Native or Not
by Nora Graf

There is an argument raging about the use of natives in the landscape. Various pundits range from the “absolutely have to use natives” and “only natives” to the “why bother” group. Really folks, there is a middle ground.

I’ve been moved to despair as I’ve seen large swaths of Arizona being bulldozed, scraped clean of everything—centuries of life, plants, reptiles, mammals, birds, suddenly homeless or gone. Aside from the fact of just liking the look of many of them, for me planting natives is a way of compensating for the bulldozers. A small gesture admittedly, but when hummingbirds feed in my yard, when snakes create babies in my flowerbeds and when lizards sun on the fence, it makes me feel better. There are non-native plants in my yard also that the hummingbirds like and the snakes lurk under. I also understand it will not make much, if any, difference in a species survival but you do what you can.

One misunderstanding about native plants is that all natives are alike. What I mean is just because it’s native to Illinois doesn’t mean it’s native to Arizona (think coneflowers, native to the midwest prairies). There are lots of natives that are used in landscaping but will an Illinois native grow well in Arizona? It might even be as narrow as a Sonoran desert native vs. a Chihuahuan desert native. A perfect example is those “native” wildflower mixes. If you read the label they are often more native to the Midwestern prairies than the Arizona desert. That’s not to say they won’t grow here. You will have to figure out where you fit in the continuum of “natives”. Native can have more than one meaning.

You often hear that natives are drought tolerant and take less care and work than some other plants. Once plants are grown in a nursery, fed and watered in a container they get used to it. They have to be weaned off the easy life of a nursery container plant. Watering them once when you put them in the ground will result in a dead plant. Just because it’s native, doesn’t mean it’s drought tolerant either. I dare you to plant a “native” cactus next to a “native” columbine and expect them both to survive. There are non-natives that are as drought tolerant as any so-called native. With luck,
they may take less care and water in the future but plants will still need to be pruned, leaves raked up, and the beds weeded. Gardening is work, native or not.

Natives have fewer diseases or insect problems. Maybe, maybe not. For every plant there are pests and diseases. In their truly native environment the pests, diseases and plants have reached a fluid peace with one another. The plant has the ability to resist to some degree their attacks. Pests and diseases are on a constant learning curve to outwit them. When planted in your yard, you have introduced something completely new in the mix. It may mean that the roulette wheel is spun and you never know what will happen and a pest that isn’t in the plant’s “native” environment suddenly descends like a kid finding ice cream.

Native plants are not foolproof! Seek the middle ground. Consider plants that are called natives but find the right home for them. Like all plants they require the right combination of sun, soil type and care for them to survive. They do have the ability to attract native insects (butterflies included). I mention this because people have a remarkable ability to forget butterflies are insects. Also birds, reptiles and mammals may need certain plants for food and survival.

Natives can be beautiful plants that may be drought tolerant. But they are not the only choice. Feel free to mix and match to suit your own garden style; just consider that some plants are better for the creatures that share our world. The world would indeed be a better place if we all planted more penstemons (attracts native birds and insects) and globe-mallow (seeds are eaten by doves and quail).

The middle isn’t a bad place to be.

Want to provide quail and dove food? Try this link for more information
http://www.azgfd.gov/w_c/landscaping_flowers.shtml

Copy this link for an interesting view on native plants
http://www.plantdelights.com/Tony/native.html

The event starts Friday August 27 with Sustainability Demonstration Tours featuring local practitioners’ of water harvesting, Square-foot gardening, Xeriscape gardening and Fire-wise landscaping. The Conference itself begins on Saturday August 28 with a full breakfast at the Mazatzal Casino. The two keynote speakers are renowned authorities in sustainability: desert permaculture innovator and author Greg Peterson, founder of the Urban Farm in Phoenix, and acclaimed author David Wann of the PBS series Affluencia, and author of The Zen of Gardening, Simple Prosperity, and Superbia! 31 Ways to Create Sustainable Neighborhoods They will address sustainable gardening from both the desert and high arid mountain perspectives at morning and mid-day sessions. Expert speakers at morning and afternoon breakout sessions will explore other facets of sustainable gardening, including Movable Hoophouses with Ed Page, Songbird Gardens with Tice Supplee, Wonderful Worms with Fred Jimenez and Lauren Cathcart, Farmer’s Markets with Valerie McCaffrey, Community Gardens with Rebekah Doyle, Gravity-Fed Irrigation with Ed Martin, Vegetables for Sustainable Gardens with Cayci Vukasovich, Tinctures & Salves Using Wild Herbs with Leilah Breitler, and Home Orchard Success! with Terry Mikel and Jeff Schalau. Specialty vendors, including a book seller, will be onsite to add to the atmosphere.

The cost is $75 for Saturday’s conference and $25 for Friday’s demonstration tours, paid by July 30 ($105 for Saturday and $30 for Friday after July 30). Advanced payment by credit card is accepted. Lunch, full breakfast, coffee, tea & juice, breaks and welcome bags are included. The conference is open to the public. Pre-registration is required; seating is limited. Registration forms and other details are available at http://extension.arizona.edu/gila/horticulture

* Sustainable Gardening is based on the concept that our gardening practices can produce food for and beauty in our homes and communities today without compromising the resources needed for future generations.
One of the alternatives to spraying insecticides is the use of beneficial insects. Not that long ago I wrote an article about one, the ladybug, but there are others. Beneficials have been especially useful in greenhouses as the structures can keep the insects contained. In open gardens they aren’t as effective but if you have a specific problem and use them correctly they can be make a difference in your garden.

The Lacewing
Chrysopa sp.
There are many lacewing species, some that feed on nectar and honeydew but others are predators. The species we use the most as a beneficial feed mostly on aphids. In some species both the adults and larvae will feed on insects other than aphids also. It’s a good thing when you find them in your yard. Most lacewings are a delicate green in color with two pairs of wings and golden eyes. The wings are large and transparent. The common green lacewing is found throughout North America. Lacewings are sometimes confused with dragonflies but lacewings fold their wings over their bodies while dragonflies hold them out to their sides.

Lacewings overwinter as adults usually in leaf litter. Come spring the adults lay eggs. Eggs are laid at night. A female can produce 100 to 200 eggs that are laid at the end of long stalks. They are often laid nearby aphids. When the eggs hatch in 3 to 6 days, the young insects descend on the aphids and feed. They are fast and have large pinchers with which they suck out the body fluids of the prey. The larva doesn’t stop with aphids and will feed on any insect small enough for them to handle, including caterpillars, insect eggs, thrips, small worms, immature whiteflies and others. Larvae are slender with a humpbacked shape and have bristles that sprout from the sides. They collect bits of food and debris to hide themselves from birds. Larvae go through 3 instars, which last two to three weeks. Adults will feed on pollen, nectars and honeydew along with mites and aphids. The lifecycle can be influenced by temperature and there may be several generations per year.

The more predaceous species are bred as biological pest control. They are generally sold as eggs. They have a spotty record of success in the home garden and seem to be better used in greenhouse or contained settings and in higher humidity settings. You can improve their chances of staying around by having nectar and pollen sources available. To increase the success of any “release”, monitor the insect infestation. If there isn’t enough for them to eat, they will not survive or as an adult leave the area. Once the lacewings are released do not use any broad-spectrum pesticide.

You can attract lacewings by planting things like dill, coreopsis, cosmos, sunflowers and dandelions. I suspect most of us won’t have to plant dandelions; we just might need to rethink killing them, though.

Trichogramma
Trichogramma is a wasp that preys on gypsy and codling moths. The wasps are very small, 4 to 5 would fit on the head of a pin and they do not sting. The wasps lay their eggs inside the eggs of the moth. There are over 200 species but only a few species that are used as beneficials. They target different species of moths. T. brassicae is the one you need for your home garden. T. platneri is used for grapes. These wasps are the most studied and released beneficials in the Southwest.

When you receive your order of wasps they are actually parasitized moth eggs. The strips with the eggs
are hung on branches near where you have seen caterpillars. 12,000 Trichogramma will treat up to 500 square feet. The wasps themselves will actually travel great distances so if you don’t really have a problem the wasps will move on.

To use in the garden you need to wait until you see signs of caterpillar damage. Select the wasp that will target your problem—otherwise you will be wasting your money. Beneficials can be a good alternative to pesticides but make sure you use them appropriately for the best result. A search on the internet will provide you with several resources for purchasing beneficials. Below are a few.

Gardens Alive
(513) 354-1482
5100 Schenley Place, Lawrenceburg, Indiana 47025
www.gardensalive.com

Arbico Organics
www.arbico-organics.com
800-827-2847 or (520)-825-9785
PO Box 8910
Tucson, AZ 85738-0910

Peaceful Valley Garden Supply
P.O. Box 2209
125 Clydesdale Court
Grass Valley, CA 95945
(530) 272-4769 Toll Free (888) 784-1722
Email helpdesk@groworganic.com
www.groworganic.com

Root-knot nematodes are extreme parasites. These microscopic, omnipresent worms cause major damage to horticultural and field crops in sub-tropical regions, resulting in significant financial losses to growers and gardeners.

Until recently, fumigation of the soil with methyl bromide before planting was the primary method for controlling root-knot nematodes in valuable vegetable crops. Methyl bromide (MeBr) is an odorless, colorless gas that has been widely used as a plant pesticide. Since the discovery that the substance has severe negative effects on the environment—it depletes the stratospheric ozone layer—the use of methyl bromide has been phased out in the U.S.

To combat parasites like root-knot nematodes without the use of chemical pesticides, scientists are focusing more research on developing new, parasite-resistant varieties of vegetables. Dr. Judy Thies, a research plant pathologist at the U.S. Department of Agriculture’s Agricultural Research Service, was part of a team of scientists who developed the Charleston Belle variety of bell pepper, the first nematode-resistant bell pepper.

In a study published in the February issue of the American Society for Horticultural Science’s journal HortScience, Dr. Thies and her colleagues tested the stability of two types of bell peppers, Charleston Belle and Carolina Wonder. Thies explained, “These two types of pepper cultivars are the only nematode-resistant varieties available to commercial growers and home gardeners. Since a large percentage of bell pepper production in the U.S. occurs in the Southeastern U.S., and in particular Florida, we tested the peppers for resistance to nematodes in sub-tropical climates to determine if the cultivars were stable when grown in Florida under high soil temperatures. It is important to know whether the peppers’ resistance to parasites breaks down when peppers are grown in hot climates.”

Good news for growers and gardeners: study results showed that nematode-resistant varieties such as Charleston Belle and Carolina Wonder are viable alternatives to methyl bromide for managing southern root-knot nematode in bell pepper in sub-tropical environments. To increase the availability of parasite-resistant vegetables, commercial seed companies are currently developing nematode-resistant hybrid bell peppers using both Charleston Belle and Carolina Wonder.

The complete study and abstract are available on the ASHS HortScience electronic journal web site: http://hortsci.ashspublications.org/cgi/content/abstract/43/1/188
Roundup seems to be one of the most used—garden/yard chemicals in the United States. If you see someone spraying sidewalks, gravel, medians and the like, it’s probably a version of Roundup®. (Roundup® is a brand name*).

Roundup® if for some bizarre reason you haven’t heard of it, is an herbicide. Basically it will kill any plant. It is considered a somewhat benign chemical, depending on how you feel about garden chemicals and EPA testing procedures. The main active ingredient is isopropylamine salt of glyphosate. The other main ingredient is POEA (polyethoxylated tallow amine), a surfactant. POEA is a known toxin for wildlife. What it does is help the glyphosate penetrate the plant (and animal) cells. It is most toxic to fish and aquatic invertebrates, which is why it is not supposed to be used in aquatic environments or where it can be flushed into aquatic environments. It also has what they call inert ingredients. The names of inert ingredients do not have to be released to the public as the companies consider them proprietary information. There are raging arguments over whether to change the rules on inert ingredients because they may not be as inert as originally thought and their toxicity is unknown. For a list of the inert ingredients in glyphosate herbicides and their effects, go to the document found in the Journal of Pesticide Reform, Winter 2004: http://www.pesticide.org/glyphosate.pdf.

In soil the chemical becomes inactive and degraded by bacteria. Depending on the soil conditions, the chemical can survive from 3 days (Texas) to 141 days (Iowa).

Symptoms of glyphosate poisoning include eye irritation and inflammation, blurred vision, rashes and itchy skin, headaches, asthma, nosebleed, sore throat, lethargy and dizziness. There is also evidence that it can cause genetic damage.

Glyphosate works by blocking a plant enzyme that makes certain amino acids. Without the acids the plants can’t make proteins necessary for the plant’s survival.

If you are interested in knowing more about the chemistry of glyphosate, Wikipedia has lots of information, but I’m not going to go into it all. It’s way too complicated for here.

Farmers use the product with abandon; especially with the new genetically modified crops they are growing. The genetic modification makes plants resistant to Roundup so a farmer can plant GE (herbicide tolerant) seeds and then more effectively control weeds. They spray Roundup on their fields and it kills the weeds and not the crop. The use of GE crops, mostly corn, soybeans and cotton, has caused the increase of herbicide use by 383 million pounds (46% increase) in the US. The problem is that the weeds are fighting back, so to speak. Many of the common weeds in fields are now developing resistance to Roundup®. They include weeds like common ragweed, common water hemp, giant ragweed, hairy fleabane, Italian ryegrass, Johnson grass, Palmer amaranth and rigid ryegrass.

In California where few GE crops are grown there has been a rapid development of Roundup resistant weeds in some cases. (Information came from the California Farmer, www.CaliforniaFarmer.com, March 2010)

While the use of Roundup® and other glyphosate products has increased, it has decreased the use of more dangerous herbicides.

One of the interesting and little-known side effects of using “Roundup Ready®” GE varieties is that yields seem to be reduced from those of more conventional soybeans, although Monsanto claims later GE varieties produce better yields.

With all chemicals, read the label, pick the product that is appropriate for your problems and then read the label again to make sure you are applying it correctly. When you buy the product you are legally obligated to use it according to the label. Be a good consumer, good neighbor and good to your family and garden and apply as directed on the label.

*Glyphosate was originally patented by Monsanto but the patent has now run out so many weed killers contain it although they are not called “Roundup”. Roundup® is a trademarked name but it is coming to mean herbicide in general it seems, like Xerox replaced copy or Kleenex means a tissue. Check the ingredient list on the herbicide to find out whether the product contains glyphosate.
The Yavapai County Master Gardener Association Garden Tour will take place in the Verde Valley on June 5, 2010. Registration will be at Windmill Gardens in Cornville from 8:00am-10:30am. Following registration, participants may leave at any time to begin the tour. Maps will be available at registration and all gardens will be keyed to the map. Registration fee of $5.00 is for cost recovery. The Garden Tour is open to Master Gardeners and their guests and to Garden Clubs in the Verde Valley area.

The gardens on the tour reflect the individuality of the various garden owners. While enjoying the diversity of the gardens, you will also observe common themes among the garden owners. You will have an opportunity to learn about a variety of xeriscape plants, water catchment and vegetable gardening. The owners’ enthusiasm for their gardens is evident.

Whimsical is descriptive of the impression when you enter Sally Berkshire’s garden. You will be tempted to sit and relax in her re-creation of a Mexican Cantina. But, you’ll want to see how she has used terracing to define areas for her succulent garden, herb garden, vegetable garden, fruit trees and roses. Sally’s garden features composting, vermiculture and a green house. Sally’s garden has been featured on Public Broadcasting Channel, Gardens of the Southwest.

You will instantly notice Jan Billiam’s love for color when you step into her garden. Perennial beds are accented by dashes of annual color. Jan’s expertise at plant placement is evident. Whether you want a shade-loving plant or a plant that can withstand the Arizona sun, Jan has a solution. Beautify a wall with vining plants such as Trumpet Vine, Jasmine and Lady Banks Roses. With a background including the red rocks, the sound of gentle water, and the beauty of the landscape, you can understand Jan’s love of gardening.

Plum trees line the driveway as you approach Bob Burke’s garden. When you look beyond the garden you will see a scrub desert. It’s then that you begin to understand the extent of Bob’s toil in creating a xeriscape oasis that attracts both hummingbirds and butterflies. Bob has integrated some of the original trees with additional low water usage trees, shrubs and colorful perennials. Being an avid vegetable gardener, Bob has an excellent demonstration on using raised beds for this purpose.

Linda Scheerer’s front yard has become an educational tool for her to convey a message about desert landscaping. Neighbors often stop to see her garden because they are drawn to the abundant color of the cacti, desert shrubs and adaptive low water usage plants. Her backyard is her haven where she finds coolness and the aroma of creeping thyme, which she has used as grout for her flagstone patio. Linda’s colorful plants and bubbling water fountain attract many birds to her garden.

An abundance of roses will greet you as you approach Jeannette Teet’s home. Jeannette has created a haven for relaxation on over an acre of land in a bucolic setting. A gazebo, yard art and babbling water feature all add to the ambience. Her garden has been an evolving nine year process. Each year Jeannette replaces a part of the existing grass with hardscape and planting beds. Her landscape is watered through a drip irrigation system that is connected to a river-fed ditch system. Jeannette designed and planted using the Seven Principles of Xeriscape. Jeannette’s yard is an outstanding display of plants that thrive in the Verde Valley.

The Garden Tour Committee hopes you will join other Master Gardeners as we share in the trials and delights of these exemplary gardens.
**MG News & Activities**

**Congratulations**

*Susan Brook has completed 50 hours*

**Mentor: Eunice Rickleffs***

**Native Plant Walk**

Sue Smith is leading a native plant ID walk on May 21st. Be at the Williamson Valley Trailhead at 8am. The following link contains directions: [http://www.rimsurfer.com/trails/pnf_gbra_willowtrail_347.htm](http://www.rimsurfer.com/trails/pnf_gbra_willowtrail_347.htm)

Please let Sue know if you plan to attend, suejs01@yahoo.com 778-5602.

**MG Program Survey**

A brief survey was recently e-mailed to Master Gardeners, asking for your input on a few items. The goal is to get a benchmark so we can survey you every couple years to see if the program is growing in the direction that you desire. If you don’t have e-mail you may get a copy at the Cottonwood or Prescott Ext Ofc. Responses are due by May 15th. Contact Jay Fleishman for questions, jfq16@hotmail.com, 639-0528.

**Monsoon Madness Volunteer Opportunities**

Sign up to help w/ Monsoon Madness on July 8, 9, and 10. Contact Missy Sandeen, rmsandeen@bullerinetworks.com, 771-9856.

**Moth and Beetle Collecting – Prescott Ext Ofc**

Spend a Saturday evening with Master Gardeners; start with potluck dinner, then learn and practice moth and beetle collecting methods with Stephanie Shank. You will be amazed at the variety of critters that are out at night. Make reservation with Christi Armer, ch_armer@hotmail.com, 713-9881.

**Prescott Iris Show**

Show date is Mother’s Day weekend, May 8th. Won’t you come be part of the fun? More information is available by calling Roger at 442-2498 or dropping by Mortimer Nursery to pick up a copy of the show rules. Entries will be accepted from 7:00 to 8:30 AM and judging will start at 9:00 AM. Public viewing is 12:00 to 4:00 PM.

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.

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**Jeff Schalau**

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(928) 445-6590
FAX: (928) 445-6593

**Cottonwood**

2657 Village Dr.
Cottonwood, AZ  86326
(928) 646-9113
MG Association Meeting
Cottonwood, May 19,

Program: Welcome to new Master Gardeners