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COLLEGE OF AGRICULTURE  
AND HUMAN SCIENCES  
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# Making a Difference In Tarrant County



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**Tarrant County Master Gardeners Celebrate 30 Years of Service**



## 1987 — Master Gardeners First Year

In January of 1987 a group of people from many different walks of life met at the Fort Worth Botanic Gardens to begin the Master Gardening movement in Tarrant County. Under the leadership of Vincent Mannino and Stacy Reese, both Horticulture Agents from Dallas County, classes were arranged to educate the new thirty members. Classes were set for three days a week, 8 hour sessions on a diverse list of newly conceived horticultural practices for North Central Texas!

The newly trained 'Associates,' volunteered their time to the Botanical Gardens greenhouses, Japanese Gardens, the Rose Gardens and built several rock walks. Maintenance work in the flower beds was a highly prized help for the staff at the Gardens. Also added was the 'Meet the Plant' concept for teaching children who visited the Botanic Gardens.

Realizing a need for community education, a Speakers Bureau was formed to speak to community groups. A wide variety of horticulture subjects was taught to schools, retirement centers, civic organizations and city cable shows. Local garden clubs made good use of these classes to fill their year's programs. Local city television cable shows wanted this group of MG to tape their classes for presentation to their cities. They were in such demand that they had to limit the amount of invitations for events.

The first MG Plant Clinic was held at Archie's Gardenland and was such a hit they were asked to return! Their next show was the Fort Worth Garden and Patio Show at the Convention Center; again a huge success. The first Farmer's Fruit and Vegetable Show using MG's as volunteers was held at Six Flags Mall, the first since 1920! Their first landscaping site was at the corner of Dove Road, Park Boulevard and NW Highway intersection. This corner is now maintained by the City of Grapevine. This group also helped the City of Grapevine develop a Botanic Garden.

In December of 1987, after a very productive first year, the founding Master Gardener volunteers had their first graduation ceremony; in just one short year, they had introduced a program to Tarrant County that has not changed in concept since the beginning.

The Tarrant County Master Garden Association is an organization that has the unique ability to utilize the skills of the diverse backgrounds of its membership to accomplish goals. Master Gardeners have made a tremendous difference in our community!



Above: Steve Chaney, Home Horticulture Agent and Master Gardener Coordinator for Tarrant County since 2005. Steve is a 1995 graduate of Oklahoma State University, has two children and three grandchildren.



Left: Tarrant County Master Gardener's Office: 1987 and now

### Congratulations to our Pioneer Members

1987	Joetta King (Charter)	30 Years
1987	Evaline Woodrey (Charter)	30 Years
1987	Jane Dunkelberg (Charter)	30 Years
1989	Claudia Blalock	28 Years
1992	Jane Bruckner	25 Years
1992	Tamra Novak	25 Years
1993	Barbara Lind	24 Years
1994	Ben Swallow	23 Years
1994	Jo Ann Hahn	23 Years
1996	Rachel Clark	21 Years
1997	Eleanor Tuck	20 Years
1997	Gay Larson	20 Years
1998	Esther Procter	19 Years
1998	Jo Ann Glenn	19 Years
1999	Sue Short	18 Years



## Master Gardener Association Presidents



1988-89 Dimitri Karadimetris

- 1990 Jane West Dunkelberg
- 1991 Leo Cendroski
- 1992 V.G. Marshall
- 1993 Van Edith Cox
- 1994 James W. Beeler
- 1995 Jackie Pike

- 1996 Pam Gallagher
- 1997 Jane E. Bass
- 1998 Emily Ward
- 1999 Jean Prather
- 2000 Emily Ward
- 2001 Mimi Lyles
- 2002 Ben Oefinger
- 2003 Kayte Kowierschke
- 2004 JoAnn Hahn
- 2005 Warren Tingley
- 2006-07 Ginger Bason
- 2008 Tammy Edwards
- 2009-10 Susan Stanek
- 2011-12 Nancy Curl
- 2013-14 Patsy Miller
- 2015-16 Marilyn Satterfield



2017 Judy Ratzlaff

*Tarrant County Master Gardeners wish to express appreciation for the continuous, invaluable support of:*

- Tarrant County Commissioners Court
- Texas A&M AgriLife Extension Service
- Tarrant County Legislative Delegation

## Tarrant County Master Gardeners Future

In 2017, Tarrant County Master Gardeners joined forces with Goodwill STARS (Skills Training Achieves Results) to begin an educational program. This is a collaboration of Texas AgriLife, Goodwill, Resource Connection of Tarrant County, Judge B. Glen Whitley and Tarrant County Master Gardeners.

With the newly erected greenhouse completed, GreenWORKS Learning Center, a program was implemented to teach (MG Claire Alford, Lead) basic plant propagation, plant and greenhouse care.

It began with a once a week group of 10 clients and will develop into a twice a week program with two different groups participating. Juveniles JJAEP male and female students will participate on a regularly scheduled basis under the direction of

MG Mike Warren. More programs of this type are expected in the future as a total of 4 greenhouses will be built.



*Ribbon cutting ceremony at grand opening of GreenWORKS Learning Center*

In 2017, a joint partnership with Tarrant Regional Water District and the City of Fort Worth Water Department allowed usage of the Water Works Learning Center located at 1801 Circle Drive. Educational classes are coordinated under the leadership of Master Gardeners Nancy Curl and Claire Alford. An array of audio visual equipment is also available to the Master Gardener Speakers Bureau.

We anticipate continued expansion of educational outreach opportunities in the future for the Tarrant County Master Gardener Association.

## Master Gardener PROJECTS



**TGMGA Community & Demo Garden**  
1800 Circle Drive, Ft. Worth  
Richard Kurth, 216-402-3642  
Robert Faires, 903-452-6337



**Botanical Research Institute of Tx**  
3220 Botanic Blvd., Ft. Worth  
Kay Yount, 817-292-7690



**Fort Worth Botanic Garden Projects Begonia Greenhouse**  
Taddie Hamilton, 817-534-3440



**Trial Garden**  
Nancy Taylor, 817-821-2187



**Japanese Garden**  
Valerie Soens, 832-264-3492



**Perennial Garden**  
Paula Billman, 817-576-3684



**Backyard Vegetable Garden**  
Otto Witt, 817-581-4912  
Margaret Shuping, 817-924-0188



**Bob Jones Nature Center**  
355 E. Bob Jones Road, Southlake  
Carol Dowd, 817-932-0552  
Rene Stricklen, 817-742-2444



**Southwest Sub Courthouse**  
3741 SW Loop 820, Ft. Worth  
Gailon Hardin, 817-475-0923



**Southwest Regional Hulen Library**  
4001 Library Lane, Ft. Worth  
Char McMorro, 817-228-4548  
Theresa Thomas, 817-485-6789



**Molly Hollar Wildscape-Veterans Park**  
3600 W. Arkansas Lane, Arlington  
Molly Hollar, 817-319-6924  
Ann Knudsen, 682-554-4443



**Common Ground NRH Comm. Gardens**  
5301 FM 1939, North Richland Hills  
Dianne Spradling, 817-918-4883  
Dick Pafford, 817-716-9799



**Grapevine Botanical Garden Docents**  
411 Ball Street, Grapevine  
Pam Braak, 817-488-5665



**Samaritan House**  
929 Hemphill St., Ft. Worth  
John Pinkerton, 817-987-8069  
Hugh Lefler, 817-860-1743



**Teen Challenge**  
747 Samuels Ave., Ft. Worth  
Ginger Bason, 817-307-8530  
Mike Warren, 817-692-7282



**Thistle Hill**  
1509 Penn Ave., Ft. Worth  
Keith Olmsted, 817-455-1790



**6 Stones Community Garden**  
209 Industrial Blvd, Bedford  
Annette Lee, 214-803-2219



**Union Gospel Mission**  
1331 E. Lancaster Ave., Ft. W.  
Gay Larson, 817-441-6560  
Patti Maness, 817-275-0477



**Junior MG Program**  
200 Taylor, Ft. Worth  
Steve Chaney, 817-884-1945



**Heritage Elementary OLE**  
4001 Thompson Road, Ft. Worth  
Pam Braak, 817-488-5665  
Harold Annis, 817-688-1942



**Alice Carlson Elementary OLE**  
3320 Cantley Street, Ft. Worth  
Cyndi Hill, 817-727-9799  
Ginny Schmidt, 817-294-8529



**Durham Intermediate**  
801 Shady Oaks Drive, Southlake  
Henry Cole, 214-532-2630  
Shari Worsham, 817-729-7372



**Fitzgerald Elementary School OLE**  
5201 Creek Valley Dr., Arlington  
Lee Ann Resenthal, 817-564-5864

# Protect your Identity - Protect your Good Name

Marian Ross  
County Extension Agent  
Family & Consumer Sciences



The changes in identity theft numbers have only been on the rise. We all need to be diligent when it comes to protecting our information. The true scope of identity theft goes beyond unauthorized credit charges or someone opening up a new line of credit in your name. Other ways they can steal your identity is tax-related, child identity theft, or medical identity theft. Identity theft is a crime and can be very devastating. Replacing your good name can take a while to fix, and the stress and other range of emotions that can come with a compromised identity can be very frustrating.

It is critical to take immediate action and report the crime as soon as possible. Reporting the crime, no matter how small, helps law enforcement, regulators and other government agencies put a stop to fraud, prevent further victimization, and pursue the criminals.

### How do you tell if you are a victim of identity theft? Here are some warning signs:

- Calls or letters from creditors or collection agencies demanding payment for items that you never bought or for accounts that you never opened.
- Information in your credit file about accounts that you never opened.
- Calls from creditors, or potential creditors, about suspicious new accounts, a large volume of credit card activity, wire transfers, etc.
- Unauthorized withdrawals from bank accounts.
- Your wallet, purse, or cell phone is lost or stolen. Ditto for paycheck stubs and credit card receipts.
- Credit card or telephone bills do not arrive on time as regularly scheduled (your mail may have been diverted to another address).
- Replacement credit cards have not been received prior to the expiration date on previous cards.

Could you be a target for identity theft? Ask yourself these questions, and check with your family members. Recently at the grocery store a woman in front of me had her social security card right by her drivers' license and I asked her to protect herself by taking that out. She looked at me and said, 'Really? Is that still a large concern?' My answer was simple, "Yes and if you won't hide it for yourself, do it for me."

1. Do you carry your social security card in your wallet?
2. Do you carry your insurance card in your wallet and it contains your SSN or your spouse's SSN?
3. Do you keep any PIN numbers or passwords in your wallet?
4. Do you provide your SSN whenever asked? Do you say it orally? Do you write it down and ask if they are going to shred that paper?
5. Do you throw away banking, credit or personal information without shredding?
6. Do you pay monthly credit card bills without checking each transaction?
7. Do you shred pre-approved credit card offers that you receive in the mail?
8. Do you carry all of your credit cards in your wallet, even the ones that you do not use on a regular basis?
9. Do you believe that people would NOT root around in the trash looking for this type of personal information?
10. Have you seen your credit report within the last 2 years?

If you answered 'yes' to more than half of these questions and 'no' to number 10, time to do a review of how to protect yourself. It is a crime to use your family member's SSN, even with permission. With all of the new security measures that are in place with Homeland Security, it wouldn't be looked at favorably to use that information.

### What to do if you are a victim of identity theft?

**Step 1** – Place a fraud alert on your credit report. Contact one of the three credit reporting companies – Experian, Equifax or TransUnion. You will receive a free credit report from each of them once your fraud alert is in place.

**Step 2** – Create an identity theft file – timeline of events, police report if any, your most recent credit reports, any evidence of the identity theft, including information about the perpetrator, all written or email communication with creditors, banks, financial institutions or credit reporting companies; and logs of any phone conversations with dates, names and phone numbers of any representative you spoke with.

**Step 3** – Know your rights. Review the Federal Trade Commission's information at <http://www.consumer.ftc.gov/articles/0233-statement-rights-identity-theft-victims> your most recent credit reports, any evidence of the identity theft, including information about the perpetrator, all written or email communication with creditors, banks, financial institutions or credit reporting companies; and logs of any phone conversations with dates, names and phone numbers of any representative you spoke with.

**Step 4** – Contact the relevant banks or credit card companies to let them know that your information has been compromised. Dispute fraudulent charges and review all accounts, including insurance accounts, to look for fraudulent charges or claims.

**Step 5** – If your mail comes up missing, contact your local US Postmaster to file a claim. They will send you a report similar to a police report because it is a federal crime to steal mail.

Stay diligent in protecting your identity. Be cautious when using public wireless networks, and use security software. Never click on anything that looks suspicious and use malware.

Consider contacting the following to put an additional barrier to protecting your identity:

**Contact the Internal Revenue Service** (800) 908-4490  
[www.irs.gov/identitytheft](http://www.irs.gov/identitytheft)

**Social Security Administration** (800)269-0271

**Federal Trade Commission Complaint Assistant** (877) 438-4338  
[www.ftc.complaintsassistant.gov](http://www.ftc.complaintsassistant.gov)



# Raisins, and Craisins, and Dates, Oh My!

Robin Hall  
Extension Agent  
Expanded Food & Nutrition Education Program - Adult

Dried fruits such as raisins, prunes, apricots, and figs have been around for centuries, dating back as early as 12,000 B.C. when fruits were left to dry in the hot sun. Today similar methods are used to dry traditional fruits like raisins, dates, peaches, apples, and pears, while some non-traditional fruits such as blueberries, cranberries, cherries, strawberries, and mangoes may or may not be infused with sugar solutions, fruit juice concentrates, or preservatives before drying. As a matter of fact, some products sold as dried fruit and packaged as *crystalized fruit*, such as pineapples and papayas, may not be dried fruit at all, but rather *candied* fruit, and will not boast the same health benefits as their non-candied counterparts.

Consuming any fruit (fresh or dried) regularly reduces the risk of developing cardiovascular disease, type 2 diabetes, certain cancers, and obesity, yet 75% of the US population consumes less than the recommended two cup equivalent of whole fruit daily. A portion size of dried fruit is much smaller than a serving of fresh fruit – typically half the size of fresh fruit. For example, one-quarter cup is a standard serving for most dried fruit, and is considered a one-half cup equivalent of fruit.

When eaten in even small amounts dried fruit provides a significant amount of dietary fiber, potassium, and phytochemicals. Phytochemicals are compounds found in plants that protect our cells from disease, boost our immune system, or have effects that are anti-inflammatory, antiviral, or antibacterial. Some dried fruits may also contain magnesium, iron, calcium, and phosphorous. Generally, dried fruit will contain all of the vitamins and minerals the original fresh fruit provides, however it is significantly under-consumed as a source of nutrition in the US, with only 6.9% of Americans reporting eating any dried fruit at all.

The combination of fiber and phytochemicals in most traditional dried fruit could be responsible for the health benefits of consuming dried fruit, which include lower risk of cardiovascular disease related to dried fruit's blood pressure-lowering effects, as well as possible improvement in of lipid profiles. Dried fruits also contribute to colon health promoting the growth of healthy bacteria in the digestive system. Data suggest that those who eat dried fruit have higher overall diet quality, lower incidence of type 2 diabetes, and lower body weight and waist circumference than those who do not consume dried fruit.

Dried fruits can be a valuable addition to the diets of those who struggle to get their daily fruit servings or enough nutrients, especially children and older adults.

Here are a few tips on ways to increase your intake of dried fruit:

- Add raisins to oatmeal or cereal
- Add dried cranberries to salads
- Create a mixture of dry cereal, nuts, and any variety of dried fruit for a quick snack
- Top yogurt with dried blueberries or cherries
- Add chopped up dried apricots to chicken salad

### References

1. Article adapted from: McMordie, Kaleigh. "Underconsumed but Oh so Nutritious." *Today's Dietitian*, 19, 6, June 2017. pp. 11-13.
2. <https://www.verywell.com/phytonutrients-phytochemicals-2242002>

# TIPS FOR A SUCCESSFUL DOCTOR'S VISIT

Markena Minikon  
County Extension Agent  
Nutrition & Health



**1. Prepare for your doctor visit in advance.**

A recent review of 33 studies showed that patients who filled out a detailed checklist before an office visit, or received in-office coaching that focused on their health status, asked more questions during their doctor visit and got more satisfaction from the visit.

"Keep a symptom diary," advises Terrie Wurzbacher, MD, a Navy physician for more than three decades and author of a book titled *Your Doctor Said What? Exposing the Communication Gap*.

"You may think you can remember everything," says Wurzbacher, "but by the time you get to see the doctor you will have forgotten the majority of what you wanted to tell the doctor, and it's important for the doctor to know the progression of the problem. Be specific. Explain that it all began with belly pain, and then you developed [diarrhea](#), and so on."

Write down all of your medical problems, and also the names and the dosages of the medications you're taking. Once you've written it all down, make a copy and give it to the nurse when you arrive for your doctor visit. She'll add it to your medical records.

"You know the doctor is going to look at that before seeing you," says Wurzbacher.

**2. Explain how you're feeling.**

You know better than anyone else how you feel, and that information is vital to your doctor. That's why Permut prefers to take a patient's medical history himself.

Has your appetite increased or decreased? Are you having [trouble sleeping](#)? Do you have any pains? How's your mood? Your [sex drive](#)? Are you feeling unusually tired?

"I prefer to see the reaction on their face when I ask the questions," he says. "A bunch of studies show that 85 to 95 percent of diagnoses can be made by the medical history alone. Listening is what being a physician is all about. It's amazing what you can accomplish in 10 to 15 minutes."

**3. Know what medications you're taking.**

Are you taking any [prescription drugs](#)? If so, make sure you know the name of each drug, the dosage you're taking, and the number of times a day you take it. "That includes herbal remedies and over-the-counter drugs, too - even multivitamins," says Permut.

Also let the doctor know about medications you have tried that caused side effects or didn't work.

"The patients who frustrate me the most are the ones who talk to me about their little white pill, or the triangular pill," Wurzbacher says. "They don't know what their medications are or what they're for."



**4. Be honest, and don't leave out details.**

"I want to know everything medical that has happened to a patient," says Permut. That includes the removal of any organs. That may not seem like something a patient could forget, but outpatient surgery makes some procedures so simple that patients do forget.

"[Gallbladder surgery](#), for example, used to be a big deal that required a lengthy hospital stay and left you with large scars," Permut says. "Now you wind up with three or four half-inch scars and go home from the hospital the same day. You might forget to tell doctor you had your [gallbladder](#) out."

Also tell the doctor everything that you're doing that could affect your health. Are you taking [laxatives](#)? Are you on a diet? How much [exercise](#) do you get? Are you using a [sleep aid](#)? How much alcohol do you drink? "If you're using illegal drugs, I need to know that also. A visit to the physician is totally confidential," emphasizes Permut.

Are you under stress? Have you ever endured extraordinary stress?

"I want to know about any emotional stresses that may have changed people's lives -- the loss of a child or a spouse, job setbacks," Permut says. "I want to know about anything that might have had a powerful effect on the patient."

**5. Don't be embarrassed -- your doctor has heard it all.**

If you're planning to discuss a personal topic, one way to avoid nerves is to practice what you plan to say in advance.

"It's like public speaking, once you get it out of your [mouth](#) it's easier to say," says Wurzbacher.

"Once you've said it to your mirror a few times, it's easier to say, 'I've had this [vaginal bleeding](#).' Rest assured," says Wurzbacher, "the doctor probably has heard everything you're going to say at least 10 times before."

**6. Keep an open mind.**

The patients Permut finds most troubling are those who come in with a fixed idea about the treatment they should receive.

"They'll say, 'I'm having [headaches](#), and I want an [MRI](#),' and they won't be happy unless you arrange that for them," Permut says. "But if you take the medical history and conclude that they're almost certainly tension [headaches](#), an MRI would be a waste of resources. One of my colleagues used to say that it takes 5 seconds to say yes and 15 minutes to say no, but I think you have to take the time to educate patients about what the issue is and what your plans are for ordering tests down the line."

**7. Write it down.**

Once you're with the doctor, take notes in case you want to look something up, or bring someone with you to provide a second set of ears. Write down the names of any medications the doctor prescribes. And don't hesitate to ask questions.

Source - Tom Valeo WebMD

# What to Do with Fallen Leaves in Your Yard?

Steve Chaney  
County Extension Agent  
Horticulture



If most people are not going to have a compost pile in their backyards, then what can they do with all the fallen leaves to prevent the tons of leaves from being dumped into landfills? What a great question and one a lot of us will be contemplating in the next few weeks and months!

Texas A&M AgriLife Extension Service addressed this many years and the resulting publication, "Don't Bag It-Leaf Management Plan," answered that question beautifully and is still available at [aggiehorticulture.tamu.edu](http://aggiehorticulture.tamu.edu) for your easy perusal.

Throughout Texas, trees drop tons of leaves each fall. The amount can be staggering in the Eastern half of the state. Some Texas cities have municipal composting facilities that collect leaves from your home and combine them with sewage sludge to create a wonderful compost to amend gardens soils. Unfortunately, most cities do not have this service, and most will not accept your fallen leaves to simply dispose of them in the landfill. With limited landfill space throughout Texas, YOU must decide what to do with those fallen leaves. Reducing the amount of yard waste, grass clippings, and leaves is critical to prolonging the "life span" of Texas landfills and slowing the creation of new ones! After All, who wants a new mountain of trash across the street from your home?

Fallen tree leaves represent a valuable natural resource, providing organic matter and nutrients for your landscape. Fallen leaves contain 50-80 percent of the nutrients a plant extracts from the soil and air during the growing season. Burning the leaves or bagging the leaves and throwing them in the landfill eliminates the chance for your landscape to benefit from these nutrients. In essence, you are throwing away fertilizer when you dispose of your fallen leaves.

There are four primary options (other than composting) for managing leaves and using them in your landscape and garden.

- **Mowing.** A light covering of leaves on the lawn can be mowed and simply left in place. This option is most effective when a mulching mower is used. If there are only a few trees in your landscape, this option is the most efficient and easiest way to manage your fallen leaves.
- **Mulching.** Mulching is a simple and effective way to recycle leaves and improve your landscape. Mulches carpet the soil and reduce moisture evaporation, inhibit weed growth, moderate soil temperatures, keep soils from eroding, and prevent soil compaction.
- **Using in the vegetable garden.** In addition to mulching the garden rows, place a thick layer of leaves in the furrows between the rows to function as a mulch, an all-weather walkway, and a compost in place location.
- **Tilling into the soil.** Fallen leaves can be collected and tilled directly into the soil for shrub plantings, flower beds, and vegetable gardens. It's best to collect and till the leaves into the soil during the fall. This allows leaves to decompose prior to spring planting.

I often rake mine up and put them in my big 50 gallon Tuffy rubber trash can and then stick the head of my weed eater into the leaves, blip it a couple of time and it reduces that can of leaves down to a quarter of a can of finely minced leaves in less than a minute. This makes it easier to apply, the break down is quicker and life is just grand.

So this Fall when you drive through a neighborhood and see hundreds of paper sacks full of leaves on the corner, remember "Don't Bag It-Leaf management Plan"!

# How to Spot a Water Savvy Plant

Laura M. Miller  
County Extension Agent  
Horticulture



Is it possible to look at a plant and know that it will be able to gracefully handle a dry spell? Some water conserving adaptations are easily recognizable. “Cacti are like camels” isn’t exactly true, but that’s not because of the plants. While camels don’t directly store water in their humps, the thick stems of cacti and the thick leaves of other succulent plants do serve as reservoirs for plants. Some plants store water in thickened roots or underground stems. It takes a little digging, literal digging, to find their secret water stash, but this is why ornamental sweet potato vines can handle a hot dry summer and one of the reasons Bermuda grass almost never dies when it goes without water for long periods.

Other water conserving adaptations are a little more subtle but still visible. Many plants exude natural waxes that coat their leaves and fruits to keep them from drying out. Other plants develop blue green or gray leaves to reflect light and keep the plant a little cooler. Fuzzy leaves and fruits also retain moisture by holding water vapor near the plant surface. Think about how hard it is to dry off a wet dog. All those tiny hairs hold lots of water.

What about spines? Lots of desert dwellers sport them. How do they help plants conserve water? Conservation is the key word here. Spines protect the plant from thieving thirsty animals that might come along to steal from the reservoir. Spines are also some of the skinniest leaves around, which brings up another observable feature.

Water conserving plants frequently shed excess leaves and roots when there is not enough available soil moisture. This is much easier when a plant has lots of small leaves and many small roots. When it rains, the plant can quickly grow more roots and leaves. When it doesn’t, the plant can adjust the numbers just as quickly. It’s a bit like dressing in layers, and it’s one of the reasons a Cedar Elm can deal with drought better than a Sycamore.

Other plants have the ability to grow larger leaves when the plant is in shade and smaller ones in when the same plant is exposed to full sun. Turk’s Cap is one of these highly adaptable species that can thrive in a wide range of variations in access to water and light.

Some plants combine several of these water savvy features. Texas Sage also known as Texas Ranger, Cenizo, and Barometer Bush, has small, fuzzy, grey green leaves that are often found on the ground when it’s particularly dry. Our ubiquitous Honey Mesquite has thin leaves, thorns, and a root system that seeks and stores lots of water.

Shopping for a plant that can handle our hot dry summers? Look for:

Leaves that are:

- Hairy
- Waxy
- Thick
- Grey or blue green
- Small

And roots that are:

- Fibrous
- Thickened



Keep in mind that even the toughest plants will need a little extra water and attention while getting established in a new environment, but understanding the easily observable traits that help plants adapt to hot and dry environments can result in a landscape that can handle whatever the weather decides to dish out.

# A Summer Takeaway: We Learn By Doing

Shannon Johnson-Lackey  
4-H Extension Agent  
Cooperative Extension Program

During the months of June and July, lots of 4-H programming takes place at a variety of summer camps throughout the county. This summer the primary focus was Robotics although experiences in teambuilding were also offered. Within Robotics, campers were faced with constructing a robot using either the LEGO NXT or EV3 kits. Furthermore, once their robot was built, they were then challenged to instruct the robot on what to do. The campers soon learn that this is done by programming it using the corresponding LEGO software.

The main takeaway from the summer with regards to Robotics was perseverance. Perseverance, according to [www.dictionary.com](http://www.dictionary.com), is defined as “steady persistence in a course of action, a purpose, a state, etc., especially in spite of difficulties, obstacles or discouragement. The campers discovered that while robotics is fun, it can be quite challenging and their ability to “stick with it” pays off in great dividends.

The campers began the program by learning the LEGO nomenclature. Through this they also learned how to properly identify and name each piece within the kit. They constructed robots by negotiating a wide variety of pieces both large and small. After some tweaking some of their construction elements, the campers were ready to tell their robot what to do, i.e. program, I believe this is when the true test of perseverance comes into play. Programming involves a lot of trial and error, a lot of back and forth from the computer to the robot or to the challenge table and/or mat. At times some campers expressed a desire to quit when the programming elements became difficult but the desire to see the robot navigate an obstacle course was all the enticement needed.



The pictures above show two sets of campers watching a YouTube video on programming their LEGO EV3 robot while simultaneously creating a program for their robot to run.

We Learn By Doing!

# LIGO Partners

Kent DeCardenas  
Program Leader  
4-H



Just a few miles from the Columbia River in Washington state is a rather interesting building. What makes this building different are the two arms of steel and concrete stretching four kilometers and forming a perfect right angle. While you might think this building is unique, there is a duplicate building just a few miles from Lake Pontchartrain, Louisiana. These buildings are observatories that do not aim telescopes or antennae to the stars. Instead these observatories work as partners to measure waves in gravity.

Inside each arm is a laser running isolated in a steel pipe encased in a concrete vault. When these lasers vibrate, equipment measures the disturbance. These vibrations can be caused by anything from earthquakes in Asia, to heavy construction in the neighborhood, to the collision of two black holes on the far side of the universe. The scientists in each location must try to determine what causes each vibration.

Left by themselves, the scientists in Washington and Louisiana would find it very hard to tell which vibrations are construction and which are the stellar phenomenon that Einstein predicted would cause ripples in the universe itself. But working as partners, these two observatories, known as LIGO or Laser Interferometer Gravitational-Wave Observatory, can isolate the local vibrations and focus on the minute contractions and expansions in the universe itself.

Scientists such as Ronald P. Drever and Kip. S. Thorne of the California Institute of Technology, and Rainer Weiss of the Massachusetts Institute of Technology worked together to set up and examine the data from the LIGO observatories. In 2016, they and more than a thousand other scientists who assisted with the work, shared a special \$3 million prize for detecting a collision of black holes that rippled through gravity.

My first experience with 4-H was when my daughter became a member and I took her to a project meeting. I was a little worried that my little eight-year-old would be lost in this group of older kids. When she sat down with kids twice her age and they started working, I saw how wonderful 4-H is. No matter the age or the how long the members knew each other, everyone worked together, members helped each other, everyone had a great time, and they accomplished their task.

4-H promotes teamwork and partnerships. From the beginning, 4-H members learn the value of working together and helping each other out. No task at a 4-H meeting is ever done alone since everyone is always ready to help. As members grow, it is natural that they go from learning, to helping, to leading projects.

As the 4-H Program Leader for Tarrant County, I am glad that I get to help new members learn this valuable skill. Coupled with our hands-on learning experiences and leadership development, today's 4-H members are the Drevers and Weisses of tomorrow. Einstein was a pretty smart guy, but even he still relies on partners to assist with his proofs today.

For more information on LIGO or 4-H follow see these links:

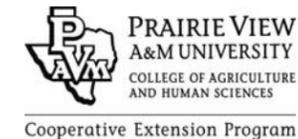
- <https://www.ligo.caltech.edu/>
- <https://www.nytimes.com/video/science/100000004200661/what-are-gravitational-waves-ligo-black-holes.html>
- <http://agrillife.org/urbantarrant4h/>

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#### CONTACT US

Texas A&M AgriLife Extension Service  
Tarrant County Office  
200 Taylor St., Suite 500  
Fort Worth, TX 76196  
TEL: 817.884.1945  
FAX: 817.884.1941

E-mail: [Tarrant-TX@tamu.edu](mailto:Tarrant-TX@tamu.edu)  
Web: <http://tarrant-tx.tamu.edu>

#### Editorial Team

*Jacobson*  
Joan Imlay Jacobsen, Ph.D.  
County Extension Director

Mary H. Oviedo  
Office Manager