COOPERATIVE EXTENSION

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UNIVERSITY OF ARIZONA

Robert E. Call
Extension Agent,
Horticulture

the Cochise County Master Gardener

NEWSLETTER

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GARLIC

Barbara Kishbaugh
Staff Writer

Garlic is an essential ingredient in flavoring much of the southwestern food we enjoy—almost a basic necessity. It has also been used medicinally for thousands of years for its purported health benefits.

When eaten, the strong odor of garlic may discourage "close" friends but when planted in the garden, the smell also repels insects and worms which otherwise may move in and take over.

Garlic is quite simple to grow if your garden bed has been prepared with a loose mixture of soil and sand allowing the bulb to expand. When planting, also consider good drainage because the bulbs will rot if too much moisture accumulates.

You may order garlic through catalog companies or from local nursery suppliers, or you may just use cloves purchased from the grocery store. October is the month to place the segments of bulb into the soil about 10 inches apart and 1 inch deep. Once the conditions of good soil, drainage, and adequate moisture are applied, no other attention is required from the gardener until the following May or June. Then the tips begin to turn brown and it is time to stop watering and knock the stocks over. Leave the stocks lie until they are completely dry and then dig up the bulbs and let them dry for two or three weeks. The garlic can then be braided together by the stalks and hung on the porch next to the red chili ready for you to retrieve when cooking southwest. Go ahead—enjoy it—it's good for you!

450 Haskell • Willcox, AZ • 384-3594
1140 N. Colombo • Sierra Vista, AZ • 458-1104

SOLAR GREENHOUSES—PART II: EVALUATING YOUR SITE

Emilie Vardaman

To properly evaluate the solar potential for your greenhouse site, you need to know where the sun is (and isn't) in the winter. To find where the sun will be you'll need: a compass, a protractor, 8-12" of heavy thread, and a little washer or other kind of small weight.

Before you begin to evaluate your site you need to know that south on a compass does NOT point to true south. Solar principles operate based on true south. In Cochise County true south is about 12° EAST of south on your compass. So, when you find south, turn to the east 12 degrees and you'll be facing true south. A good solar greenhouse should face as close to true south as possible, probably no more than 30° off either direction.

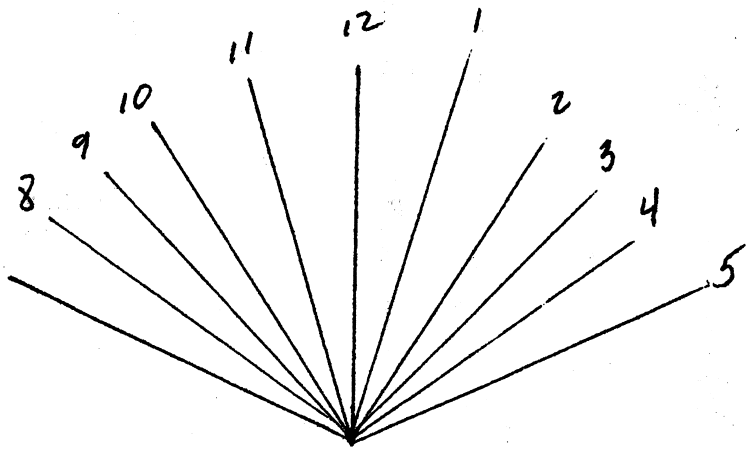
If the south face of your future greenhouse isn't close to true south, it's not impossible to design one that will work, but the design will be far different from what will be discussed in this column.

The latitude of Cochise County is approximately 32° north. Our latitude affects where the sun rises and sets throughout the year as well as the sun's altitude in the sky. We know days are longer and that the sun climbs higher into the sky in the summer. In winter, days are shorter and the sun is much lower in the sky. This is because of the angle of our earth on its axis.

This axis angle also causes the sun to rise and set south of true east and west in the winter but far north of east and west in the summer. At winter solstice, the sun rises 60° east of true south and sets 60° to the west. The sun rises about 7:00 and sets about 5:00, climbing only to an altitude of 32° at noontime. This "window" of sunshine needs to be as clear as possible so that few shadows will fall on the south side of the greenhouse between the hours of 9 and 3:00.

Standing at what will be the south side of your greenhouse, use your compass to mark off angles to represent the position of the sun throughout the day. The angles are: 60° east (7:00 am), 50° (8:00), 40° (10:00), 15° (11:00), and true south at noon. At 1:00 the sun is about 15° west, about 30° at 2:00, 40° at 3:00, 50° at 4:00 and setting around 5:00 at 60° west. When you're done making marks, you'll have a little fan type shape in the dirt. Label each mark with the time of day it represents. (See Figure 1.)

Figure 1.

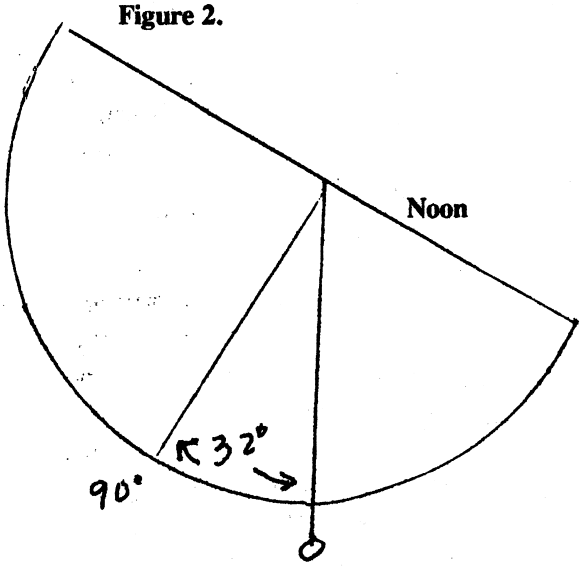


You will use the protractor, thread and weight to check whether the sun will clear nearby houses and trees at different hours throughout the day. Tie your weight to one end of the thread. Pull the other end through the little hole in the rounded side of the protractor and tie it. Holding the protractor with the flat side up and the weight hanging under the curved side, you have a tool to measure altitude angles.

Squat down in front of the fan you made in the dirt, low to the ground, near where the bottom of your greenhouse windows will be. Looking along the line going south, tilt

the protractor until the weighted string hangs along the 32° mark on the protractor as in Figure 2. If nothing rises above this sight you'll get sun on your greenhouse at noon.

Figure 2.



Use the same method to check the sun's altitude at the other times of day. The altitudes to check for are: 10° at 8:00 and 4:00; 20° at 9:00 and 3:00; 26° at 10:00 and 2:00; and 30° at 11:00 and 1:00.

If nothing, or at least very little, blocks the sun's access at these times, you have plenty of sun for your greenhouse. Congratulations! If you find problems with shade, there are ways to compensate. Call the Cochise County Extension Office to find either Cathé Fish or Emilie Vardaman in Bisbee, and we can answer some of your questions.

Next month: sizes and shapes of greenhouses, plus plants that love to live in them.

AUGUST REMINDERS

- Fertilize
- Plan Your spring wildflower garden
- Watch for nutrient deficiencies, sunburn, salt burn, overwatering, Texas root rot, cicadas, and other insects
- Prolong annuals
- Keep pulling weeds
- Plant cool season flowers and veggies

AFRICANIZED BEES

Bee-stingings involving humans or animals can be reported by calling the nearest district office of the Arizona Department of Agriculture:

Bisbee:	432-4025
Willcox:	384-2665

At night and on weekends, you can leave a message about Africanized bees by calling the state's Africanized bee hot line at 1-800-645-5440. In an emergency, dial 911.

The Cooperative Extension has several informational bulletins available. Call the Willcox office for copies of the following:

- *What Is Being Done About Africanized Honey Bees?*
- *Africanized Honey Bees: Some Questions and Answers*
- *Africanized Honey Bees: How to Avoid Stings*
- *Africanized Honey Bees and Your Pets and Livestock*

Schools, community centers, churches, and nursing homes in southeastern Arizona are encouraged to schedule educational presentations about Africanized honeybees by contacting Gera Heap, a consultant for the Department of Agriculture at 648-7533.

Staff:
Carolyn Gruenhagen
Barbara Kishbaugh
T.J. Martin
Elizabeth Riordon
Virginia Westphal

Articles to be published in next month's newsletter must be received at the Sierra Vista Cooperative Extension Office by August 25.

NATIVE PLANTS IN TUCSON AND COCHISE COUNTY

Ron Pamachena

(Note: This article is adapted from the presentation I gave to the Plants of the Desert class on the main UA campus in July 1992 and repeated at the Arizona Native Plant Society meeting in Sierra Vista in August 1992.)

The next time you go to Tucson, notice the plants that you see growing in the desert along the way. Tucson is at about 2,400 feet in altitude, almost a half mile lower than Sierra Vista, and more than a quarter mile lower than most other towns in Cochise County.

There is a saguaro cactus with split arms growing in front of a house in the Country Club Estates area in Sierra Vista. The only saguaros that grow in Sierra Vista are in yards where they receive care and maintenance. At about 4,600 feet in altitude there is not enough warmth in the winter in Sierra Vista for free-growing saguaros to recover from the tissue damage they suffer when it gets below freezing.

Have you seen the boxes for Tombstone pizza in the frozen foods sections of the grocery stores? Nationally, the saguaro cactus with its arms, is the best-known symbol of the desert. Tombstone is about 18 miles northeast of Sierra Vista and just about as high. There are only 2 saguaros in Tombstone and neither one has arms.

Just down the street from the saguaro there is a palo verde tree in a wash. You will find no palo verdes native to Sierra Vista either. Where it is wet enough, as where water runs off from the street into the wash, a seed of a landscape palo verde has become established. Both the blue and little-leaf palo verdes are used in landscaping in Sierra Vista. The little-leaf palo verde is more tolerant of cold than the blue. In fact, only the little-leaf palo verde grows free in the higher reaches of the Tucson area, in the foothills and the east.

Agaves grow in Sierra Vista. Look for them along Highway 90 as one approaches Sierra Vista from the north and Highway 92 as one goes south towards Ramsey Canyon and turns east towards Bisbee. The Palmer agave grows free in both Tucson and Sierra Vista, but it grows better in Tucson. The Huachuca agave is used in landscaping in Tucson, but it is native only to the Huachuca Mountains near Sierra Vista. The Palmer agave also grows along Interstate 10 in Texas Canyon on the way to Willcox.

Two flowers that bloom white in the summer are the Arizona prickly poppy and the New Mexico fleabane or white daisy. Both these flowers grow free in Tucson and Sierra Vista.

Most vacant lots in Tucson have bare spots all year. Most such lots in Sierra Vista become filled with grass. Rainfall in Sierra Vista is about fourteen inches per year compared with Tucson's eleven. The difference all falls during the summer monsoons, mostly in July and August.

The golden rabbitbrush gets its name from its bright yellow flowers which have just finished blooming. They will bloom again in September. It grows free all through Cochise County and in Sierra Vista yards both as weeds and landscape plants. If one is lucky, one may see small golden rabbitbrush in well-sheltered and well-watered areas as weeds in Tucson. Rabbitbrush is a marker of the high desert.

The Arizona mesquite grows both in Tucson and Sierra Vista as well as throughout Cochise County. In Tucson leaves appear on the mesquites in February or March. In the high desert the appearance of the leaves of the mesquites in mid- to late April is almost always a sign that winter weather is certainly over.

Texts that define the desert in the classroom say that the Sonoran Desert ends just as you go east of Tucson on I-10, and the Chihuahuan Desert begins about 200

miles further east, just west of Deming, New Mexico. It is colder for longer periods of time in the winter in Lordsburg, Deming, Las Cruces, New Mexico, and El Paso, Texas, than Sierra Vista. There are no saguaros in these areas, even as landscape plants.

Just after you go east from Tucson towards Cochise County, you climb into the high desert. Except when you drop into the San Pedro River valley at Benson, you do not go below 4,000 feet in altitude until you get to Las Cruces and the Rio Grande Valley. This is a characteristic of the Chihuahuan Desert. Other characteristics of the Sonoran Desert do not change so quickly. Further east in the Chihuahuan Desert there is a period of rain in late April and early May which you rarely get in Cochise County. In the western part of the county, Sierra Vista and Benson get more breaks from the cold in winter than Willcox and Douglas, further east. On the average, Willcox is colder than Sierra Vista in the winter, even though it is about 500 feet lower in altitude.

Differences between Tucson and areas in Cochise County like Sierra Vista provide challenges to plants from one area before they can become established in the other. In using native and other plants these differences must be taken into account. The differences in individual areas are the main reason why the native plant life in Cochise County is so diverse.

Scientific names of plants mentioned in this article:
Saguaro cactus: *Carnegia gigantea*
Blue palo verde: *Cercidium floridium*
Foothills palo verde: *C. microphyllum*
Palmer agave: *Agave palmeri*
Huachuca agave: *A. parryi* var. *huachucensis* or *A. huachucensis*
Arizona prickly poppy: *Argemone platyceras*
New Mexico fleabane (wild daisy): *Erigeron divergens*
Golden rabbitbrush: *Chrysothamnus nauseosus*
Arizona mesquite: *Prosopis velutina*

THE AGENT'S CORNER

Robert E. Call
Horticulture Agent

QUESTION: What is the best way to determine if melons are ripe? I try thumping but I don't seem to always get a good melon.
ANSWER: My favorite way to determine if a watermelon is ripe is to look at the fruit and follow the vine back to a set of tendrils, which are on the vine near the stem end of the fruit. When these dry up and wither the watermelon is ripe. If you don't have a vine to look at observe the ground spot, which is the place the melon rested on the ground. When the ground spot has turned creamy white or yellow the melon is ready. Seedless watermelons are the most difficult to determine if they are ripe. A friend of mine swears that by placing the watermelon on the stem end and putting your ear to the blossom end and squeezing with both hands you can hear the juice of the watermelon. The more juicy sounding the riper the watermelon. As for thumping I guess those who are trained in this art need to teach the rest of us what to listen for!

Cantaloupes or muskmelons are ripe when the stem is slipping from the fruit. That means that when the fruit is separating from the plant it is fully ripe. At times amber or reddish "sap" will ooze from the stem onto the fruit.

A sure fire method is to cut into the melon and eat some, noting the tendrils, ground spot color, and juice running off your elbows!

Over watering or excessive rainfall during the last few weeks of melon growth can dilute the sugars and flavor of a melon. Reduce irrigation for the last several weeks of growth to insure sweet, flavorful melons. Also remember that there are great differences in melon varieties, so write down the varieties you grow and their qualities both good and bad so you can remember from year to year which melons you enjoy the most.

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U. S. DEPARTMENT OF AGRICULTURE
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Address correction requested

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