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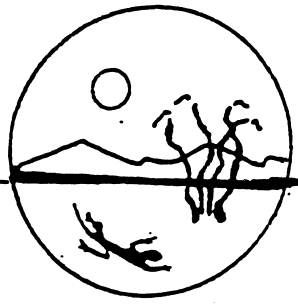
High on the Desert

Cochise County Master Gardener Newsletter



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

PLANT PROFILE– Sansevieria

Family: Agavaceae
Common names: Snake plant; Mother-in-law's tongue

Want a carefree indoor houseplant? Got a black thumb? Live in a dorm or work in a dark office? Try Sansevieria (sanz-uh-VEER-ee-uh).

Perhaps the hardiest of all indoor plants, hence the nickname Mother-in-law's tongue, it can exist under indestructible conditions that would kill other plants. A succulent in the agave family, native to Africa and India, snake plant tolerates any level of light, dry air, uneven temperatures, and drought. The leaves are thick, patterned, grow in clusters, and radiate up and out from the base and range from short, blunt triangles to long swords.

It is listed as one of the top ten plants most effective in removing formaldehyde, benzene, and carbon monoxide from the air. Unfortunately because of it's cast iron disposition, it is taken for granted and most are neglected and unattractive. A healthy and beautiful plant is easy: place in a brightly lit room, water when the soil is dry (mine are watered when I remember–sometimes that occurs only once a month!), fertilize any time of the year (I have never fed mine), use basic potting soil or cactus mix, and they are not picky about the container they grow in (I like them in clay pots with a gravel mulch over the soil). They are rarely attacked by pests and diseases. When plants become potbound they will produce offsets or pups (like the agave). These can be divided and repotted. When plants become older and really potbound they will bloom small sprays of greenish-white, fragrant flowers.

Snake plant can also be propagated by leaf cuttings. Cut a leaf into sections about three inches long and insert into sand, bottom side down. This is one of the few plants which the cuttings may not follow the parent's coloring–maybe you will discover a new mutation!

The original wild African species, *S. trifasciata*, is said to be gourmet food for elephants and is the most commonly one found today. Mutations began to appear in cultivation and now are gaining popularity to create a demand for less common types.

S. 'Black Coral' is tall, narrow with green and grey leaves with dark green bands. 'Black Gold' has green-black centers with bright gold margins. *S.* 'Hahnii' is a compact, low-growing form, whose short leaves form a funnel-shape rosette resembling a bird nest. Often mistaken for a Bromeliad, do not pour water into the rosette as this will cause rotting. *S.* 'Zeylanica' is tall with narrow green leaves with silver/grey bands. *S.* 'Laurentil' has yellow banded margins with green-grey centers.

Sansevieria–a houseplant you should get to know.

Cheri Melton
Master Gardener/Staff Writer

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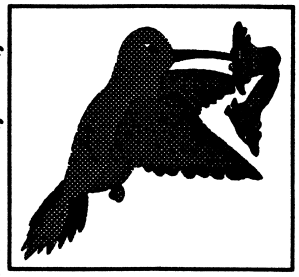
Hummingbird Gardening

One of the most fascinating things about hummingbirds is their speed. This year I witnessed the awesome aerial airshows males perform for females. The display is a series of spectacular high dives and whistling sounds in front of the female and if accepted the brief act of copulation follows. After mating, the females build, incubate, and raise the young on her own. Nests are small, about the size of a half walnut shell, and are made out local materials to camouflage the nest. These include downy fibers, plant material such as cottonwood or desert willow seed tuft, and is tied together with spider webbing. Two tiny eggs the size of pinto beans are laid. Approximately two to three weeks later the babies are born naked, blind, and stub-billed. The mother feeds them nectar and insects and about three to four weeks after hatching they take flight. Often the mother will be on her second nest when feeding the fledglings.



Perhaps the most overlooked item in the hummingbird garden is water. Misconception is that feeders provide them with all the water they need, but hummers also enjoy water features for bathing and drinking. Unfortunately traditional birdbaths are not well suited for this purpose. Generally they need a bath that is a quarter to half an inch deep. Retrofitting a birdbath is easy by adding pebbles to adjust the water level. Sometimes they are found bathing in water collected in the curve of a plant leaf after a rain. Hummers also show a preference for water systems in the form of splashing or misting that they can fly through.

For gardeners, selecting plants that attract hummingbirds can be addictive. Hummingbird and gardening books will list dozens of native plants suited to every region in the country. Flowers that attract hummers generally are in the hues of red-orange, odorless, and tubular shaped.

Here are a few plants that have proven to be great magnets in my hummingbird garden: desert willow; chitalpa; all of the salvia's regardless of color!; trumpet creeper; ocotillo; bottlebrush; desert honeysuckle; lantana; aloe; agave; penstemons (ALL of them!); common thistle; fairy duster; red yucca; and to my amazement and delight Texas rangers *(Leucophyllum* sp.).

By using an assortment of plants that bloom from early spring through late fall you will not only attract hummerbirds but butterflies, sphinx moths, and birds, especially the orioles.

Sources and recommended reading: *Hummingbirds of North America - Attracting Feeding & Photographing*, Dan True, University of New Mexico Press. *Hummingbird Gardens–Attracting Nature's Jewels to Your Backyard*, Nancy L. Newfield and Barbara Nielsen, Chapters Publishing LTD. *The Hummingbird Book*, Donald and Lillian Stokes, Little, Brown and Company

Cheri Melton
Master Gardener/Staff Writer

Cuttings 'N' Clippings

◆ Congratulations to the new Master Gardener Trainees! About seventy people attended the picnic on June 17 in honor of the graduates. Mr. David Gunckel, Sierra Vista Librarian, was the guest speaker. He reported that many of the books donated by the Cochise County Master Gardeners Association (CCMGA) have arrived and once again thanked the organization for the donation.

◆ The next meeting of CCMGA will be August 6, 5:00 pm in Room 900 of Cochise College (near the library). All Master Gardeners and the new trainees are invited to attend.

◆ Guest speaker for the next Sierra Vista Area Gardener's Club will be Tommi Martin, Entomologist, who will be identifying beneficial insects. The meeting is July 17, 2:00 pm at the S.V. Library. Election of officers will be held, also.

◆ The 1997 Southwestern Low Desert Gardening and Landscaping Conference will be held August 8 & 9 at the Wigwam Resort in Litchfield Park, AZ. Registration forms and information are available in the Sierra Vista Cooperative Extension Office.

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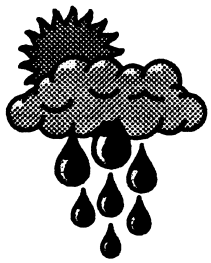

July Reminders

- Keep the pests under control
- You can still plant something
- Keep watering!

Do-It-Yourself Seed Tapes

by EL FRUGAL GARDENIER
A.K.A. Gene Haase, Guest Writer

If you're like me, you've probably heard of seed tapes. I have yet to see one even in the big national seed and nursery catalogs. The idea sounded good, so I decided to experiment. I bought a package of party serpentine streamers for a couple of bucks and a bottle of washable school glue. I got a 1"x4"x8' from the lumber yard–a 10 footer would work as well. I laid the 1 x 4 on the work table in our warm/cool Arizona room, and I stretched out several rows of the streamers on it, fastening the ends with tape. After reading the planting directions on the package, I figured that I could save myself the thinning process by spacing the seeds at the final proper interval. I wrote the name of the seeds on the ends of each tape with a pen–very important because a lot of the seeds look alike. I put the seeds in a shallow saucer, and proceeded to put a small, match-head size dot of glue at each point on the tape that I wanted a seed. A dampened cotton-tipped swab works well to pick up small quantities of seeds. Larger seeds, like beets, can be picked up with your fingers. I usually put 2 or 3 small seeds on each dot to insure germination. If you start on the tape farthest from you, you can work on each tape without knocking the seeds off the ones you have already completed. After the tapes are filled, set them aside to dry for several hours or overnight. You could do this on those cold winter days while you are waiting to get started on your garden.

To plant, prepare your soil, smooth it, and mark where you want your rows. I just lay the 1 x 4 along where I want my row and loosen both ends of one tape at a time. I lay it on the smoothed soil, seed side up, and temporarily hold it in place with a small stone on each end. I don't know if it is necessary, but I give each one a little jump start by dusting a little dry fertilizer along each row from a shaker I made from a plastic jar with holes punched in the lid. I also pre-prepared several buckets of screened top soil. After the seed tape is in place, I simply cover it to the proper depth with the screened top soil. To mark the rows, I cut 3/4 inch strips from old milk jugs and write the names on them with a permanent marker. Once you are organized, you can plant a row in a matter of minutes.

Making the tapes is a bit of a chore, but if you figure the time and frustration of trying to space the seeds properly in the usual way, getting them to the proper depth, and not having to thin later, I feel it's worth it. It may seem trivial, but a packet of seeds will go a lot farther and the seed spacing can be done sitting down in the comfort of your work room and not on your knees in the dirt. I've had pretty good luck with my tapes and seeds sprouting.

I have had to build rabbit/ quail proof cages of chicken wire and 1' x 2's to protect my crop during the early stages of growth. However, I was perplexed to find whole sections of early growth disappearing overnight, until I discovered a hungry family of field mice that could get through the chicken wire. Since I set up a trap line, I haven't had any more problems.

(NOTE: Our guest writer grew up in Iowa and enjoyed gardening with his grandfather as a child. He was employed as a stock boy at Walgreens, working his way up and retiring as a Walgreen executive. Since moving to the Sierra Vista area, he once again has time to garden and loves to experiment. Although we have not tried his seed tape method, we have no reason to believe it won't work.)

Water Factoids

- The bathroom accounts for 75% of the water used inside the home.
- Place food coloring in the tank. If the color shows up in the bowl without being flushed, you have a leak to repair.
- If you are remodeling your bathroom or building a new house, consider some of the water saving toilets available. A conventional toilet in the U.S. uses 5 gallons of water, the common low flush toilet uses 3 1/2 gallons, and the ultra low volume toilet uses 1 1/2 gallons.

–Denver Water Department

The Virtual Gardener–

Cochise County Climatology

Although the truth may come as a shock to some of you, I don't write Master Gardener newsletters for a living. In my other life I work for the United States Army as an operations research analyst and spend a lot of time analyzing numbers. For several years now I have been trying to get hold of historical climate data for this area so I could see what interesting patterns might lie buried in them. I knew that the weather folks who make all those measurements of temperatures and precipitation and other weather data send them somewhere, but until now I hadn't been able to find them on the Net. Imagine my delight when a co-worker told me about a Web site that had just the kind of information I've been looking for. Utah State University maintains a weather and climate site (**http://climate.usu.edu**) that contains links to on-line databases of historical weather data for thousands of locations around the world, including Arizona.

I have now downloaded daily weather records for Fort Huachuca/Sierra Vista going back to 1900, for Bisbee and Tombstone going back to 1893, for Willcox going back to 1898, and for Douglas going back to 1948. These records contain daily high and low temperatures and precipitation as well as other information. One of the questions I have been interested in answering is how unusual the weather really is for any particular time period. Television weathermen tell us every day the average and record high and low temperatures for the date and compare it with the actual highs and lows for the day but that doesn't really tell us very much. For example, if the average maximum temperature for a date was 100 degrees and the actual high for the date was 102 degrees, was it unusually hot or not? One of the tools statisticians use to answer a question like this is to compute a value called the standard deviation. This value tells us how much the temperature on average has varied around the average. If for example in a hundred years, the maximum temperature on a particular date has always been 100 degrees, then 102 would be very unusual. If, on the other hand, the maximum temperature on that date has ranged from 85 to 115 degrees with very few days of exactly 100 degrees, then we shouldn't consider it too unusual that the temperature was 102 degrees. If we have a fairly large number of records ("large" being something greater than about 30), we can infer that about two-thirds of the time the temperature should fall within a range from the average minus the value of the standard deviation to the average plus the standard deviation. In the example above, if the standard deviation was 5 degrees, we could expect the maximum temperature for that date to fall between 95 and 105 degrees about two years out of every three. Thus, a high temperature of 102 degrees should not be considered usually high. With a little statistical mathemagic we can even calculate from the standard deviation (multiply it by 1.64) that the high temperature for the date should fall within the range from about 92 to 108 nine years out of ten or (multiply it by 2.58) between about 87 and 113 ninety-nine years out of a hundred.

As an example of how this idea can be put to practical use, let's take a look at some precipitation data for Cochise county. In the table below are the averages and standard deviations for annual rainfall for Fort Huachuca/Sierra Vista, Bisbee, Tombstone, Douglas, and Willcox. In computing the averages and standard deviations, I have only used years for which there are 365 or 366 observations. Because there are missing observations at some locations, the number of years actually used in the computation may be less than the range of dates would indicate.

These numbers show us that, all other things being equal, the annual precipitation in the Sierra Vista area should vary between about 11 inches and 20 inches two out of every three years, between about 8 and 23 inches for nine out of ten years, and between about 3.5 and 28 inches ninety-nine out of a hundred years. From this we can see that the 9.32 inches of precipitation we received in 1996 was slightly below normal but not too unusual.

In future articles I will look at these data again and see what other interesting and useful patterns I can discover in our weather history.

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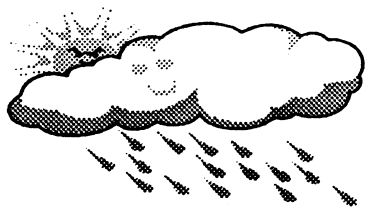

Location	Average	Standard Dev.	No. of Years
Bisbee	17.89	4.88	27
Douglas	15.02	3.70	26
Ft Huachuca/Sierra Vista	15.58	4.69	44
Tombstone	14.46	3.96	71
Willcox	12.81	3.99	65

Average Annual Precipitation for Selected Locations in Cochise County

The Agent's Observations

Q Recently many twigs with new leaves on them have started falling from my desert willow tree. I have seen leaves fall after winds in the late spring, but this is twigs falling with the leaves attached. What is wrong with my trees, does it have a disease?

A If you will remember we had a cold spell with frost which occurred after leaves were on the trees. Looking at the sample you sent it appears that the new twigs were damaged by the frost. This damage affected the outer layers of the twig, the phloem and cambium, but not the xylem. The xylem carries water from the roots to the leaves, the phloem carries the food produced by the leaves to the rest of the tree, including the roots. The cambium is the layer which produces new xylem and phloem cells. When the phloem and cambium are damaged and the xylem not injured, the water and nutrients needed by the leaves can proceed from the roots to the leaves normal, the leaves look ans are healthy. Because of the injury to the tissues at the base of the twig, however, the twig has been weakened and easily blows out in our spring winds.

I have observed this in a number of trees and in the absence of symptoms of disease, don't consider this a problem about which to be overly concerned. You may notice that some branches have considerable dieback and that more dieback and other weak growth appears as the summer progresses. It is a good idea to remove the dead and dying branches as they appear. As long as the majority of the tree appears healthy it should survive. Be sure to provide adequate water through the summer as the heat and dry winds will increase the stress on the trees.

Q There are hundreds of thousands, perhaps even millions of insects that are long and black with grey spots that look like beetles have been swarming onto our property. They have been stripping our trees and vegetable garden with their voracious appetites. What are these insects? We have sprayed them and they die quite easily. What can we do about them?

A What you have experienced are blister beetles. In particular the spotted blister beetle, *Epicauta maculata*, according tomy reference books. There are other types of blister beetles that have stipes or are solid black in color and even a metalic Arizona blister beetle. Blister beetles are elongated beetles 3/8" to 1 1/8" long. Their broad head is usually wider than their prothorax and connected by a narrow "neck." The wings and body are soft and frequently the tip of the abdomen is exposed. Eggs clusters of up to 100 are layed in holes in the soil and hatch in 10 to 21 days. Larvae burrow in search of grasshopper eggs, pupate in 2 weeks, and overwinter in the soil. Larvae are beneficial. One larvae can destroy 30 or more grasshopper eggs, which is the total laid by a single grasshopper. The active parasitic larvae can gain access to bee nests by attaching themselves to foraging bees. Adults of the several species have similar habits. They appear in the late spring through summer. The entire population will emerge in a very short period and forage on many different host plants. They feed on foliage, usually in large numbers, and after defoliating a plant will migrate to others. Usually only one generation is produced each year. All species contain a blistering substance, cantharadin. This material is extracted from a species in southern Europe, the Spanishfly, and used as a drug. Some species will secrete blistering materials or oily substances as a defensive action. Sometimes alfalfa hay that is bailed will have large populations in it and when eaten by livestock can cause blisters in the mouth and on the tongue, causing sores that will cause animals to stop eating because of the pain.

Sources: *How to Know the Insects*. 1978. Roger G. Bland and H.E. Jaques. Page 223. *Insect Pests of Farm, Garden, and Orchard*, 7th Edition. 1979. Ralph H. Davidson and William F. Lyon. Pages 265-266.

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COOPERATIVE EXTENSION
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THE UNIVERSITY OF ARIZONA
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BULK RATE
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GARDEN TIP NUMBER 4837

Zucchini grows from seed to maturity in about 50 days. That means that if you were imprudent and planted your zucchini as early as possible, you might be well into harvesting your second ton of this squash by now—assuming of course that you only have one plant. It also means that you have had a chance to try hundreds of recipes—except for the color, the zucchini frozen yogurt with basil and brown sugar isn't really as bad as it sounds—and you are looking through your senior year high school annual to see if you can find someone you know who has not already been the lucky recipient of a "gift" from your garden.

Well, have I got a tip for you! (I must confess, that this one is not original. It came from the November 1989 issue of *National Gardening.*) You can use zucchini to treat your aching tootsies—no, you do not have to submerge your feet in chilled zucchini slush. Believe it or not, someone has discovered that zucchini can be used to stretch your shoes. Here's how.

First you have to coarsely chop up a large zucchini and boil it until it is sort of squishy. Next you have to scoop out the squishy part and drain it in a large strainer for a while. After some of the excess water has drained off, spoon the stuff into a freezer bag—the original article suggests using two nested bags to assure that none of the squish escapes. Finally, stuff the bag(s) into a shoe that you want to stretch and put everything into the freezer overnight. The next morning...voilà. Your shoe is slightly larger than it was the night before and now fits like a glove. Of course you have to wait an hour or so for the slush to thaw enough to extract the bag before you can try on the shoe.

An added benefit to this method of shoe stretching is that you still have a bag of squished zucchini when you finish with your shoes. This combined in a sauce pan with a quarter pound of tofu and some grated rutabaga . . .

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Master Gardener