Table of Contents

History of Gardening . . . 1
Carnivorous Plants . . . 3
Poem—Green Fingers . . . 4
Seed Starting . . . 5
Lemongrass . . . 6
MG News . . . 7

Events & Activities

MG Association Meeting, Wednesday, May 18, Prescott, 6:30pm See back page.

Alta Vista Gardening Club, Prescott, fourth Tuesday of the month, 12:30pm. Call 928-443-0464 for location and information.

Prescott Area Gourd Society, third Tuesday of the month, 6:30 pm, at the Smoki Museum.

Prescott Orchid Society, 3rd Sunday of the month, 2pm, Prescott Library, (928) 717-0623

Prescott Area Iris Society call 928-445-8132 for date and place information.

Verde Valley Iris Society call Janet Regner at 602-370-4836 or email her at jkregner@aol.com

Check out the new MG blog. More garden information, events and pictures.
http://yavapaigardener.blogspot.com

The History of Gardening

We come from a long line of farmers and gardeners. As far back as 8000 BC humans plant wild grass in places where they can easily collect the seeds. By 5000 BC maize and common beans are cultivated in the Western Hemisphere. By 3000 BC potatoes are cultivated in the Andes. Below are more of the highlights of our gardening history.

2000 BC Watermelons are cultivated in Africa and figs are cultivated in Arabia.

600 BC Babylonians create the famous Hanging Gardens of Babylon, one of the seven wonders of the world. It has a brick terrace and pumps (irrigation screws) to lift water to the gardens.

900 AD Tofu becomes a dietary staple in China. (Still not sure whether that is good or bad!)

1510 Sunflowers were introduced to Europe from the Americas.

1528 Sweet potatoes, cocoa and vanilla beans are introduced to Spain by Hernando Cortes.

1634 to 1637 Tulip Mania strikes the Dutch. The price of tulips is wildly inflated (think modern day housing boom). In one case one tulip bulb is sold for two loads of wheat, four loads of rye, four fat oxen, eight fat pigs, 12 sheep, two barrels of butter, 1000 pounds of cheese, two casks of wine, four barrels of beer, a silver beaker, a suit of clothes and a complete bed.

1638 Honeybees are introduced into the American colonies.

1752 Chinese roses arrive in Europe.

1753 Carolus Linnaeus creates the bane of many gardeners’ existence, binomial nomenclature, otherwise known today as the “scientific name.” It is the first classification system that seems to work, as we still use it today. The beauty of it is that a species has one name and builds on its relationships to other related plants. With binomial nomenclature, you can buy Prosopsis glandulosa and know exactly what you are purchasing versus just buying a mesquite tree of which there are many different types.

1779 A Continental Army officer, Richard Bagnal finds sweet corn...
being grown by the Iroquois, but it is ignored for nearly 70 years.

1784 The Shaker religious community begins to sell seeds in paper packets for gardeners.

1820 Col. Robert Gibbon Johnson eats a raw tomato to show a skeptical crowd that the fruit isn’t poisonous.

1830 John Deere, a blacksmith, develops the first steel plowshare. Edwin Budding, an English textile engineer, invents the lawn mower.

1849 The first chemical fertilizer is patented by a company in Baltimore, Maryland. They sell guano mixes with sulfate of ammonia.

1854 Henry David Thoreau publishes Walden.

1866 Gregor Mendel, an Austrian monk, publishes his findings on variation and heredity.

1868 Frederick Law Olmsted designs the first planned community.

1873 Othmar Zeidler creates DDT.

1875 The first American state agriculture experiment station is established in Connecticut.

1889 Seed company Johnson and Stokes introduces the “Brandywine” tomato.

1911 Bacillus thuringiensis (Bt) is isolated. Not sold commercially until 1958.

1916 Japanese beetles show up in America, probably brought over on nursery stock.

1931 Sir Albert Howard publishing information on incorporating compost in the soil.

1939 The pesticide DDT is used in Switzerland to control Colorado potato beetles. The discoverer of DDT use as a pesticide wins the Nobel Prize. The rose “Peace” is discovered in a French garden; it goes on to be the world’s favorite rose.


1943 Nazi scientists experiment with nerve gas, giving us methyl parathion, one of the most toxic pesticides ever. DDT is introduced to America.

1959 Cranberries are ordered off the market by the Food and Drug Administration because of contamination by a chemical weed-killer.

1962 Silent Spring by Rachael Carson and Stalking the Wild Asparagus by Euell Gibbons are published.

1970 The first Earth Day.

1972 DDT banned.

1975 Seed Savers Exchange is founded.

1980 First American patent is issued for genetically modified organism, a bacterium used to clean up oil spills.


1994 The first transgenic food is approved in the US. It is the “Flavr Savr” tomato.

1997 Bt is engineered into potatoes.

1998 The USDA proposes regulations for organic designation. It is withdrawn because of public protests that claim it actually undermines organic principles.

1999 Cornell University researchers report that Bt in genetically modified corn pollen might harm Monarch butterflies.
Just kidding—carnivorous plants won’t harm you and in fact they would be tough to grow here without special care but they are an interesting part of the plant kingdom.

Most plants manufacture their food through photosynthesis—sunlight, water and nutrients are gathered from leaves and the root system. Carnivorous plants have leaf structures and roots, but the roots are just big enough to hold the plant upright and don’t work as more traditional roots do. These plants often grow in boggy areas that really don’t contain soil. It doesn’t have any components of a soil. A bog has no silt, sand or clay. It doesn’t have air spaces either. It is a mix of decomposing organic matter known as peat. Bogs also are highly acidic and anaerobic (the absence of oxygen). To live successfully in this environment plants have adapted. World-wide, there are 630 species of carnivorous plants and 300 others that are considered proto-carnivorous.

You might see frilly and scalloped edges on the leaves. Some are brightly colored in reds, maroons and burgundies, even flesh colored. Others have appendages that jut like fangs or teeth. Some surfaces have glistening hairs or tentacles. Some even move. All these adaptations are designed to help capture their next meal—animals.

There are five different mechanisms used:

1. Snap traps use rapid leaf movements to trap insects.
2. Pitfall traps are found in pitcher plants. Insects are trapped in a rolled leaf that contains a pool of nectar.
3. Flypaper traps have a sticky mucilage on the leaf.
4. Bladder traps generate an internal vacuum that suck food in.
5. Lobster-pot traps force prey to move in one direction with inward pointing hairs, where they are trapped.

Most of us are familiar with the Venus flytrap (snap trap). You can now find them sold at stores like Home Depot or other large garden centers. (More on that later.) The Venus flytrap has leaves that open and close quickly. At the bottom is a nectar treat...trap. The treat has a chemical which slows the insects’ reactions. The leaf shuts, trapping the insect inside where it is digested. The leaves have a short life span as this action consumes a lot of energy. Flytraps have a very limited range in nature. They are only found in southeastern North Carolina coastal plains and in northeastern South Carolina.

2. Pitcher Plants (pitfall traps) have modified leaves in the shape of a vase or urn. The vase holds a liquid. The plant lures insects to visit with very brightly colored leaves and tiny nectar glands on the outside of the vase (flower). This nectar contains a narcotic. The insect climbs to the top of the vase, feeding on nectar and pollen and pollinating the flower. At the top the insect is “helped” to fall by tiny hairs that send the insect down. Once inside the vase they cannot get out again.

3. Sundews (flypaper traps) are aptly named because they have tiny droplets on the end of filaments. They are the most widespread and diverse group of carnivorous plants. They range from dime-sized to basketball size. The drops of nectar attract insects. Once an insect touches down, the tentacles drag it to the center of the leaf where digestion begins. The more the insect struggles, the more the filaments react. Eventually the entire leaf curls around the prey.

4. Bladderwort (bladder traps) include species that are terrestrial and aquatic. The terrestrial species have a slightly different triggering mechanism than the aquatic species but the result is the same.

5. Lobster-pot traps are easy to enter but impossible to leave. Several species use this trapping method.

While carnivorous plants are fairly easy to grow you do need to create a very specific environment for them. They need a bog and bogs are in short supply in our environment. Try a mix of Canadian peat moss and play sand. Pre-moisten the mix by soaking peat overnight in distilled water. You can then plant your carnivore. Keep a couple of inches of distilled water in the
saucer. They are bog plants and don’t take to drying out—at all. They need bright sun. If they have correct conditions and plenty of insects around they will grow well. Do not use tap water. The minerals of tap water quickly build up and kill the plant. They are in fact extremely sensitive to calcium and other soil-borne nutrients.

Surprisingly, they are susceptible to insects such as aphids or mealybugs. Generally try to remove the pests by hand, otherwise you might have to use an insecticide—a bit of irony there. A gray mold also threatens carnivorous plants. Make sure your plants have good air circulation and cool temperatures. Remove dead leaves immediately.

The Venus flytrap is not an easy plant to grow even though you frequently see them for sale. For a first-time grower you might try the Cape Sundew (Drosera capensis), the Yellow trumpet pitcher (Sarracenia flava) or the Common Butterwort (Pinguicula grandiflora).

Most carnivorous plants are an endangered or threatened species in their native habitat. Never purchase one without knowing whether it has been collected in the wild or grown in a commercial nursery. You should never purchase wild grown plants. Most are taken illegally. Buy from a reputable nursery!

International Carnivorous Plant Society
http://www.carnivorousplants.org

Green Fingers
by Jacqueline Rizzo

Into my spirit green fingers impart.
Through my mind, and through my heart.

Plant the seeds of hope and dream,
Feel the soil, feel the green,
And feel the pulse of life serene.

Fall rain and shine sun.
Until the germ of life’s begun.

Sap flow ‘till green leaf grow,
‘Till flower and fruit produce.

Welcome the help from sprite and elf,
To pest and blight reduce.

Through days of patients and days of care,
Rejoice in all the abundance there.

And so . . . .

As seasons come and seasons go,
The garden’s spirit
Green fingers
Know

Catalog Dreams

Catalogs don’t always provide much information so descriptions like the one below is a joy.

Million Dollar Melon

In 1886, the steamship “Cambridge” was slowly traversing through the thick fog, traveling north to Bangor from Boston, along the rocky coasts of Maine, when it ran aground on Old Man Ledge and began to slowly sink in the cold Atlantic ocean. In the days that followed, many of the hardy souls took small boats out to collect the sinking cargo, which included this great melon that was so good that it has been grown in Maine for the last 124 years. Now it is almost extinct, and almost never offered commercially. The flesh is soft, creamy and so fragrant that ripe fruit can perfume the whole garden.

Baker Creek Heirloom Seeds
It’s great fun to start plants from seeds and watch them mature in your garden. It’s not difficult to do for most of our common flowers and vegetables.

Start with clean potting soil and wide, flat containers. Avoid overcrowding. They are easier to transplant if they are spread out a bit. Use plastic pots, as they will retain moisture better. The container doesn’t have to be fancy, use plastic containers from the kitchen—yogurt, butter, other plastic containers work fine, just put holes in the bottom for drainage. Many people use egg cartons. If you use last year’s containers, make sure you clean and disinfect them first.

Fill your container with soil mix, then spread your seeds over it. Use a kitchen sieve to spread a thin layer of soil over the top of the seed. (Some seeds don’t want a covering of soil. Read the back of the seed packet for more information.) Tamp the seeds down GENTLY so they make good contact with the soil.

If you have had problems with damping off, use a mix of 50% milled sphagnum moss and 50% starter chicken grit. This will help keep the emerging shoots dry. Make sure they have good air circulation once the seeds sprout.

Cover the containers with plastic wrap to maintain the moisture levels. Seeds are very sensitive to moisture levels and do not like to be waterlogged or dried out. The plastic wrap helps maintain an even level of moisture. Check daily, though, to make sure it doesn’t dry out. Place the container in a basin with 2 to 3 inches of water so the water wicks up the holes to the seeds. This is much better than watering from the top down.

Keep seeds warm to improve germination. Temperatures of 65°F to 75°F are best.

Once the seeds sprout, turn the container frequently so that all receive adequate sunlight. Also gently brush the seedlings with your hand to encourage strong stems.

Good nutrition is important to growing plants. Most seedlings need frequent, but very weak, fertilization. Once leaves emerge use a half-strength fertilizer.

A couple of weeks before planting start to acclimate them to the outdoors. Bring them to an outdoor area that is protected and gradually increase the time they are outside and the amount of sun they get. When its time to transplant they will be ready to go.

Seed Growing Tip

Impatient to get your melons and cucumbers growing? Here is a tip to get those seeds to sprout quickly. Soak the seeds in 80°F water only until the seeds swell, usually 6 to 8 hours. Remove the seeds from the water and blot them with paper towels. Air-dry on a tray for one day in a cool dry place. Store them in airtight bags in the refrigerator until you are ready to plant. (They can sit refrigerated for a year.) Once planted in the garden they will germinate faster and more reliably.

If the seeds radicle (the tiny seedling root) emerges before the seeds are dried and refrigerated, they must be planted right away. Also, this method doesn’t work well for seedless watermelons.

Pea Seeds Grow Better With Vitamin C

If you’ve had trouble getting pea seeds to germinate and grow in your garden, try soaking the seeds in a solution of vitamin C or folic acid before planting. Researchers at the University of Massachusetts found that pea seeds soaked in a solution of either vitamin C or folic acid prior to planting germinated better than pea seeds soaked in plain water, and after 10 days of growth the seedlings were 40 percent taller and their roots were 20 percent longer.

The experiment was terminated after 10 days, so it’s not clear if the results would last throughout the pea’s growth cycle and if there would be any benefit from applying vitamin C or folic acid once the peas germinate. However, these supplements will get your peas off to a quick start. Vitamin C and folic acid are commonly found as dietary supplements in health food stores.
Do you like Asian food? One of the components of many Asian recipes is the herb lemongrass. This is really a grass! It is *Cymbopgon citratus* and its genus contains 55 different species that are native to temperate and tropical regions. The species is known by many names, including barbed wire grass, silky heads, citronella grass and a few others, but in this country it is usually known as lemongrass or lemon grass.

It’s not one of the most attractive plants I’ve ever seen, it’s a tall green grass after all, but it can be worked into a landscape; put it someplace where it can be harvested easily. If you are growing lemongrass you are probably planning to use it. It can be grown in containers. It prefers the hotter humid weather of the monsoon so that will probably be when it looks best. It grows in clumps and is not particularly invasive. It is definitely a summer plant, growing slowly in the spring and fall and going dormant in the winter.

Water is the key to keeping it alive in our desert climate. Afternoon shade would probably be appreciated in the warmest areas of the County. (My brother in Phoenix grows it in an area that gets full sun in the afternoon and it does well, so I’m not sure I’d worry too much about it.) Since it goes dormant in the winter, it will probably grow in colder areas. I would suggest mulching in the winter or growing it in a container that can be brought in during the coldest months.

When you get your lemongrass plant dig a hole twice the size of the rootball. Since the plant spreads, you might even dig it a bit bigger. Either way. Work in some compost thoroughly. Water well. Once established, water amply but taper off as it gets cooler. Make sure you don’t overwater. Water the roots and not the leaves; so don’t use your sprinklers. During the winter it needs a minimum of water. It likes a high nitrogen fertilizer in the summer. Half-strength fish emulsion monthly works well. The plant can be divided once it gets going.

To use it in cooking you need the base of the plant and not the blades. The leaves work well for tea. Use stems that are ½ inch thick, reach the base of the stem, twist and pull out. Use the plant for its lemony flavor and aroma. In fish or chicken you can place stalks that have been pounded (brings out the flavor and aroma) into the cavity of the meat and then cook. In salads use the pale cores cut up and dress with a citrus vinaigrette and ginger. It can also be used in stir-fries, stocks and soups.

**VIETNAMESE LEMONGRASS CHICKEN**
Adapted from Food & Wine Magazine, October 2007
Serves 4

2 tablespoons fish sauce
3 garlic cloves, crushed
1/2 teaspoon salt
2 tablespoons plus 1 1/2 teaspoons sugar
1 1/2 pounds boneless, skinless chicken breast/thigh, cut into 1 1/2-inch pieces
3 tablespoons water
3 tablespoons cooking oil
2 fresh lemongrass stalks, tender inner white bulbs only, minced
1 large shallot, thinly sliced
3 chilies, seeded and minced
1 scallion for garnishing

**METHOD:**
In a bowl, combine the fish sauce, garlic, curry powder, salt and 1 1/2 teaspoons of the sugar. Add the chicken meat to coat. In a small skillet, mix the remaining 2 tablespoons of sugar with 1 tablespoon of the water and cook over high heat, stirring until the sugar is dissolved. Cook without stirring until a deep amber caramel forms. Remove from the heat and stir in the remaining 2 tablespoons of water. Transfer to a bowl.

Heat a wok over high heat. Add the oil and heat until shimmering. Add the lemongrass, shallot and chilies and stir-fry until fragrant. Add the chicken and caramel and stir-fry until the chicken is cooked through and the sauce is slightly thickened. Transfer to a bowl and top with the scallion. Serve with steamed white rice.
**MG News**

**MONSOON MADNESS STARTS NOW**

Start thinking about Monsoon Madness now. The third annual Monsoon Madness Plant and Yard Sale will be held in July. This is the “big event” for raising funds for The Association. A large percentage of the proceeds are from plants grown by Master Gardeners. Start those perennial seeds now. Think of what favorite shrub or native can be slipped and grown for the July sale. Herbs are especially popular. Steve McIntyre, zpsteve@yahoo.com, is chair for the event.

**Congratulations**

The following Master Gardener completed her first 50 hours and is ready for a certificate and name tag.

Veronika Belkiewitz
Mentor Juliette Colangelo

FROM THE EDITOR: Please send or email articles and announcements to the address below. All articles must be in my hands by the 10th of the month. Short announcements (no more than 2 or 3 lines) will be accepted until the 25th.

Nora Graf
PO Box 3652
Camp Verde, AZ 86322
mesquite2@hotmail.com
(928) 567-6703

Jeff Schalau
County Director, Yavapai County Extension Agent,
Agriculture & Natural Resources
email: jschalau@cals.arizona.edu

**Prescott**
840 Rodeo Dr.
Building C
Prescott, AZ 86305
(928) 445-6590
FAX: (928) 445-6593

**Camp Verde**
2830 N. Commonwealth Dr
Camp Verde, AZ 86322
(928) 554-8999
MG Desk (928) 554-8992
The next MGA meeting will be May 18th in Prescott. At the May meeting we will welcome the 2011 Master Gardener class members to our association, so come and meet them. Each MGA committee chair will introduce their committee members and give a brief overview of their committee’s responsibilities.

Meetings are for Yavapai County Master Gardeners only.