rosemary is a welcome addition in any cook's garden. Winter herbs like day temperatures in the 60's and 70's and will often tolerate night temperatures in the low 40's. They do need good drainage, lots of room to grow, and plenty of winter sunshine. Don't try growing them from seed though - it is slow at best. Instead purchase starter plants from nurseries, or ask friends for clumps or cuttings.

IT CAN'T BE WINTER, YET - I'VE STILL GOT GREEN TOMATOES: You can extend the life of your tomato plants through November

by using some of the frost protection strategies described elsewhere in this issue. Even though a light night frost won't kill the plants, it will damage the fruit, so it is critical to protect the plants as much as possible. If an early frost finds you and your tomato plants unprepared, don't despair. Pull up the tomato plant and hang it stem up - roots down - in a place where the temperature will stay between 55 and 72 degrees F. The tomatoes will continue to ripen on the vine even after the plant has wilted. If all else fails, there's always green tomato chutney.



LET'S RECYCLE!

The Master Gardener Newsletter staff is planning to devote the entire January issue to the timely topic of recycling. We would like to hear from you regarding sources you have personally used, places where aluminum cans, paper, glass, etc. can be recycled, and where recycled items can be purchased. Contact the Extension office if you can assist us, and help us make this issue a very special one!

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Articles to be published in next month's newsletter must be received at the Sierra Vista Office by November 23.

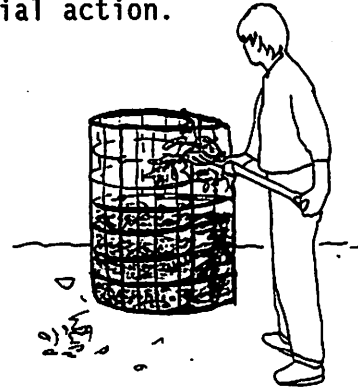
COMPOSTING IS EASY

Joanne Cameron-Hild
Guest Writer

Our landfills are filling up faster than new sites can be found. By the year 2000 the existing landfills will be full, and there will be a garbage crisis. Sadly, one of the greatest treasures is part of that crisis, and literally is going to waste. Tons of leaves, grass clippings, weeds, and food scraps are helping to expedite the landfill crisis when they should be put to work in our own gardens by being composted. Anyone, anywhere, can compost any organic material easily, effortlessly, without odor if they understand the composting process. Simply put, compost is the result of bacterial action that breaks down organic compounds into a rich humus. Compost is an excellent source of nitrogen in the garden, and also provides a little potassium and some trace minerals to the soil. It is the food source for billions of micro-organisms that transform the compost into soluble compounds that can be absorbed by the roots of the plants. About half of the nutrients in the compost are used by the plant in the first year, half of the remainder in the second year, and so on. Compost mixed with your soil helps to increase the soil's ability to retain water, even during dry periods. Some of the fatty acids contained in compost are toxic to certain fungi and bacterial diseases which cause root rot and damping off.

A good compost pile contains four elements: carbon, or dry materials; nitrogen, or green materials; oxygen; and moisture. Properly combined they create a perfect environment for micro-organisms to go to work. As they eat their way through the pile they give off heat - a great deal of heat. Up to 160 degrees can be achieved for days at a time. When the pile begins to cool, a quick turn of the pile injects oxygen into the process, and begins the heating cycle again. When the pile no longer heats up after turning you know you've got rich humus ready to be used in your garden.

There are two methods to composting: active, which requires some manual labor, and passive, which requires only time. When using the active method, it's important to prepare your compost pile according to formula for the best and quickest results. The height of the pile directly influences the amount of heat generated. Four feet high has been proven to be the ideal height. A pile that is too high can become compressed from its own weight, and shut off the oxygen supply to the bacteria. Too short a pile will not allow enough heat to be generated to get the optimal bacterial action.



When you are ready to begin a compost pile, it is a good idea to gather your materials together in separate piles to get a good mix, and get the process cooking. Layer your materials in alternating layers of dry materials such as straw, leaves, or dry grass, and green materials such as grass clippings, manure, green weeds, or food scraps. It is best to keep your compost in some sort of bin so that you can control the amount of air and water that gets to the pile. The easiest type of bin is one made from a 12 foot long by 4 foot high section of pig wire or chicken wire. If you use chicken wire, you should stake it into the ground to prevent it from toppling. Shape it into a circle securing the ends, line it with plastic (I have also lined it with roofing paper), and layer your materials. When the pile has reached its proper height, sprinkle it with water so that the water reaches the bottom of the pile, and cover it with plastic. After a couple of days, remove the plastic cover, and shove a board through the pile to the bottom to aerate the pile. Don't be surprised if you see steam come from the pile. Check the temperature. It should

be at least 130 degrees to kill off harmful weed seeds. Any time you want to add kitchen scraps to your already cooking pile, dig a small hole in the middle, place in your scraps, and cover them. After a week, begin checking the temperature on a daily basis. When you notice the pile begin to cool, it is time to turn it. With this type of bin it is easy to just pull the wire off, and set it to the side to accept the pile as you turn it. Repeating this process will give you useable compost in four to six weeks.



If you are going to have a passive compost pile, it is still a good idea to get your materials together and begin by layering the dry and green materials. The passive compost pile is not turned, but can be added to continually. It is also necessary to keep the pile covered to prevent rain from leaching all the nutrients through the pile. During times when it is dry, the pile should be sprinkled about once a week to keep it moist.

The odor of a compost pile is due to too much green materials. If your pile begins to smell, just add some dry materials and mix them in a little. The smell should stop in a couple of days.

MEMO FROM THE "BUG" LADY

Dear fellow gardener,

Some of you may have noticed the absence of my "What's Bugging You" column (and hopefully even missed it a little!), and I wanted to let you know what was going on. Because of publishing limitations, I do not always have the space to fully explain many of the methods I suggest as prudent pest control options.

I am currently in the process of preparing a "Guide to What's Bugging You"; a 6 to 8 page guide that will more fully explain the methods and materials that I suggest for insect control in my regular column. I will cover in detail many of the different methods for deterring, repelling, or exterminating your backyard pests, as well as explaining the use of some common botanical insecticides and how they work. Many natural and commercially available predators and parasites will be identified, and subjects such as intercropping, companion planting, and resistant varieties will be explained.

This project will be published in the usual two-page removable format over three or four issues, and hopefully will make all of my "What's Bugging You" installments easier to use. Since the majority of my time is being spent on research for the "Guide", I have been able to produce a few "mini-columns" for publication in the meantime. I hope that you find them useful.



T.J. Martin

BUGS WANTED

Found any interesting bugs in your garden lately? Our "bug lady", T.J. Martin, wants specimens for a display in the Cooperative Extension office. Give her a call at 458-8122 or call the extension office if you have a bug or bugs for her.

FROST PROTECTION STRATEGIES

Jackie Dillon-Fast
Staff Writer

As the nights have been getting progressively colder, our plants have been moving gradually into dormancy. A drop in temperatures followed by a rise will often slow this move to dormancy, and increase the chance of frost damage. Watch for unusually warm periods followed by sharp drops in temperature. During the early winter and early spring when temperatures fluctuate is when most frost damage occurs. Warning signs of potential frost in Cochise County are the same as in other parts of the country: still air, no cloud cover, very bright stars, low humidity, and low temperatures early in the evening (45 degrees or lower at 10:00 pm).

You can help all of your outdoor plants weather the winter well by applying a 1 to 4 inch layer of mulch on the top of the soil. The mulch retains moisture, and because heat is released from water as it freezes, moist soil is generally warmer and less likely to freeze. Excessive watering, however, is not the answer to frost protection. Most of your plants should be in their resting phase, not putting out new growth, and excess water can rot plant roots. If we get good winter rains, your plants will need little supplemental water during the next few months.

The best frost protection strategy for Cochise County is to plant only those varieties that are hardy to frost. This is much easier advice to give than to take, especially since many of the plants available in Tucson nurseries are not hardy enough for our winters. In Cochise County, frost tender ornamentals (hibiscus, bougainvillea, karoo rose, etc.) are best planted in containers and brought into a sheltered spot such as the house or the greenhouse, when night temperatures begin to drop into the 40's. If you've already planted frost-tender ornamentals outside, you have three options: protecting them using the frost-protection strategies

described below, moving them to containers for the winter, or replanting them in warmer microclimates in your yard. An unusual cold spell or long, hard frost, similar to what we experienced in 1978, can kill or seriously injure mature trees that are only marginally cold-hardy.

In winter vegetable gardens, a frost will slow plant development, but usually not kill the plant. If you are worried about losing plants, or want production to continue at the faster rate, there are several excellent frost protection strategies. The most popular is to construct a tunnel with chicken wire or hardware cloth that stretches over the garden, and then covering it with enough plastic (4 - 6 mils thick) so that you have an extra flap on either end of your tunnel. With the flaps closed, the plastic can raise the temperature inside the tunnel by as much as 20 degrees F. Through most of the winter you can leave the tunnel closed except when harvesting, and open the end flaps only on really warm days so that your plants don't get too hot. The plastic will also retain moisture, cutting down on water use, though you still need to check the soil regularly to make sure that it doesn't dry out. You can use the tunnel again in early spring to get seeds started, and protect them from late frosts.

Other frost protection strategies similar to the tunnel are cardboard boxes inverted over plants at night (removed during the day), vertical water tunnels made of plastic and set upright around plants (sold in catalogs), and old quilts, blankets, or sheets laid over planting beds at night and removed each morning. In citrus growing areas such as Tucson and Phoenix, many other methods are used: spraying citrus trees to keep fruit from freezing, hanging light bulbs on branches, and lighting controlled fires in the orchard (we've even heard of using helicopters!). In Cochise County, these strategies are not often necessary though they are sometimes used by commercial growers to prevent damage from spring frosts.

PLANTING BULBS

Jackie Dillon-Fast
Staff Writer

BULB: Used loosely to describe any thickened underground stem. By true definition, a bulb is rounded, made of fleshy 'leaves' or scales that store food, with a dry papery outer covering. Tubers, corms, rhizomes, and tuberous roots are the other kinds of underground stems often mistakenly called bulbs.

Although spring seems a long way off - we've hardly made a dent in fall - the wise gardener is busy planting bulbs for the spring garden. Spring and early summer blooming bulbs include anemone, crocus, daffodil, hyacinth, iris, and ranunculus. Some staples in spring gardens in non-arid parts of the country, such as tulips, don't do well here, and need lots of extra water. Replace them with grape hyacinths or irises which are not as thirsty, and are just as spectacular. Summer and fall blooming bulbs such as gladiolas and dahlias are best planted in spring.

Avoid planting bulbs where there are a lot of surface roots, such as in a lawn, which will compete with the bulbs for nutrients and water. Till the soil 12 to 14 inches deep in the planting bed, mix in phosphorous in the form of bone meal, superphosphorous, or ammonium phosphate (follow label), and add sand to the soil if it drains poorly. Without good drainage your bulbs may rot before they ever get a chance to bloom. You may want to dust the bulbs with Captan, a fungicide, or powdered sulfur to prevent rot or infection of any cut surfaces.

The key to beautifully blooming bulbs is well prepared planting beds and proper planting depth. Two tools, the dibble and the cylindrical bulb-planter, are handy for bulb planting. Both make it easier to form planting holes, but you can do the same thing with your trowel. Mass plantings of bulbs can be done in trenches as long as each bulb is planted at the proper depth.

A good rule-of-thumb is to plant your bulbs three times as deep as the bulb is round. For example: if a bulb is about 1 inch around, plant it 3 inches deep. (An exception is the amaryllis which should be planted so that the bulb tip is exposed above soil.) A word of caution to first time bulb planters: one of the biggest mistakes is to plant the bulb too deep. If your fall planted bulbs fail to bloom next spring, dip them up, and replant them at the proper depth.

Gophers, by the way, will view your newly planted bulbs as the perfect fall snack. If you have problems with gophers, plant the bulbs in wire baskets constructed from 1 inch galvanized chicken wire. Place the baskets in the planting hole so that the top of the basket will be about 4 inches above the soil line, fill the basket with soil, and plant your bulbs.

After planting water the bed once, and then let the winter rains handle the rest. When the seedlings emerge in spring, keep the soil moist to 1 foot to keep bulbs from drying out.

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THE CABBAGE MAGGOT

T.J. Martin
Staff Writer

Adult

The cabbage maggot infests the stems of young cabbage plants and others in the same family. These other favored hosts include broccoli, brussels sprouts, cauliflower, and sometimes Chinese cabbage, collards, kohlrabi, radishes, rutabagas, and turnips. The adult is a 1/4 inch long housefly-look-alike; gray, with black stripes on the thorax. The female fly lays her single white eggs at the soil line, and the hatching larvae are small (1/4 to 1/3 inch long) white legless maggots with blunt posteriors. This is the destructive stage.

The maggots make brown tunnels in the subsurface stem and roots as they feed. The affected plants wilt and usually die. These burrowing pests also act as carriers for the fungus that causes black leg, and for bacterial soft spot. The cabbage maggot will produce several generations per year starting in early spring and ending in the fall. They overwinter in the soil as pupae.

Sprouting seedlings can be protected by the use of an agricultural fleece covering (Remay, etc.). If the fly cannot lay eggs there will be no larvae. An impenetrable mulch, or a collar placed around each stem will serve much the same purpose. Make sure the barrier is snug around the stem yet is flexible enough to "grow" with the plant. Other gardeners have used wood ashes (with or without lime added) to surround the plant or use as a dust. The lime can also be used as a drench near the affected plants. The use of diatomaceous earth is another option.

Frequent close inspection of the plants can reveal the presence of the rice-like eggs which can be removed by hand and destroyed. Interplanting with mints, tomatoes, rosemary, or sage is said to repel the pest, and a few types of resistant varieties are available. Predators and parasites include parasitic nematodes, green lacewings, rove beetles, spiders, robber flies, and Chalcid and Trichogramma wasps.

CUTTINGS 'N' CLIPPINGS

* Next time the check-out clerk asks you if you want paper or plastic bags, tell them that you don't need either - you've brought your own. Not only will you help the environment, you may actually save money on your grocery bill. Smith's Food & Drug Center will take five cents off of your bill for each bag that you supply to carry your groceries home in. This includes paper, plastic, canvas, string bags, and even cardboard boxes! In addition, the Smith's in Sierra Vista has placed recycling bins at the express lanes for dropping off plastic bags you might otherwise throw away. Other grocery stores such as Safeway and Warehouse Foods also will pack your groceries in the bags you supply, but do not have a nickel per bag rebate policy (not yet anyway). Wherever you shop, consider reusing your grocery bags - it keeps them out of the landfills, saves trees, and reduces our petroleum consumption (petroleum is used in plastics manufacture).



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