

Yavapai Gardens

Master Gardener Newsletter

June-July 2017



Table of Contents

Beans . . . 1
Meet a MG—Sue Smith . . . 4
Coreopsis . . . 5
Yarrow, Achillea sp. . . . 6
Announcements . . . 7

Beans

by Nora Graf



Disclaimer: beans are my Waterloo; I haven't been successful in growing beans except once (teparty beans) since I moved to Camp Verde nearly 26 years ago. Don't despair, I know a lot of great bean growers in the County so you can grow them, too.

The word "bean" has existed since the twelve century in the German language. Originally it referred to broad beans or favas and other pod type seeds like soybeans, peas, and chickpeas before the New World species, *Phaseolus sp.*, were known. Once the European explorers started coming back from the New World bringing a variety of specie, the word bean was applied to many plants with bean-like pods. While there has been a desire for a clearer defining words for beans, it has never gained traction and the word bean still refers to a wide variety of plants.

Beans have been cultivated and gathered for centuries. It is one of the longest-known cultivated plants. Bean cultivation has been traced in Thailand since before the development of ceramics. Beans were placed with the dead in Egypt. The oldest cultivated beans were found in Peru 8000 to 5000 BCE.

Broad beans, asparagus beans, runner beans, bush beans, French beans, pole beans, lima beans, fava, and tepary are a few of the beans you can try. Just by the names you can tell beans come in an amazing variety of types, colors, sizes and uses. Around 40,000 different beans are held in gene banks but are just a fraction of the bean varieties. They are a staple grown the world over. All are members of the legume family that also includes things like peas, mesquites and palo verdes. Beans are grown as an annual although many are perennials. "Green beans" are used fresh

off the vine, while “shell beans” are dried.

The French bean is the one most commonly used as a fresh bean. While known as the French bean it has its origin in western and central Mexico, Guatemala, Peru, Bolivia and Argentina. The wild species are all climbers. By 200 BC the bean was grown in North America. It did not make it to Europe until the early sixteenth century. Seed color, texture and growing habits have all become part of the selection process. Wild varieties usually have papery pods that split when the seeds are ripe. These are generally used as “shell” beans. Leathery-pod types are used green, with



stringless varieties tending to be the most palatable for fresh eating. Today the French variety comes in a variety of colors including yellow, green, purple and red. It is the most common variety grown in home gardens.

Native to Mexico, runner beans are often grown for

their beautiful flowers. The usually brilliant red flowers (there is a white variety) are pollinated by hummingbirds and bumble bees. Native varieties have small seeds while more modern varieties have seeds that are quite large. Both are edible. The cultivated variety dates from about 2200 years ago and was introduced in Europe in the sixteenth century. The seeds can be quite striking, generally being a mottled red and black although variations occur. This is a great variety to try. The flowers attract hummingbirds and insects along with being a beautiful display for the gardener.

Lima Beans come in two basic choices—large seeded and small seeded. Both types can be found in climbing and bush varieties. Another South American native, it was found being cultivated by native people in Peru. It requires a longer growing season than other bean types and is a perennial but is mostly grown as an annual. It is a true southern belle, not liking colder climates. White-seeded varieties are the choice for fresh



use, colored varieties need to be soaked and boiled. The pods of lima beans are not generally eaten.

Fava beans (or broadbeans) have a misty past but are known to have been grown in the Middle East for 8,000 years before they made it



to Europe. They were considered peasant food at one time and the upper class avoided them. These are one of the few cultivated beans that prefer

cooler weather.

Cowpeas and Asparagus beans are grown mainly in India and West Africa but the seeds are readily available to North American gardeners. You may have already grown the asparagus bean as a novelty. It is also known as yard long



beans while the cowpea may be more familiar being called crowder or black-eyed bean (pea). The wild bean was first found in the savannahs of Africa but it is in Ethiopia where the greatest variety is found. The cultivated form traveled from Africa to India and Arabia with the Greeks and Romans. They made their way to the Americas via the Mediterranean and then on to South America from West Africa with the slave trade. The Asparagus bean or yard long was cultivated in Asia. It is the long immature pods that are normally used for the dinner table.

Chickpeas (or Garbanzos) are grown in the hotter and drier areas of southern Europe, North Africa, China and India as well as being an important crop in Mexico. There are two seed types. One is round and smooth, while a variety mainly from India and Ethiopia has smaller wrinkled seeds. Chickpeas are annuals and are



often grown in the winter in mild climates and harvested in spring. It is generally grown as a field crop and rarely found in gardens. The garlic-sesame dip, hummus, is made from garbanzos.



All beans have similar cultural requirements. They are frost-sensitive, except fava beans which require a cool growing season, and need warm weather. A well-drained soil is a necessity as the seeds will easily rot if the soil stays wet. Soil temperature needs to be at least 60°F with the air temperature between 70° and 80°F. Pole beans are the most sensitive to the cold, so don't rush them into the ground in the spring. They prefer a sunny location with good drainage. Beans are self-pollinating so you can plant different varieties close to one another. Pole beans generally have a higher yield than bush beans.

Pests and problems with beans are numerous, but good cultural practices will help reduce the problems. In Yavapai County there is a variety of fungal diseases, including rust, white mold and powdery mildew. Pests include aphids, spider mites, thrips and the Mexican bean beetle.

Beans, as member of the legume family, are nitrogen fixers. Nodules can form on the roots that contain bacteria that can provide nitrogen to the plant. You can buy bean inoculant to encourage them to develop the nodules. It is available in a number of catalogs. It has to be used fresh so don't leave it laying around. Heat will kill it so get it in the ground quickly once it arrives.

Most catalogs carry a number of varieties of bean seeds including both heirloom varieties and hybrids. Native Seed Search out of Tucson has a number of types grown by Native Americans. My successful tepary came from them. Experiment!

Sources: every gardening catalog carries bean seeds. Every rack of seeds has beans but if you are looking for something different try these sources.

Native Seed Search

3061 N. Campbell Ave.
Tucson, AZ 85719
520-622-5561

www.nativeseeds.org

Carry varieties grown by native Americans in the Southwest

BakerCreek Heirloom Seeds

2278 Baker Creek Road
Mansfield, MO 65704
Phone: (417) 924-8917
Fax: (417) 924-8887

email: seeds@rareseeds.com

www.rareseeds.com

Carry a large variety of different types of beans.

Seed Savers

www.seedsavers.org
3094 North Winn Road

Decorah, Iowa 52101 (563)382-5990

Customer Service Hours: Monday to Friday, 9am - 5pm
CST

Carry a large variety of beans

Victory Seeds

www.victoryseeds.com

P.O. Box 192 - Molalla, Oregon 97038
(503) 829-3126 [voicemail line].

Very small company so leave a message. Has a large variety of seeds available.

Hummus

While the traditional hummus is made with garbanzos, you can substitute other dried or canned beans.

- 2 cups beans
- 1/3 cup plus
- 1T lemon juice
- Salt to taste
- 2 cloves garlic
- 1/2 cup sesame paste (tahini)
- 1/4 to 1/2 cup olive oil

Cover beans with water (omit if you are using canned) and add 1 tablespoon lemon juice and 1 teaspoon salt. Bring to a boil and cook until tender, about 20 minutes. Drain (the liquid is high in nutrients and can be use in soups and other dishes) and place beans in a food processor or blender. Mince garlic. Add 1/3 cup lemon juice, garlic, sesame paste, salt to taste and 1 to 2 tablespoons oil. Puree, adding additional oil until it is the consistency desired. Season with salt and pepper. Serve with traditional middle eastern flatbreads, crackers or tortilla chips.

Meet a Master Gardener: Sue Smith

by Lori Dekker

Spring in the central highlands of Arizona brings hillsides and canyons brimming with birds, bees, flowers and the people who love them. I spent a glorious mid-April afternoon at Willow Lake studying one of Yavapai County's own self-described "Flower Chasers." Even if you haven't met Sue, you know her work. She's the president of the Arizona Native Plant Society and the inspiration behind the Native Plant Database, a tool nearly every plant nerd in the County knows about. True to form, her idea of a get-away vacation is packing up husband, tent and camera to head out to big or even "super-bloom" areas across the country. She was still swooning about the Carrizo Plain National Monument wildflower bloom when I caught up with her.



Sue comes to her love of botany honestly having been raised in rural Nebraska on a farm. She recalls spotting a prairie coneflower as a 4-year old and forever after chasing the thrill of finding that kind of beauty again and again in nature. As a 6-year old she was growing vegetables and by 10 she was feeding her family out of her garden plot. Living near the Platte River gives mid-western farmers good soil to start with so she soon mastered the art of big harvests. It's unclear when little Sue had time to go to school because she was also heavy into 4-H, raising beef and rabbits.

Not surprisingly, the young Ms. Smith got her B.S. from Kearney State College, now the University of Nebraska, and worked as a Research Biologist in cancer research and human genetics labs at the University of Nebraska before moving on to California.

California gave birth to a second career in computer programming, networking and database development at Lockheed Martin and eventually Senior Management of Internal International Information Technology at eBay. Along the way she met (on a plant field trip in the eastern Sierras, of course) her husband Phil, who is an avid birder. Together, with their love of photography, birds and plants, they raised a son, lived and worked in the Bay Area and spent their down time tramping around in the wilderness taking pictures of the things they loved. Sue even squeezed in a 4-year stint of teaching high school biology and algebra.

Time for retirement brought them to Prescott where Sue has handily merged her love of plants, teaching, computer information systems and the great outdoors to become the power house volunteer that she is. She and Phil still pack up the truck and tent to "follow the flowers." She has spent 10 years working on the Native Plant Database. According to her it's a labor of love and a fulfillment of a goal to develop her own web-driven data based application. Because of a lifelong interest in photography and flowers she was able to produce, with the help of many volunteers, a tool that is available to anyone with a computer. Free of charge and no botany background required!

<https://cals.arizona.edu/yavapaiplants/>

For all this and more, Sue was presented with this year's *Keep Sedona Beautiful*, Herkenham Award for her work on the Native and Naturalized Database. And true to Sue's nature she remarked that "it was a work of love for plants and the people on the team over the years." Yavapai County has been blessed to have her in our midst.

Coreopsis

by Nora Graf



Sometimes known as Tickseeds, this showy flower is commonly found in wildflower gardens. The bright yellow flower is a reliable bloomer even in desert gardens. The name tickseed comes from the small flat seeds that resemble bugs.

Coreopsis is derived from the Greek words meaning “bedbug” and “view” which refers to the shape of the seed. There are 75 to 80 different species that are native to various regions of North, Central and South America.

Coreopsis is an easy-growing plant that can be started from seeds or bought as container plants. It tolerates a range of soil conditions and doesn't mind dry conditions. There are tall varieties that can reach 4 feet in height down to small mounding varieties that are good for edging. Plant in a sunny location with well-drained soil. The plant reseeds easily.

Seeds are available for the native varieties but hybridizers have been at work and the yellow coreopsis now has red, pink, pale yellow, multicolored, white and burnt-orange colored ones. The pollen and nectar of coreopsis attracts insects and is important to some varieties of butterfly caterpillars but are generally free of pests.

There are several native coreopsis that have been brought into the nursery trade.

C. lanceolata, lance-leaved coreopsis, is a North American species originally found in the eastern and central US but has become naturalized in Canada, the western US, South America, Mexico, South Africa and eastern Asia. Outside its native range it can be invasive, replacing native plants and in China and Japan it is prohibited. In Japan it is on the list of 100 worst invasive species. This species prefers sandy, well-drained soil but can handle extremes in either direction thanks to its rhizomatous root system. The more water it gets though, the floppier its stems become.



You have probably seen an Arizona native, **C. tinctoria**, known as the Plains coreopsis or golden tickseed coreopsis. It has bright yellow flowers with a dark maroon center. The plant is common from Canada to Northeast Mexico and most of the United States. In the United States it is found in the Great

Plains and south. It is sometimes called “calliopsis.” It has been widely used in China and now has become naturalized there. The Zuni Indians used the blooms to make a red mahogany colored dye for yarn. It was also used as a hot beverage until coffee was introduced. It is one of the most common species used in wildflower gardens.

It, like many of the coreopsis, can be an annual, perennial or biennial. The flowers are bright yellow with a brown center. The plant forms a central rosette and sends up multiple erect stems from the rosette up to two feet tall. It flowers from June to September, starting with the monsoons. It can be found at elevations from 2000 to 7000 feet in meadows, roadsides, disturbed areas in sandy and clay soil. Seeds are available and you can sometimes buy plants.

Today a large variety of plants developed from the wild varieties are available in nurseries and catalogs.. Some of my favorites are the small ones like **C. zagreb**, Full Moon and Berry Chiffon. They have thin fine leaves and the flowers dance in the wind. There is a new one called “Strawberry Punch” and another ‘Pumpkin Pie” but if you are looking for simplicity and one that reseeds, the classic native species should work fine.



Yarrow, *Achillea* sp.

by Nora Graf



Yarrow is a tough plant and works well in many different landscapes but is very popular in xeriscapes because it can survive in low water situations and still look good. Today a variety of colors are available for your garden. Yellows are the most common but it also comes in shades of yellows, oranges, reds, pinks and pale purples.



Worldwide there are a large number of species with

different colored flowers that have been hybridized to produce the garden plants we find today. For many years in the United States it was thought there were a number of species but it turns out there is probably just one with many variations. The one species is *A. millifolium*, a white variety that is thought to have crossed the Bering Strait land bridge and spread throughout the continent. As it adapted to this new environment it adapted to regional conditions. When scientist explored North America looking for new species, they recognized similarities but often thought they were different species. So Arizona ended up with a species called *A. lanulosa* but it turns out it is probably *A. millifolium* now identified as variety "lanulosa." I know that might not be interesting to some people but think about one species over time adapting to regional conditions and becoming different enough to confuse a lot of scientists. Evolution at work.



This variety is found in most counties of Arizona. The leaves can be fuzzy and the flowers are small with the rays white and the disk pinkish. In the Aster family the

flowers are actually made up of two types of flowers. The flashy colored parts are the ray flowers while the center portion is made up of disk flowers. Each "petal" is actually a single flower and the center is made up of individual disk flowers. Each flower produces one seed.



Achillea are easy to identify by their fern-like foliage (sometimes fuzzy, sometimes not) and tall umbels of brilliantly colored flowers. (Umbels: think dill flowers or Queens Anne lace flowers). They generally have strong stems so the flowers don't flop. The plant can grow

almost anywhere. While it likes a rich soil (too much fertilizer will cause the plant to be tall and gangly) it will tolerate poorer soils but needs good drainage. It takes full sun and in the hottest areas might appreciate some filtered afternoon shade. In some places it is considered invasive because it will spread through a rhizomatous root system but the root system is one of the reasons it can handle dry conditions.

One of the benefits of *Achillea* is that it attracts a lot of pollinators, including some native bees and butterflies, to the garden and it doesn't have many pests that will attack it. The flat flower head creates a nice landing pad that is especially liked by butterflies.



Hours Reporting

Reminder: The fiscal year ends on June 30th. To recertify you need 25 volunteer and 6 continuing education hours.

One Day only! Annual Iris Rhizome Sale, Prescott Area Iris Society

Saturday, July 29th, 2017, 10:00 AM to 4:00 PM

Location: Yavapai Title Building, Conference Room
1235 E. Gurley Street, Prescott, AZ

At the intersection of Gurley and Sheldon Streets

Join the Prescott Area Iris Society (PAIS) for our huge Annual Iris Rhizome Sale with hundreds of Iris varieties for sale, multitudes of colors and forms, recent introductions to historic. Come early for best selection. Free admission. Planting and care instructions given. Portions of the proceeds are used to support numerous PAIS community public outreach programs, Yavapai College Horticultural Scholarships, and horticultural education programs in local schools.

For information contact Dennis 623-980-6627. Visit our web site at <http://prescottirissociety.org/> or contact president@prescottirissociety.org



2016 Newsletter Deadline Schedule

The newsletter comes out every two months. Please note the deadlines.

Publish	Date	Deadline
---------	------	----------

Feb-Mar	Feb 1	Articles Jan 5, announcements Jan 25
April-May	April 1	Articles March 5, announcements Mar 25
June-July	June 1	Articles May 5, announcements May 25
Aug-Sept	Aug 1	Articles July 5, announcements July 25
Oct-Nov	Oct 1	Articles Sept 5, announcements Sept 25
Dec-Jan	Dec 1	Articles Nov 5, announcements Nov 25

From the Editor: Send or email articles to the address below. Email is preferred. Please see schedule for deadlines.

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

Jeff Schalau

County Director, Yavapai County
Extension Agent, Agriculture & Natural
Resources

Prescott Office
840 Rodeo Dr. Building C
Prescott, AZ 86305
928-445-6590
MG Help Desk 928-45-6590 ext 222

Camp Verde Office
2830 Commonwealth Dr #103.
Camp Verde, AZ 86322
928-554-8999
MG Help Desk 928-554-8992

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Economic Development & Extension, College of Agriculture and Life Sciences, The University of Arizona. The University of Arizona is an equal opportunity, affirmative action institution. The University prohibits discrimination in its programs and activities on the basis of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information and is committed to maintaining an environment free from sexual harassment and retaliation.

Arizona Cooperative Extension
Yavapai County

840 Rodeo Dr. Building C

MG NEWSLETTER



Next Meetings

Not the regular meeting date or location!

June 14, Prescott, 6:30pm, Class Welcome at the Mackin Building which is across the road from the rodeo office which is next to the Extension office. The entrance gate from Rodeo Drive off of Miller Valley Rd may be closed. Use the entrance on Gail Gardner.

July: NO REGULAR MEETING

July 15, Monsoon Madness, in the parking lot at the extension office in Prescott.