



# Pinal County Cooperative Extension Garden & Landscape Newsletter



February 2007

## Time to Prepare Spring Gardens

Even though it is still nippy in the mornings, the cold weather will soon slowly drift to the warm weather of spring. So now is the time to start work on your spring vegetable garden.

In central Pinal County, we expect the last killing frost to occur sometime during the first or second week of March, somewhat later in the higher elevations. Of course, that date will vary with local conditions throughout the valley.

Mid-February begins the start up process. Early garden chores include selecting the site, working up the soil, getting rid of weeds, making sure that your irrigation system works correctly, and finding all of your seeds so that when the time to plant comes, all will be ready.

The path to a successful vegetable garden is neither difficult nor long. Ten carefully considered steps will make it easy to set up and nurture a successful garden.

*First*, choose an area with plenty of sunlight. Most vegetables, especially fruiting vegetables, such as tomatoes, squash, and melons, do best with full sun exposure. Leafy and root vegetables will tolerate partial shade. Do not plant gardens under or near trees or large shrubs, because their roots will rob fertility and water from the vegetable plants. Do not plant vegetables in the narrow, shaded space between houses and walls. They just will simply not do well.

*Second*, a loose, fertile, level, well-drained soil is best for vegetable gardens. If possible, avoid heavy clays and soils that have a high sand content. If caliche is present, it must be dug out and removed. Avoid areas that are crusted with alkali salts or infested with Bermuda grass, nutsedge, or Johnson grass.

*Third*, the success of a garden can be greatly influenced by the varieties that are selected. Choose from recommended lists and from those known to do well in this area. It is a good idea to try one or two new

varieties each year, which will provide an interesting change from year to year, and also to search for that new type that performs just right for specific local needs. Plant them next to your old favorites for comparison. Keep a diary from year to year as to which varieties perform best.

For mini-gardens, try the dwarf and the more colorful varieties. Seed catalogues will be a great help in finding these specialty varieties.

*Fourth*, organic matter makes the soil loose and easy to work and improves water-holding capacity, drainage, and aeration. Manure, compost, peat moss, and leaf mulch are materials commonly used. Composted manure is easy to use and is relatively free of weed seeds.

If possible, apply a layer of organic matter two to three inches thick on the garden area about one to two months before planting. Work it into the top ten to twelve inches of soil. A thorough irrigation at this time helps leach harmful salts from the root zone. If poultry manures are used, apply them at half the rate of other manures.

*Fifth*, when applied before planting, a fertilizer containing both nitrogen and phosphorus will benefit most garden crops. Although soils vary in fertility, a typical fertilizer application would be one to two pounds of 16-20-0 ammonium phosphate fertilizer on a ten by ten square foot area. Be sure to spread the fertilizer evenly across the entire area. Also, three to five pounds of sulfur on the same area will combat the natural alkalinity of the soil. These materials should be plowed, tilled, or spaded into the top six to eight inches of soil shortly before planting.

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*Sixth*, irrigation is necessary for all garden crops in Arizona because of limited and uncertain rainfall. Add sufficient water to keep the soil moist, but not saturated, throughout the root zone of the plant and throughout the growing season. Because excessive fluctuations of soil moisture adversely affect plant growth and quality, water needs to be applied regularly to prevent the soil from becoming too dry.

*Seventh*, early March is a good planting season for both a late winter and spring and early summer garden. Beans, beets, carrots, eggplant, peppers, radishes, spinach, and sweet corn can all be planted up to March 15. Cucumbers, melons, squash, and tomatoes can be planted through March. Generally, the earlier these latter plants are started, the better their chances are of putting out a crop before they are attacked by the heat and diseases of summer.

*Eighth*, watch for weeds. The soil abounds with the seeds of many plants. These seeds have accumulated over the years lying dormant in wait for just the right conditions for germination and growth. A vegetable garden provides those conditions. Removal of weeds will enhance the growth of desirable plants. Even small weeds can slow down the progress of new seedling vegetables, so pull them early.

*Ninth*, early spring gardens are often attacked by aphids, mealy bugs, and other insects. These populations can explode quickly so a careful watch is important. Early infestations of these insects can usually be controlled by spraying them with a strong stream of water from the hose. Beneficial insects, such as lady beetles, lace wing larvae, and big-eyed bugs, will be attracted to these insects and will often clean up these pests if the population does not get out of hand.

*Tenth*, harvest and enjoy the vegetables in a timely way. Many vegetables produce better if they are regularly harvested. Early removal of tomatoes, squash, and melons keeps the plants in the production mode. An overload of ripe fruit tells the plant that it is time to shut down and lay off fruiting. Leafy vegetables, such as leaf lettuce, will produce new foliage when the original leaves are harvested. By following this suggestion, even small garden plots will be highly productive.

With a little planning, some tender care, and considerable good, old-fashioned work, a gardener can soon be enjoying the fruits of all labors.

## Conenose Bugs

When the kissing bug bites, it is definitely not a pleasant experience.

No, I am not talking about the holiday mistletoe tradition. I am talking about an Arizona insect that is not above sneaking a lunch, or a midnight snack, off unsuspecting humans.



Conenose bug

It seems that just about every desert plant or animal has the ability to stick or bite, and this perception is definitely fulfilled in the conenose bug. At times called the kissing bug or Hualapai tiger, the conenose bug feeds on mammalian blood. Occasionally people are their target, not because we are the preferred entree on the menu, but because we may be the only open café close by.

Sometimes the word *bug* is used to describe any insect, but this technically is not correct. Bees, wasps, and ants are in the order Hymenoptera and should not be called “bugs.” Neither should termites (order Isoptera) or moths and butterflies (order Lepidoptera) be placed in the “bug” category. Only insects in the order Hemiptera, the true bugs, should be called by this common name.

Conenose bugs are in the order Hemiptera and definitely deserve the “bug” classification. All of the true bugs have a sucking mouthpart that allows them to penetrate the tissue of their host and remove fluids for food.

Many of the bugs are plant feeders and have no interest in mammalian blood. The leaf-footed plant bug is one example. Other plant-feeding bugs include the squash bug and the boxelder bug. To my knowledge, these insects do not bite humans.

Another true bug, the assassin bug, is a cousin to the conenose and prefers the body fluids of insects. Because of its feeding preference, it is considered to be a beneficial insect. With its distinctive mouthpart, it can literally suck the life out of its host. They rarely bite humans but have been known to do a brief taste test before moving on in search of their preferred food.

The conenose is another beast altogether. Blood is their meal of choice. Although their preferred host seems to be the white-throated wood rat, otherwise known as the pack rat, they sometimes feed on humans.

They can be distinguished from other bugs of their stripe by the shape of their mouthparts, which are really quite unique from their relatives. They have a characteristic cone-shaped nose, a section of which can be seen extending out from the head when looked at from above. In the harmless relatives, little or no of the nose can be seen. The insects are from three-fourths to one and one-quarter inches long, and are usually dark brown with yellow or red markings.

Conenose bugs generally feed at night, usually when the person is sleeping or at rest, but sometimes the bug attacks during the day. Most people who are bitten feel no sensation at the time of the bite, even when they are awake, but local reactions such as reddening, swelling, and itching can occur. These reactions are usually the body's response to an anticoagulant that the insect injects to speed the flow of blood through the wound, making it easier for the insect to get a good meal.

Some five percent of people bitten a second or subsequent time will experience severe systemic reactions because they have been sensitized by the first bite. Symptoms of a severe systemic reaction include intense itching of the scalp, palms, and soles of the feet that can last anywhere from thirty minutes to five hours. Other symptoms are swelling throughout the body. When the tongue and throat are involved, swallowing and breathing can become difficult for up to ten to twelve hours after the bite. Welts and rashes are also common. If you suspect you have been bitten by a conenose bug and might be allergic, call your local poison control center immediately.

Found throughout the southwestern states, conenose bugs really prefer (and are primary parasites of) rodents, especially pack rats. The bug's life cycle begins with the spring or summer dispersal flight of adults from rodent burrows and dens. Mating takes place during dispersal, then the mated female enters a new rodent habitation to lay her eggs. The eggs hatch in three to five weeks, depending on species and temperatures. Each of its five growth stages, or nymphal instars, must have a blood meal before it can molt. In our area, all stages of conenose can be found in nature at all seasons of the year.

Conenose bugs are strongly repelled by light. They tend to stay in the dens and burrows during the daytime hours, thus, their dispersal flights occur at night. Using the stars and moon for reference, they can actually

navigate pretty well from point A to point B. Humans disrupt this natural process by turning on lights at night. Because our lights are much more intense than the natural light, they get confused and gravitate towards these artificial lights.

When a bug arrives at the light, it cannot escape until dawn, when it begins looking for a place to get out of the sunlight and heat. If the insect finds itself in the doorway of a residence, it will usually make itself at home, finding the darkest spot to hide. If you think that you might be in an area where conenose bugs could be a problem, it might be a good idea to turn off unneeded porch lights during the spring and summer.

Where are conenose bugs a problem? Conenose bugs are most commonly seen by people living in rural areas and at the edges of cities and towns where pack rat nests and rodent dens may be nearby. The closer we live to the open desert, the more likely it is that we could encounter one of these insects.

If you think you might be at risk, a few precautions may be in order. Check all of your windows and doors for a tight fit. Check the screens, moldings, and frames to make sure that there are no gaps to provide entry to insects. If you identify potential routes of entry, use caulking compound or weather stripping to seal off access and prevent the entry of these insects.

Conenose bugs are not seen as often as other insects, but they are definitely a part of life in the desert. By learning both to identify the animal and what we can do to protect ourselves, we can learn to enjoy desert living without, hopefully, the pokes and bites that the native dwellers can bring.



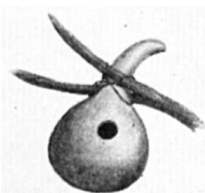
Leaf-footed bug



Assassin bug

## Growing Ornamental Gourds In Pinal County

If you've ever been to the Wuertz Gourd Festival at the Pinal County Fairgrounds, you may have come away saying, "This was really fun! How do I grow them for myself?"

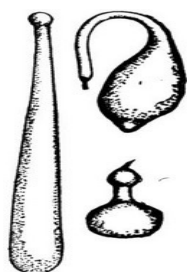


Gourd birdhouse

Gourds come in all shapes and sizes. Some can be made into birdhouses or tools. Others are valuable for scrubbing dishes or decorating homes. All of them present an intriguing opportunity to learn new skills and to spice up a garden with luxurious vines and eye-catching fruit.

According to the National Gardening Association, ornamental gourds come in two types. The first type has brightly colored fruit with twisty, curvy shapes. Their names often describe how they look: apples, bells, pears, turbans, or eggs. These gourds make great table decorations, floral displays, and harvest baskets.

The second type, known as bottle or dipper gourds, have a more functional use. They can be used for decorations, but they can also be used as ladles, jugs, planters, and birdhouses. As we saw at the festival, the creation of gourd art can make for great family activities or provide opportunity for a satisfying personal hobby. Another related category, normally not used for decoration or ornamental purposes, is the luffa or vegetable sponge.



Bottle-shaped gourd

Luffa sponge gourds have yellow flowers and bear one to two foot long fruits that, once dried and peeled, provide a fiber shell that is excellent for scrubbing and cleaning. Many people like to use luffa instead of manufactured sponges because they are organic and will decompose over time. When we are finished with them, we can just toss them into the compost pile or dig them into our gardens for a source of organic matter. By recycling luffa sponges, we save space in the landfill for items that really need to be there. Luffa sponges require the longest growing season.

Other yellow-flowered gourds include the colorful ornamental gourds, large and small, that are often sold at

stores for decorations. They can be single or multicolored.

Gourds with white flowers, the lagenaria, flower at night. The gourds are green on the vine but turn brown or tan when they dry. They have thick, hard shells that make them excellent for building birdhouses and making bottles or ladles. Interestingly enough, their names describe their uses: the birdhouse gourd and the dipper or bottle gourd.

All gourd vines grow fast and can reach ten to fifteen feet in length. They should be planted into the ground once it starts to warm up in the spring. Offsetting the need to give them a quick start in warm soil is the looming threat of the whitefly, which really kicks into high gear as the daytime temperatures consistently reach over 100° F. Gourds, like melons, cantaloupes, and squashes, are quite susceptible to whitefly feeding. For that reason alone, it is important to sow seeds or set transplants into the soil early in the spring and give them some early season frost protection. Without an early planting, it usually is difficult, especially for the slow-growing luffas, to finish out before the whiteflies set in. Early to mid-February is a good time to plant gourds, but make sure that you protect them from any late season frosts.

The vines should be planted about two feet apart. This will give them plenty of room to grow without creating a condition where they are competing with each other for food, light, and air. They are heavy nitrogen feeders, so it is important that they be fertilized with a nitrogen fertilizer every month or so. If the vines are planted in our nutrient-rich, native desert soil, only nitrogen will need to be added. If planted in containers or raised beds with a potting soil mix, it will be necessary to use a complete fertilizer, one with all three of the numbers on the bag. A fertilizer, such as 10-10-10 or, better yet, 15, 15, 15, would be a good choice.

The soil must be well tilled. Gourds need plenty of room for their roots, and hard, compacted soils will limit root growth. Before planting it is important to spade or rototill the soil deeply to ensure that the roots can grow into the ground.

If you want your ornamental gourds to look their best, the vines must be grown on a trellis. Fruit that lies on the ground will become discolored at the point of contact and can be scratched and scarred from rubbing on the soil.

Because of the wide variety of vine and gourd sizes, there is also a wide variety of trellising needs. The small ornamental gourds such as bicolor pear can be grown on a six to eight foot trellis. Larger types, such as dipper and water bottle, require a more substantial trellis to hold the weight of the fruit. If you have only a little space, an ideal trellis setup would be a sturdy arbor consisting of posts and several overhead crosspieces. This type of trellis is not only attractive, it also can withstand the rigors of even the heaviest fruit load.

Gourds should be harvested when they are fully mature. The shells will be brightly colored, the skins hard, and the stems brown and dried. Don't go poking at the fruit with your thumbnail or some other kind of instrument. If you dent or break the skin, you will ruin the gourd for later use.

Gourds do not like frost. Our long growing seasons make frost damage to gourds unlikely, but if you have a late crop or if, by any lucky chance, cold weather comes early to the desert, make sure that you cover the vines with a cloth covering. Oftentimes the first frost or freeze may be the last in our area. If we do have multiple frosts, they are often spaced out sufficiently so that we can finish out a crop that is in the final stages of finishing.

Gourds should be removed from the vine when they are ripe, leaving a few inches of stem. For best curing, gourds should be hung so that they do not touch a wall or another gourd. The stem provides a useful point of attachment for string or wire. Be sure to wash or wipe off any surface soil or grime before hanging the gourds to cure.

Once the gourds are cured, wash them with a bleach solution to disinfect them of any fungi or bacteria that would cause them to rot or disintegrate. After they have been well dried, they can be waxed, varnished, or painted as desired.

Cultivated for thousands of years by many cultures worldwide, gourds have been, and continue to be, a great way to not only create useful tools and decorations, but also to bring great personal and family satisfaction.



Gourds

Gourds on  
vine

## Butterfly Gardening

With the right plants and the correct weather conditions, you can make your garden into a haven for butterflies.



It is not hard to understand why people are drawn to the color and delicate lines of butterflies. For centuries, artists have studied the detail of their form so that they could better capture their inherent beauty. For those who study the science of life, the butterfly and its relatives represent an intricacy of growth and development that is absolutely amazing. For most of us, however, there is something calming to just sit back, cozy in our patio chair, and watch these colorful visitors flit from bush to bush and from tree to tree.

To understand how we can attract butterflies to our yards and to know how to keep them there for as long as possible, we need to better understand their life cycle. As insects, butterflies go through several changes during their lives.

The first stage is the egg, which is laid by the adult female. The egg hatches into a larva whose primary job is to eat. The caterpillar must eat enough food and store enough energy to carry it through to adulthood. At the end of the larval stage, the insect forms a chrysalis, sometimes called a cocoon. It is during this "resting stage" that it transforms into an adult butterfly. Emerging from the chrysalis, the adult butterfly mates and lays eggs so that the cycle can be repeated. The adult needs lots of energy to do its job, so it visits flowers regularly to tank up on the high-energy nectar found in the flowers.



If we understand and supply the needs of each particular stage of growth, it is fairly easy to attract butterflies into our yards. Adult butterflies need lots of energy, so we need to first plant bushes with lots of colorful, nectar-laden flowers. The larvae are heavy eaters so they need food plants that will give them the proper nutrition. When we identify and plant these type of plants, chances are we will have an instant butterfly garden.

There are many types of butterflies in Arizona, each with their own tastes and needs. It really can get quite complicated if we try to be all things to all butterflies, especially at first. The best idea, then, is to start slow and build your garden over time. Select a particular butterfly, research its needs, and then place in the yard the particular

plants that are most inviting to that particular insect. As you learn, add plants for other butterflies and watch your garden become home for these interesting insects.

Okay, let's get started. Right off, you will find that you need a plan that will help you determine what you will plant and where and when, each item will be planted. To make sure that you have the right information for your plan, you need a good source of information: a good reference, if you will. I like to use the Arizona Native Plant Society and Sonoran Arthropod Studies Institute publication called "Desert Butterfly Gardening," but there are several other good resources available. Check out the Tucson Botanical Garden website at <http://tucsonbotanical.org> and click on the Desert Connections button on the left-hand side of the page. You can also do a web search for "desert butterfly gardens" on your browser.

As you assemble your landscape plan, remember to select plants that are well adapted to our Sonoran Desert conditions. Plants at home in the desert flourish under our growing conditions and require little work after they are planted.

You obviously will want to see the butterflies when they visit your yard, so make sure that you place the plants to your best viewing advantage. Plant the tallest plants, like trees and large shrubs, at the back of your field of view and shorter plants towards the front. If you reverse this and put the tallest plants in front, you will have to get out of your comfy chair and walk past the trees to see the butterflies that are attracted to the shorter plants. Put the taller plants behind and the shorter plants up front and you get to see it all from your chair. Trees and bushy shrubs also serve as a windbreak to encourage the butterflies to remain active even on windy days.

It is important to group your plants also by water demand. Do not put a high-water-demand plant such as the *Buddleia* butterfly bush on the same drip system as a low-water-demand plant such as the *Lysiloma*. Not only do you waste water, but too much water on over-irrigated plants and too little water on under-irrigated plants can be devastating to plant health. If we are going to make every drop of water count, we ought to plan our landscapes around low- to moderate-use plants.

Make sure that you allow plenty of sunshine in your butterfly garden. Most of the plants attractive to butterflies require full sun for good growth and development. Too much shade can impair the health of the plant and limit their ability to attract butterflies. Plenty of sunshine also provides good light for viewing butterflies and for taking pictures to share with others. However, do not go overboard with the sunshine! A little shade is good, too. Although it is not necessary for the butterflies, it will certainly add to your comfort on hot days!

So, what kind of butterflies can you expect in your garden? There are many species of butterflies in Arizona. They range from the huge swallowtails, such as the monarch, to the tiniest of the whites, and come in a variety of colors. This variability is one of the reasons that butterfly gardening is so interesting!

Butterflies, like all plants and animals, are grouped into families. Each family is made up of individuals that closely resemble other members of the family. The more common families include the swallowtails, the whites and sulphurs, the blues and airstreaks, the snouts, the brushfoots, and the skippers.



Monarch

Your reference source, if it has good pictures, will help you identify the various families and individual butterflies within the families. It will also tell you which plants are most attractive to these insects.

By incorporating plants attractive to butterflies into our landscapes, we can enjoy the presence of these interesting insects year after year.

If you have questions, you can reach one of the Master Gardeners at the Cooperative Extension office, 820 E. Cottonwood Lane, Building C in Casa Grande or telephone us toll free at 866-836-5221 ext, 204. If you wish to receive this newsletter electronically, please email to [tellswor@ag.arizona.edu](mailto:tellswor@ag.arizona.edu) and use the keyword: *G&L* in the subject line. The author's email address is [gibsonrd@ag.arizona.edu](mailto:gibsonrd@ag.arizona.edu).

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