



The Virtual Gardener—Agriculture in Turkey

This month's article will be a real change of pace.

My family and I lived in Izmir, Turkey for two years back in the early 1980s, when I was stationed at the NATO headquarters there. In May my son and I had the opportunity to return to Turkey after an absence of 27 years, and this month I want to talk about some of the things we learned on our trip.

Turkey is one of those lucky countries that is essentially self-sufficient in food production. The varied climate zones in the country allow it to produce a wide variety of agricultural crops, ranging from winter wheat to bananas. Although botanists argue about such things, some believe that many of our most familiar fruits originated in Turkey, including cherries, apricots, almonds, and figs. Whether or not they originated in Turkey, they are still produced there in great quantity. According to the United Nations Food and Agricultural Organization, Turkey was the world's largest producer of cherry, fig, and apricot in 2007.

The cradle of agriculture, the so-called Fertile Crescent you probably first learned about in grade school, extended

into southern Turkey. It was here, according to archeologists, that nomadic hunter-gatherers first learned to cultivate wheat and barley and settled down to become farmers. According to genetic studies, Karacadag Mountain in central Anatolia is the site where einkorn wheat was first domesticated 11,000 years ago. Wheat is still a major crop in Turkey, mostly produced on dry-land farms. Production has been down during the past few years because of dry conditions and Turkey had to import wheat; a surplus is expected this year.

Although Turkey produces enough agricultural produce to feed itself and export, productivity is not high, averaging about a third to a quarter of what it should be. The majority of farms are small family-run operations that are generally 10 hectares (25 acres) or less in size. Over half of them are fragmented into four or more non-contiguous sub-parcels. Most are dry-land farms relying on rainfall alone. In many cases, the farmers have very little education and are wedded to traditional farming techniques.

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One of the ways the Turkish government is working to raise productivity is by setting up a cooperative extension outreach system similar to what we have in the U. S. To create such a system, Turkey needs to train extension advisors, develop training programs and materials for farmers, and deploy advisors throughout the country. Considering that there are about 35,000 villages throughout the country that need support, this will be a major undertaking. Iowa State University, through its Global Extension Academy, is partnering with Turkish universities to set up the system. You can read more about this partnership at:

<http://www.extension.iastate.edu/Global/News/061101.htm>

If you would like to learn more about Turkey, drop by the Public Meeting Room at the University of Arizona South at 5:00 pm on July 7 and catch my slide show.

Until next time...

Gary A. Gruenhagen, Master Gardener
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Robert E. Call

Robert E. Call
Area Horticulture Educator
Carolyn Gruenhagen
Editor

Cuttings 'N' Clippings

* The next CCMGA meeting is 5:00 p.m. Thursday, **July 7**. Master Gardener, Gary Gruenhagen (The Virtual Gardener), will present a talk and slide show on his recent visit to Turkey. The presentation will focus on changes that have taken place in the country since he lived there 27 years ago. It will include a discussion of geography, agriculture and horticulture, and history. If you have never seen this beautiful country for yourself, be prepared for a treat.

* The newly elected officers of CCMGA are:

President: Steve Fletcher
V. President: Terrie Gent
Secretary: Bill Schulze
Treasurer: Donna Blackburn



Steve, Donna, Bill, & Terrie

* Sierra Vista and Bisbee Water Harvesting Tours

On Saturday, **July 9**, a Sierra Vista Water Harvesting Tour will be held. To attend, meet at 8:00 a.m. at 5139 S. Calle Encina (Hwy 92, west on Yaqui, south on Calle Encina). This 3-hour guided tour will visit 5 residential water harvesting systems including two of the Rain-Scape Challenge Contest winners!

* On Saturday, **July 16**, the Bisbee Water Harvesting Tour will begin at 8:00 a.m. at City Park, Brewery Ave, Old Bisbee (just up canyon from St. Elmo's Bar, on the left). This 2-hour guided tour will visit 4 residential water harvesting systems in Old Bisbee. A 170-gallon "rainwater trough" will

be raffled off at the City Park site (must be present to win). For more information on the tours and the sites, please email Water Wise at jwilliam@cals.arizona.edu

* Erosion Control Information—

For properties burnt by the Monument fire (and for anyone wanting to slow, soak, and spread stormwater), the Hereford NRCDC has posted some good erosion control information on their website: www.herefordnrcd.com

* A Master Gardener table is being started at the Douglas Mercado (farmers market). If anyone is interested in manning the table, please call Ed Henley at 520-642-3228. The Market is held at the beautiful Castro Park at 10th & E Street from 9:00 a.m. to 1:00 p.m. each Saturday. For more information on the market:

www.douglasmercado.com

* *Learn to Identify Plants*. A 6-week course entitled *Learn to Identify Plants* will be taught by Cecile Lumer, Ph.D. The class runs from August 12—September 16 at Cochise College in Sierra Vista. For more info call Cecile Lumer at 432-4294 or email:

lumer.cecile@gmail.com or call Cindy at 803-1160.



July Reminders

- ◆ Keep the pests under control
- ◆ You can still plant something
- ◆ Mulch trees & shrubs

Fire and Garlic



Monument Fire June 16, 2011 from the Virtual Gardener's Sierra Vista back yard.

My heart goes out to the many folks in Cochise County and around Arizona who have been affected by this summer's forest fires. Where I live, the Monument Fire has devastated the southern end of the Huachuca Mountains, both in the mountains and out into the adjacent San Pedro Valley. We have had a good vantage point of the fire from our home just south of Sierra Vista and it was both terrifying and fascinating to watch the flames race up Miller Peak one day, and later in the week, do the same thing on Carr Peak. When the fire, driven by winds up to 50 mph, broke out of Miller Canyon on Father's Day and blew out into the valley and over onto the southern slope of Carr Canyon, the feelings of horror and sorrow were, and are, indescribable. I know quite a few Cochise County Master Gardeners have been evacuated from their homes, many for longer than a week. Many residents have lost homes, businesses, and other buildings. Remarkably, no lives have been lost. The fire fighters and public safety people have

done a truly superb job. As I write this on Friday, June 24, the Huachucas deceptively appear free of fire. They aren't; as the west side of the mountains is still burning out of control. May the rains come soon and the winds be kept at bay!



Some garlic talk: I harvested my garlic in early June this year and noted that nearly a quarter of the bulbs I dug had not formed cloves, but instead remained a single "clove" that was shaped more like an elongated onion than a head of garlic. The bulbs were otherwise of normal size and appearance. I contacted the folks from whom I purchased some of my seed garlic,

Seeds Savers Exchange (SSE), and asked them about my odd bulbs. They tell me that they occasionally experience the phenomenon, generally in 2% or less of their harvest. They refer to the single clove bulbs as "rounds" and they believe they are probably related to environmental stresses (The Big Freeze strikes again?).

At any rate, they assure me that rounds are perfectly fine for eating. They also told me that if rounds are saved and planted in the fall, they will produce, in SSE's words, "huge, 4-6 clove" bulbs the next year. Needless to say, I'm going to save my rounds and see if I can't grow my own giant garlic.

On the subject of saving garlic over the summer for fall planting, I've seen a lot of conflicting advice on storage conditions, so from my 2010 garlic harvest, I saved my personal seed garlic in three ways. I put some bulbs (whole bulbs—don't break them into individual cloves until you plant them) in the vegetable crisper of a refrigerator, some in our little wine cooler (at about 55°F-60°F), and the rest on a shelf in our pantry at room temperature. All three batches were stored in little brown paper bags. Come October of 2010 when I planted garlic, the seed garlic stored in the pantry was shot and I threw it out. Both the refrigerator crisper and the wine cooler heads looked and felt fine and I planted them all, along with some new seed garlic purchased from SSE (that was delivered in mid-October just before planting). For the record, all three of those plantings yielded at essentially a 100% rate and all three had bulbs that exhibited the

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rounding characteristic.

The storage recommendation from SSE is to keep seed garlic at 50°F to 70°F and 45% to 55% relative humidity. I am unable to control humidity, but their recommendation otherwise perfectly matches the environment in my wine cooler, and the humidity probably isn't too far off during the monsoon months, so I'll probably save my seed garlic in there from now on. Remember, though, my experience also showed that refrigerator crispers work well, too.

Here's a final thought. We had a BLT for lunch today. The featured ingredient was a beautiful, home grown, 'Cherokee Purple' tomato. Well, OK, it maybe wasn't so beautiful. It had heavily cracked shoulders and was some what cat-faced, but, oh baby, it tasted great! That BLT further convinces me that those who wait until July to plant are really missing the boat.

My best wishes to you all.

*Bill Schulze, Master Gardener
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Cochise County Fire Facts Monday, June 27 . . .

Monument Fire

- ◆ 30,526 acres burned
- ◆ 85% contained

Horseshoe Two

- ◆ 222,954 acres burned
- ◆ 100% contained

—inciweb.org/incident/2324/sierravistaaz.gov

***Thanks to the firefighters and
generous residents of the area!!!***

My Gardening Mentor

In the spring of 1950 I was a precocious seven and a half year old. I would ride around my working class neighborhood in Dallas, Texas, on my beat-up Schwinn bicycle. (It was safe in those days) I would look for people out in their yard and stop and talk to them. I would always ask if they needed any help. For some reason no one ever needed my help.

A retired couple, Mr. and Mrs. Breckenridge, lived next door and one afternoon Mrs. B. called me over to the fence and asked if I could help her in their garden the next day. She said that Mr. B. had prepared a vegetable garden plot that was ready to be planted. I couldn't say yes fast enough.

The next morning I went over to the garden at the appointed time. Mrs. B. was already in the garden, holding a wicker basket that had seed packages, hand tools, gloves, and a ball of twine. Mrs. B. explained to me what we would be doing in the garden and my first job was to look around the yard for some twigs that we would use in running a string line so that we had straight rows. Mr. B. kept the yard very clean and I was having a hard time finding twigs. I found a dormant shrub and snapped off some twigs from that. When I returned to the garden Mrs. B. said that my collection of twigs would work fine.

We next set up the string line and made sure that all was straight and square. We were now ready for the important part, planting the seeds. Mrs. B. said she would dig the seed furrows and put the seed in,

and then it would be my job, after some further instructions, to cover the seeds and gently firm the soil on top of the seeds.

The first row of planting went well. We took the string off of the twigs and placed the empty seed packages over the twigs and through the top of the packages so that they would not blow off. That way we would know what was planted in each row. We repeated this process for about another ten rows which took perhaps an hour to finish.

Mrs. B. told me that I was a good helper and paid me a dime for my work. I am sure it was no coincidence that a dime was what it cost to buy an ice cream from the Good Humor man that came around every afternoon in his truck with the music so loud that you could hear him coming two blocks away.

A few weeks later Mrs. B. called me over to the garden to show me all of the seeds that had sprouted. She said that we had done well. With a sense of personal pride, I of course agreed with her.

As I was about to leave the garden Mrs. B. pointed to the string line twigs that we had used, and asked if I noticed anything different about them. After a careful examination I noticed that they had leaves coming out. They were growing! We had a good laugh about that. Mrs. B. said that I had a green thumb and that I would be a good gardener.

When is the last time that you invited a child into your garden?

Ed Henley, Master Gardener

"Gardening can be dramatic and life-changing, but the only thing that's truly important is that you fire up enough natural inquisitiveness and fun to make it stick."

—Jamie Oliver / *Jamie's Food Revolution*

The Agent's Observations

Q We have gathered some creosote bush seeds. We have tried to grow them but have not had any success. Do the seeds need a treatment to help them germinate and grow?

A Creosote bush (*Larrea tridentata*) is an evergreen shrub that is common to the Southwest. Leaves are coated with a sticky pungent resin that smells like a petroleum product and are very flammable. They grow in well-drained sandy or gravelly soils. Plants in nature are found in groups because of their rhizomatous growth habit. These clumps are thought to be some of the oldest plants on earth. Collect seeds in late spring through summer. Seed viability was not affected after four years of dry storage at room temperature in a USDA study. Creosote bush seeds are slow to germinate because of a thick fruit capsule/hull (carpel). Seed coat inhibitors are a common strategy of desert plants to insure germination does not take place until there is sufficient moisture available. Unhulled seed can be soaked in water for 48 hours, with aeration. To improve germination the hull must be removed, exposing the seed. The hulls can be broken off of one end of the seed using sanding

paper in a process called scarification. In a study by Dr. Jimmy Tipton, former UA Arid Ornamental Specialist, he found that by removing hulls, germination increased to 85% versus only 45% with unhulled seeds. Creosote bushes are very sensitive to overwatering while growing in flats or containers. Plant treated seeds in a light, well-drained soilless media. Stable one-gallon plants can be produced in one year. Five-gallon plants can be produced in two years.

Source: Nokes, Jill. 2001. *How to Grow Native Plants of Texas and the Southwest*. University of Texas Press. pp. 327- 328.

Q A mesquite tree that shades our home is dying. There are borers that are in this multi-trunk tree. What can be done about these borers? Can the tree be saved?

A After a visit to the tree in question it was determined that two of the seven limbs over the home were dead. The home was built next to the tree 13 years ago. The foundation and floor were built over the roots on the affected side of the tree. This most likely has led to the death of this part of the tree in light of the current drought. The borers, most likely the larvae of the mesquite longhorn beetle (*Megacyllene antennata*), are in the dead or dying



Adult mesquite longhorn beetle

limbs of the mesquite tree. Upon further questioning it was determined that firewood had been stacked last fall on the other side of the home that probably harbored the insects. These insects have a one year, complete metamorphous life cycle. Eggs are laid by adults, they hatch and the small larva burrow into the dead or dying wood. They will feed on the bark and sapwood. When fully grown they will move near the surface, make a chamber and pupate. They will emerge as adults after cutting their way through the remaining wood and bark. Emergence holes are 1/8" — 3/8" in diameter. The adults are quite noisy as they fly, are attracted to lights, and look almost like wasps. They do not sting or bite.

Control: Keep trees healthy with proper care. If firewood is stacked

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[Click here](#) for a short video with sights and sounds of the fascinating country of Turkey. Please join the Cochise County Master Gardeners Association on July 7 at 5:00 p.m. for an hour long tour and discussion. For information contact jwilliam@cals.arizona.edu.

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near a home, place a clear plastic tarp over the pile and seal it during the summer months.

Heat of 115 to 130° F. will cause the death of this beetle. Injections or surface treatments of insecticides are rarely beneficial in dying or dead mesquite trees.

Sources: Rogers, Ken E. 2000. *The Magnificent Mesquite*. University of Texas Press. pp. 28-35.

Werner, Floyd and Carl Olson. 1994. *Insects of the Southwest*. Fisher Books, Tucson, AZ. pp. 26-27.

Robert E. Call
Area Horticulture Educator



L—R: Bob Spahle, Karen Silva, Ed Henley, Dorothy Robinson, Anne May, Educator Rob Call, Dory Bushong, Chrissa Link, Dan McLeod, Eva Whittaker, Joyce Alexander, Kim Harpster. Not pictured: Stephanie Blanchette, Heather Borman, Bill Fitzgerald, Alice Hunt, Ashly Robinson, Bonita Schweighart

Congratulations to the seventeen people who completed the thirteen-week Master Gardener Class. They will be completing 50 hours of volunteer hours to become Master Gardeners. Ed Henley has already completed his hours and received his MG badge!

