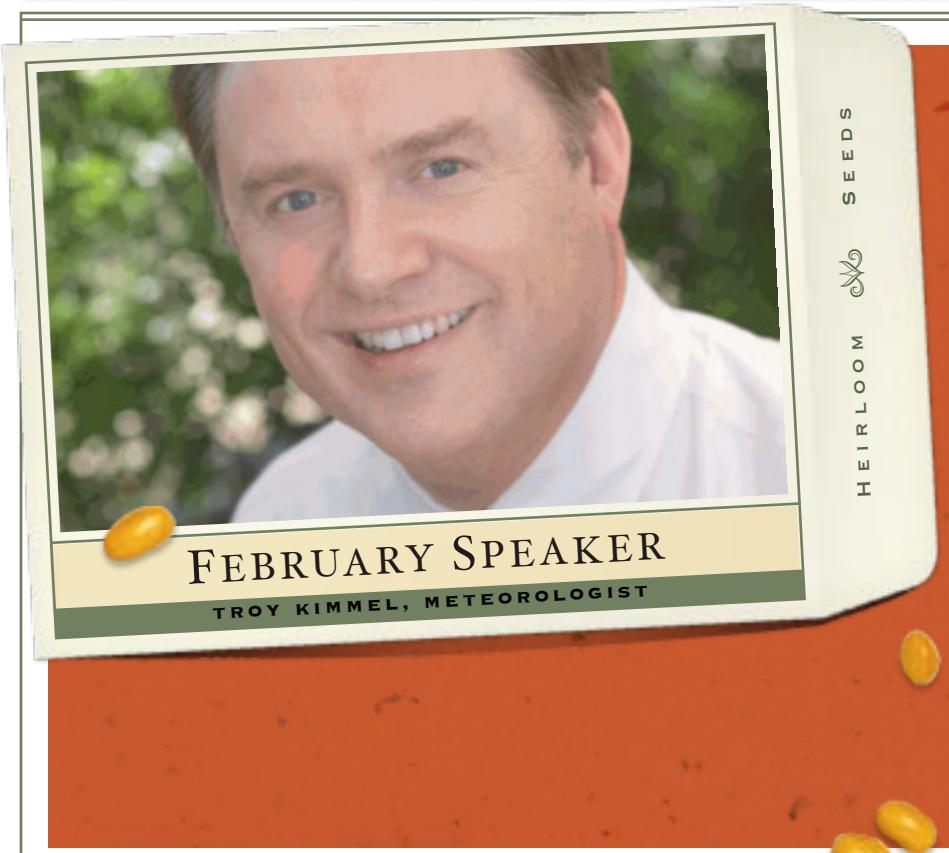


THE COMPOST BIN

A publication of the Travis County Master Gardeners



"WILD TEXAS WEATHER"

Troy Kimmel, a native Texan, has been involved in broadcast meteorology even before his graduation from Texas A & M University (B.S., Geography) in 1984. Starting in television back in 1978 at KBTX-TV in Bryan/College Station, as Weather Director, he was responsible for the weeknight weathercasts. In 1984, he moved to KVUE 24 television (ABC) in Austin where he worked for almost ten years. From 1993 to 1994, he worked as Chief Meteorologist with the Lower Colorado River Authority and then from 1994 to 1997 as Chief Meteorologist with KTBC/Fox 7 Television. Most recently, until December 2003, he worked as Chief Meteorologist with KEYE Television. In 1997, he joined KVET/KASE/KFMK Radio Stations in Austin in his current position as Chief Meteorologist. Kimmel has been involved in teaching in the Department of Geography and the Environment at the University of Texas at Austin as a Lecturer / Studies in Weather and Climate from 1988 through 2007. He was promoted to Senior Lecturer effective in the fall of 2007. He teaches an introductory class entitled Weather and Climate as well as an upper level division class entitled Severe and Unusual Weather. He also serves as Manager of the Weather and Climate Resource Center in the Department of Geography and the Environment. In addition, he serves as a member on the University of Texas Safety and Security Committee as

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well as a member of the Public Affairs Advisory Committee in the College of Liberal Arts. As owner of KimCo Meteorological Services, he provides meteorological data and services to companies. Since 1990, he has also worked as Team Meteorologist with the football program at Texas A & M University providing game day and practice forecasts. Kimmel has been elected as a Councilor of the National Weather Association for 2008 through 2010.

A strong proponent of continuing education for broadcast meteorologists, Kimmel has been tested and met the qualifications as a Certified Broadcast Meteorologist by the American Meteorological Society. In addition, he holds his Radio and Television Seal of Approval from the American Meteorological Society and his Television Seal of Approval from the National Weather Association. He also holds a National Weather Service Certificate of Authority to take Basic Aviation Weather Observations. He has made several presentations at American Meteorological Society and National Weather Association meetings. In addition, he is author of several publications including Inclement/Severe Weather and Extreme Temperature/Precipitation/Wind/Pressure Climatology for Austin and South Central Texas (2006), SkyWarn - A Guide for National Weather Service Spotters in South Central Texas (2004), Central Texas Law Enforcement Weather Spotting/Information/Safety Handbook (2004) as well as the USA Broadcast Meteorologist/Weathercaster Directory (1999). Kimmel lives in Austin and volunteers for several local agencies including being a member of Austin Police Department's Civil Defense Battalion and CERT Team (where he has a special assignment to the Austin Police Department Training Academy, the Austin Airport Public Safety Division, the Operations Area at Austin Bergstrom International Airport and the office of Emergency Management). In addition, he volunteers as the Texas State Coordinator of CoCoRahs, the Community Collaborative Rain, Hail and Snow Network, which is a national citizens grassroots weather observer network based at Colorado State University with support of NOAA/National Weather Service and the National Science Foundation.

Hope to see you there!

Jerry Naiser
TCMGA, Director of Programs



The President's Message

Even though the weather people are predicting freezing temperatures for the next several nights, I am beginning to see evidence of spring. We have a resident cardinal in our garden who is usually very passive except when spring is just around the corner. Every year in mid-January he goes into overdrive. For several years in a row he has spent the entire day flying into our kitchen door and front porch windows, dividing his time between both. He does this from dawn until dusk while the female cardinal flies around in the trees looking at him like he's nuts. I promise y'all, this is a true story!

The first year he appeared, the outside cats thought for sure they would have bird for breakfast. Watching them try to figure out how to catch our cardinal was hilarious! But even they decided the effort wasn't worth it for this crazy bird. I think they are halfway scared of him but he has no fear of the cats.

Last year, he began dividing his time between our house and our neighbor's. One day, I drove up my street to see that my neighbors had hung sheets over their windows. I assumed they were doing some painting until I saw a red flash going underneath those sheets to get to the windows. Turns out the neighbors were afraid that little bird was going to hurt himself. I explained to them that he had been at this for years and any harm that he may have caused himself was already done. So down came the sheets.

And so, this cardinal's antics are a sign for me that spring cannot be too far away. It's time to order seeds and garden gadgets and start making lists of projects to accomplish before it gets too hot. This month we'll prune our roses, cut back perennials, and plant early spring vegetables. By the end of the month, the mockingbirds and robins will have bellies full of yaupon and possumhaw holly berries. If we're really lucky, the cedar pollen will have dissipated so we can go outside again. We'll begin to have just enough warm days to really believe that spring is almost here. Then just like my cardinal, our faithful perennials will be at it again and so will we.

And before you know it, another year will have passed and I'll be saying to my husband, "You're not going to believe this but guess who is back?"

Happy Spring Gardening!

Manda Rash, President



Plant Portrait - Cyclamen: *Cyclamen hederifolium* or *Cyclamen persicum*

Oh, how beautiful! Cyclamen blooms are exquisite in bright pink, white, fuchsia, magenta and violet colors. The unusual, upside down blooms, seem to pirouette like a ballerina with a frilly, twisted, reflex petal tutu. Often cyclamen blooms are fragrant too (particularly the miniature ones).

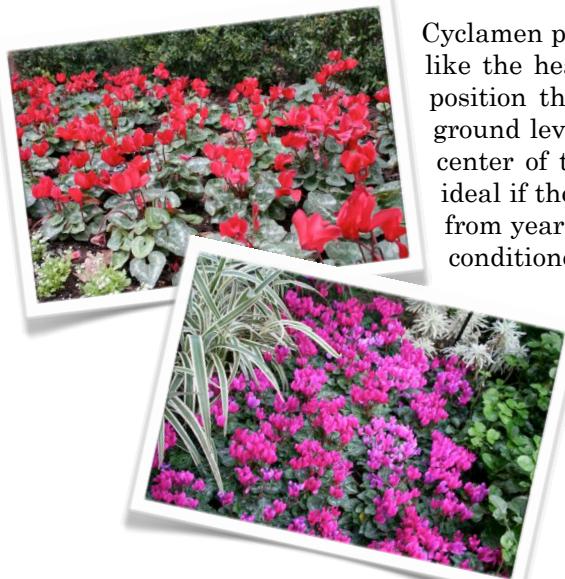
The genus name Cyclamen is derived from the Greek word kyklamenos meaning "circular or circle form". Either this name refers to the round, circle-like tuber or the prominent circle formed at the base of the petals.

These plants are beautiful in bloom but many people find them very attractive even when they are not in flower. The rich, dark green, heart-shaped leaves are often marked with intricate silver accents. The mini cyclamens in particular have wonderful foliage and are nice for indoor decorations on a table near a bright window (without direct hot sun).

For the best display, group cyclamen together in an outdoor garden – a bright shaded area is best but a short-term display can be had in a sunny location if the temperatures are cool. Although many are hardy to 25 degrees, the blooms may be damaged when temperatures drop below freezing. Zilker Botanical Garden lays a frost blanket for protection



Exquisite cyclamen blooms.



Cyclamen plants are a bit picky about their growing conditions. They do not like the heat or to dry out or to be waterlogged. Keep the soil moist and position them in a bright shaded spot in the garden. They grow from a ground level tuber (or corm) that could rot if too much moisture sits in the center of the plant. So a slightly dry, yet shady location under a tree is ideal if they are being grown for any length of time. Cyclamen can be kept from year to year by keeping them dormant through the summer in an air-conditioned room (after they have been sunk into the garden in their container all winter) or tuck them under a shady tree for the summer.

Native cyclamen species, mostly from Southern European, Mediterranean habitats are endangered and now protected by CITES (Convention on International Trade in Endangered Species). If you are purchasing bulbs for planting, make sure they are nursery grown and not wild collected.

Here are some interesting factoids about cyclamen, apparently the seeds are dispersed in the wild by ants. They eat the sticky covering and then discard the seeds. So instead of having to admit to forgetfulness if you can't remember planting a cyclamen in an unusual spot, just blame the ants for moving the seeds. Also some botanists think that the decorative foliage markings are a form of natural camouflage to reduce the amount of grazing by animals in the natural landscape.

Anne Marie Van Nest



In The Vegetable Garden

It's February – the month of love, roses, wine, romance . . . and taters!

And mid-February is the best time for planting. Potatoes are like people – they are most comfortable and perform their best at room temperature. So in order to keep our potatoes happy, we need to plant them so they can grow in our mild spring temperatures (a pretty narrow window, I know) and mature before those hot summer days arrive. For a Central Texas potato, that means planting around Valentine's Day or Washington's Birthday.

Seed potatoes can be purchased at many local nurseries and feed stores, or they can be ordered through the mail (but you'd have to hurry at this point as planting time is near!). My favorite mail order catalog for potatoes is Ronniger's

Potato Farm (www.ronnigers.com, 1-877-204-8704). Many other seed catalogs offer potatoes, like Johnnys, Burpee, Peaceful Valley and Territorial, but they sometimes don't ship until March, which just doesn't fly here. If you have had success ordering potatoes for spring planting from another source, please let me know. It would be nice to have a longer list. Avoid the temptation to use potatoes from the grocery store – they have often been treated with a sprout inhibitor and you don't always know what variety they are. They could also carry disease organisms that could be transferred to the soil. Seed potatoes are certified to be disease free.

If possible, buy whole seed potatoes and cut them into pieces about the size of an egg, making sure each piece has one or two "eyes". Some gardeners like to dust each piece with sulfur to prevent disease, then let them cure 4-5 days at a comfortable temperature (60-65°) before planting.

Potatoes need loose, fertile and well-drained soil, and they are heavy feeders, so mix in plenty of compost and about two pounds of a low nitrogen fertilizer, like 5-10-5, per 20' of row a week or so before planting. Remember that potatoes belong to the nightshade family, so try not to plant them where you have grown tomatoes, eggplant or peppers in the past.

Dig a trench about 4-6" deep and plant the potato pieces in moist (not wet) soil 8-12" apart. Cover them with 2-4" of soil, pressing down firmly to ensure good soil contact over and around the potato piece. You will be amazed at how fast they grow. Before you know it, they will have grown 5-6" and it will be time to "hill" the potatoes. Do this by piling soil or mulch around the potato stems until only the top 1-2" of the leaves are showing. You'll do it again in 3-4 weeks. The ultimate goal is to have 6-8" of soil above the seed piece.



This could be your harvest in May!

Tiny baby potatoes will form along the stems that lay beneath the soil surface. And then one day, perhaps in early May, you'll stick your hand in the soil and you will find that those babies have grown into teenagers (harvest a few of these for an early spring treat). And if you have the patience to wait a little longer, they will grow into big ole spuds! And you never know what or how many you will find – digging potatoes is a great activity to do with kids, but you have to plant them first in order to dig them!



A few tried and true varieties for Central Texas gardeners are Red Pontiac, Red LaSoda and Kennebec. But don't be afraid to try some new varieties, just try to avoid the late-season types that take too long to mature. I have had good success with Yukon Gold, Russet Norkotah and some of the fingerlings like Austrian Crescent and Peanut.

Potatoes can also be grown above ground. We've done this by cutting the bottoms off bushel baskets (that we ordered from BWI for cheap), placing each one over 3 or 4 potato pieces, and then gradually filling them with mulch as the plants grow. It makes for easy harvest when they are ready.



If you have the space you can still put in cole crops (from transplants), spinach and lettuce, but if you have a small garden, you might want to just prepare your beds for the warm season crops and have them ready and waiting when planting time comes around in March. It'll be here before we know it!

Here's to a bountiful harvest,
Patty Leander



The Greenhouse Bench

Many thanks are extended to everyone who volunteered in the greenhouse in 2007.

In total, 114 people contributed 1760 hours! 18 Saturday morning work days were scheduled in addition to numerous Monday morning work sessions throughout the year with Holly Plotner and a full week of activity just before the Zilker Garden Festival.

In addition to the money raised from plants sold at the Zilker Garden Festival, the greenhouse also provided plants for 16 organizations, projects or events during 2007. In total, 1,569 (4") pots of annuals, perennials, roses, shrubs or trees were donated (est. retail value = \$1,569). Also 211 plants in gallons were donated (est. retail value = \$633). Total estimated value of donated plants in 2007 = \$2,202.

Also, two donations of plants were made to Zilker Botanical Gardens. Seasonal bedding plants to provide colorful displays were purchased from a wholesale supplier and donated to Zilker Botanical Garden (wholesale value = \$546.05).

Many maintenance projects were tackled during the previous year. The most exciting was the installation of a new cement walk down the center of the greenhouse. Other activities included removing a leaking hot water tank, installing additional drip irrigation and installing a new (to the greenhouse) refrigerator (with a dedicated electrical outlet provided for it). The shade cloth was removed and installed in the spring and fall. The propagation bench plastic was replaced and a water analysis done on our rainwater and city water irrigation supply.

The Greenhouse Technician training continued with many new participants from the class of 2007. Classes were taught on irrigation, maintenance systems, rose propagation, record keeping, potting and transplanting, entomology & pest control and propagation (cuttings). More classes are scheduled for the spring of 2008.

The greenhouse continued to collect rainwater for our irrigation system. The spring rains were so plentiful that we had all four tanks full! Each tank holds 2,000 gallons. The rainwater was used for irrigating the greenhouse from February through October.



The Greenhouse cover was re-installed this fall.



In October, three greenhouse regulars, Marian Stasney, Holly Plotner and Anne Van Nest attended the two day Greenhouse Management Specialist Training session in Fort Worth for an intensive lesson on commercial greenhouse topics.

There's lots of activity in the greenhouse planned for 2008. The double poly roof has lasted several years longer than it typically should and will be replaced this year. Plans are in place to connect the outdoor irrigation system to the indoor controller for better water management. The citrus tree grove behind the greenhouse (next to MoPac) will be pruned. Three big events in March and April will see lots of prior activities in the greenhouse as plants are grown for sale at the Inside Austin Garden Tour and Zilker Garden Festival and to give away at the East Austin – Passion for Plants event.

Marian, Molly and Anne



Over The Back Fence

FREE PUBLIC SEMINAR

Saturday, February 2, 10:00 AM – Noon

West Rural Community Center, 8656 Hwy. 71 W, Build. A, Austin

Spring Vegetable Gardening and How to Sharpen your Tools

Enjoy juicy ripe tomatoes, crisp cucumbers, mouth watering cantaloupe...straight from your own garden. Learn how to plant and maintain a spring vegetable garden in this free seminar. Patty Leander will share her gardening knowledge which will include composting, vegetable varieties that perform well in Central Texas and recommended planting times. Her seminar is loaded with the basic facts and helpful ideas. Inexperienced and experienced gardeners are welcome.

Make the job easier and faster with a sharp tool. Learn basic tool sharpening methods from this demonstration given by Bill Boytim. Go home with the knowledge needed to do this project yourself.

The facility is located 1 mile west of the "Y" in Oak Hill. It is across the highway from the street named Covered Bridge. This FREE seminar is sponsored by the Travis County Master Gardener Association in partnership with the Texas Cooperative Extension. For more information call 512-854-9600 and ask for the Master Gardener's desk. <http://www.tcmastergardener.org/html/events.html>



FREE PUBLIC SEMINAR

Saturday, February 9, 10:00 AM – Noon

Sunset Valley City Hall, 3206 Jones Road, Sunset Valley

The Right Plant in the Right Place!

Want to have gardening success? Increase your odds by learning more about your plants and what the plants needs at this free seminar.

Plants for the Shade Garden will provide examples of plants preferring to living under the old oak tree or in other shady spots.

Learn about Sun Worshiping Plants. Specific varieties will be discussed so you know what will work in your situation.

Love to entice butterflies and hummingbirds to add a new visual dimension and personal enjoyment to your garden? Discover Plants that Attract Butterflies and Hummingbirds. Details about specific plants that act like magnets for these creatures will be talked about.

This FREE seminar is sponsored by the Travis County Master Gardener Association in partnership with the Texas Cooperative Extension. For more information call 512-854-9600 and ask for the Master Gardeners desk. <http://www.tcmastergardener.org/html/events.html>



FREE PUBLIC SEMINAR

Wednesday, February 20, 7:00 PM – 9 PM

Zilker Botanical Garden, 2220 Barton Springs Rd., Austin

Everything Is Coming Up Roses!

Earth Kind Roses

Earth Kind is an important designation given to select roses by the Texas A&M University Agriculture program. Earth Kind Roses have been through rigorous statewide testing and evaluation by a team of horticultural experts and found to possess the high level of landscape performance and outstanding disease and insect tolerance/ resistance. Talk will include illustrations of a number of Earth Kind Roses plus information on site selection, soil amendments, and bed preparations.

Pruning and Rose Care

Pruning rose bushes is intimidating to many gardeners, but actually very good for the plants. Becoming an accomplished rose pruner takes time and practice. Learn about properly pruning plus the basics of rose care.

This FREE seminar is sponsored by the Travis County Master Gardener Association in partnership with the Texas Cooperative Extension. For more information call 512-854-9600 and ask for the Master Gardeners desk.
<http://www.tcmastergardener.org/html/events.html>



A PASSION FOR PLANTS: AN EAST AUSTIN GARDEN FAIR

Saturday, March 15, 2008, 10 a.m. to 4 p.m.

Govalle Park, 5200 Bolm Road, just East of Airport Blvd.

Govalle Park will be the site of the second annual A Passion for Plants: An East Austin Garden Fair on the last weekend of Spring Break. This free public gardening event will feature hands-on demonstrations of how to double dig a garden bed, make compost, plant a tree, make a self-watering container garden, grow plants from cuttings, and many more gardening tips that anyone can do. Come for the free advice from our on-site experts to answer all of your gardening questions, and fun educational activities for kids, with bugs, bugs, and more bugs! Visit our booths and get a free plant! The more you learn, the more plants you earn. See our local Gardener of the Year receive the annual award, and get ready for Spring with all the free information you need to start your own garden, whether it's one plant in a pot or a whole yard full.

Hosted by the Travis County Master Gardeners Association, the Sustainable Foods Center, the Green Corn Project, and the Holistic Health Awareness Network. For more information call 512-854-9600 and ask for the Master Gardener's desk. <http://www.tcmastergardener.org/html/events.html>



GARDEN TO GARDEN PLANT EXCHANGE

Wednesday, April 2

Set to take place after the April meeting. As you work in the garden, keep your gardening buddies in mind. Bring your bounty and take home something new!!!

Roxane Smith





FREE PUBLIC SEMINAR

Saturday, June 7, 10:00 AM - Noon

Zilker Botanical Garden, 2220 Barton Springs Rd., Austin

Always dreamed of a little pond in your yard? Learn how you can personally make your dream come true. This free seminar is a step by step lesson on the basics of building a pond yourself. Related pond topics are incorporated in the seminar.

Be trained with visuals on Small Pond Construction. Determine the supplies and equipment needed for the job. Learn how easy it is to do it a by yourself.

Gather information about Pond Plants. Find out which plants do well in a small pond and the growing requirements. Examples of a number of varieties will be illustrated.

Which fish is ideal for the small pond? Study the choices. Hear about the care essentials to grow healthy fish.

Other Things You Need to Know provides instruction on general pond maintenance. Enhance the night time ascetics of the pond with information on pond lighting. Raccoons, birds and other critters love ponds. Understand methods to help prevent unwanted guest.



Bring samples of diseased, bug eaten, sick plants to the Plant Clinic. Experts will diagnose the problem and offer possible remedies.

Austin Parks Department charges a \$3. fee for parking. The seminar is sponsored by the Travis County Master Gardener Association in partnership with the Texas Cooperative Extension. For more information call 512-854-9600 and ask for the Master Gardener's desk. <http://www.tcmastergardener.org/html/events.html>

MARK YOUR CALENDAR:

Saturday, July 12, 10 AM - Noon

Zilker Botanical Garden, 2220 Barton Springs Rd.

"What is Wrong with this Plant?"

Saturday, September 6, 10 AM - Noon

West Rural Community Center, 8656 Hwy. 71 W., Building A

"Rain Water Harvesting Systems and Low Water Usage Landscaping"

Wednesday, September 17, 7-9 PM

Zilker Botanical Garden, 2220 Barton Springs Rd.

"Fall Vegetable Gardening"

Wednesday, October 22, 7-9 PM

Zilker Botanical Garden, 2220 Barton Springs Rd.

"Plant Photography"

Saturday, November 15, 10 AM - Noon

Sunset Valley City Hall, 3206 Jones Rd.

"Preparing for Winter and Spring Bulbs"



Special Feature: The MG Class of 2006!

Congratulations to the following participants in the 2006 training class who successfully completed their Master Gardener certification:

Karen Banks
Amy Cunningham
Vicki Blachman
Denise Bluestein
Sandra Bowen
Candy Becker
Ann Byrd
Kevin Byrne
Janet Church
Jon Deutsch
Lessa Ennis
Marie Evans
Marianna Felsman
Marilyn Finnegan
Linda Francescone
Fredi Franki
Jeanie Green
Suzanne Hurley
Bill Hyland
Joan Judge
Walt Krueger
Jinna MacLaurin
Bonnie Martin
Joyce McAhren
Emily Neiman
Janet Newton
Sherrill Nilson
Eleanor Pratt
Grit Ramuschkat
Gloria Reindl
Rebecca Turrubriarte
Carol Wade
Kim Walker

Welcome to the Travis County Master Gardener Association!!!

Manda Rash



Special Feature: Propagator's Toolbox - Tips for Online Seed Shopping

Seed catalogs are arriving in mailboxes faster than Harry Potter's acceptance letters from Hogwarts! Nurseries are busily stocking display racks with this season's seed selections...however there is another way to seed shop – ONLINE.

It's hard to imagine a purveyor that doesn't have a web site offering seeds for sale, trusted stalwarts such as Burpee, Parks, Johnny's Selected Seeds, Wilhite Seed (Texas company) and many others come to mind along with those specializing in heirlooms such as Seed Savers Exchange and Southern Exposure Seed Exchange – all are reputable, well established sources. To list them all would fill a few pages for sure!

Web shopping EBay (bid or buy now) and EBay Express (buy now) or other lesser familiar sites require you, the smart shopper, to be a little more cautious. Don't get me wrong, I'm just saying a little research before you buy goes a long way. Be mindful that commercial seed purveyors sell certified disease free seeds whereas an individual gardener saving their own seed for resale can't offer such a guarantee, you could be taking a chance with such a purchase unless the seller is experienced in recognizing those problems in parent plants and does not "sell" those problems to buyers.

Watch out for "marketing" tactics - let's say you're looking for "heirloom seeds" and you see an interesting vegetable named "painted pinto bean", open another web page and search GOOGLE using that name...you will find that "pinto" is the Spanish word for "painted", AND, there isn't an on-line catalog with that name listed (other than EBay)...OK, moving right along...

Let's say you're looking at a listing for "white greasy pole beans"...your GOOGLE search indicates this really is an heirloom from the Appalachian area of North Carolina and after researching growing requirements, yield and flavor, you're interested in growing them in your garden, next determine the number of seed in the offer, price and shipping cost then compare with other web listings and on-line catalogs, perhaps you'll get more seed for the overall cost elsewhere!

No matter which on-line purveyor you order from do print the shopping cart listing your individual purchases and the receipt for on-line payment if that method was used. Also print the item's description and make sure you receive what you paid for. Don't hesitate to ask the seller a question about their offerings, many have a way for you to email a question or a toll free number to call.

Closing Comments: Please note I picked on "heirloom" seed listings, you will also find many hybrids - they exist to provide a product capable of resisting common diseases we battle frequently, climatic extremes (heat and stress), and to facilitate mechanical harvesting and rough handling; some are recommended for the home garden with good qualities including flavor. Heirlooms on the other hand may offer unique flavor and color characteristics missing from hybrids but may also be less productive and pickier about growing conditions. Open Pollinated (OP) varieties offer us the opportunity to save seeds, which done properly over many generations, will result in your own "race" acclimated to your garden's microclimate – that's the theory anyway – and the source for so many "heirloom seeds" offered by Seed Savers! Tomatoes, beans, peppers, okra, easy annual flowers and some herbs are great starter projects for seed saving – do a little research and give it a try!

Happy Gardening,

Tommie Clayton
TCMG – Propagation Specialist Team



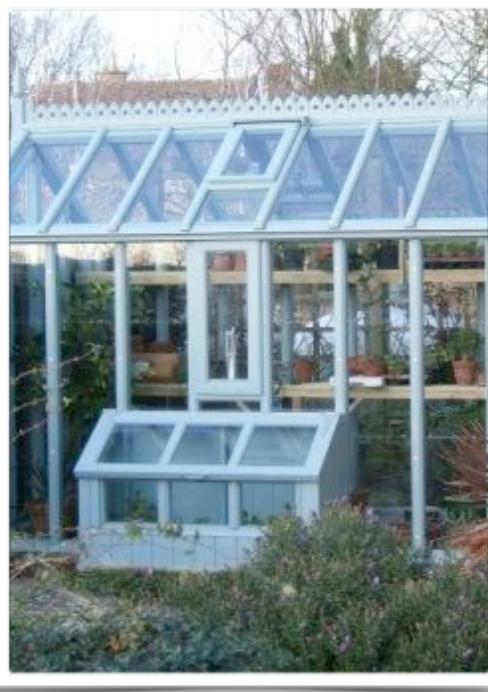
Special Feature: Greenhouse 101 for Central Texas Gardeners

The winter has been quite cold so far this winter and know there are definitely more to come, even though temperatures were near 80 degrees not long ago. For the volunteers at the Extension Help Desk, quite a few calls have probably been fielded about protecting tender plants such as tropicals, succulents, and citrus. This time of year may prompt Central Texas gardeners to think about greenhouses as an alternative to dragging plants in and out for the variety of winter conditions experienced here.

HOLD THAT THOUGHT! What is most likely needed is a simple cold frame to overwinter those precious lemon and banana trees. Cold frames are unheated outdoor structures usually constructed of wood or metal frames covered with plastic or glass. Cold frames are useful for protecting tender plants and may even be suitable for getting a head start on spring vegetables. Cold frames are generally utilitarian but they can be aesthetically pleasing too.



Greenhouse envy?



A greenhouse, by contrast, is a controlled micro-environment of plant essentials: temperature, water, air and light. Greenhouses can be fairly simple or complex, constructed completely from scratch or purchased as kits, but all require regular care and maintenance. So, who would want to own a greenhouse? Usually, gardeners who raise plants for show or for sale or those who are propagating plants for various reasons will desire a greenhouse. For those contemplating a commercial venture, careful forethought must be given to all the costs, including energy, water, growing medium, pots, labor, et cetera.

Other initial considerations for a greenhouse consist of placement (or location), structural type, ventilation, heating and cooling requirements, lighting and irrigation. While those seem obvious, what isn't so apparent is that the decision on each of these factors has a direct influence on the others. For example, choosing a greenhouse kit of plastic can limit the choices of irrigation, because it may not be possible to attach pipes and hoses to the frame.

The structure type will influence the type and amount of ventilation required as well as space-use efficiency. Most commercial greenhouses are 96' X 30' modified quonset structures with solid walls of plastic/polycarbonate and double layers of polyethylene plastic separated by a

cushion of air for the roof. This type of structure promotes airflow as well as maximizing the amount of usable space. In smaller spaces, it can be difficult to maintain a uniform environment.

In general, maximum light efficiency is achieved by locating the greenhouse in full sun with front facing the north, rear facing the south, sides facing east – west for uniform light distribution during the photoperiod. Light can be controlled by the use of shade cloths, either draped over the greenhouse or, for greenhouses with roof vents, hung inside (underhung). While most common commercial greenhouses do not use supplemental lighting, it can be required for propagating or forcing certain plant behaviors.

The most common heat sources are natural gas or propane, but care must be given to vent these properly and to distribute the heat evenly throughout the greenhouse. Proper ventilation will distribute heat, minimize foliar fungal diseases, and prevent toxic gases from accumulating. Cooling can be achieved through a two-stage process. Passive convection (principle that heat rises) can be simply well-placed roof vents in stage one. In stage two, the roof is often removed and only the shade cloth remains. Forced air cooling can be achieved through “swamp coolers” or a combination of fan and wet pad cooling. Again, the initial choice of structure will influence what alternatives are viable.

For more information, a complete greenhouse management handbook prepared by Dr. Don Wilkerson, Texas Cooperative Extension can be found at http://aggie-horticulture.tamu.edu/greenhouse/nursery/guides/green_index.html. Another useful link for calculating greenhouse measurements, including heating and cooling costs is <http://pubs.caes.uga.edu/caespubs/pubcd/B931.htm#Formulas>.

Marian Stasney
Greenhouse Management Specialist and Technician



CHOOSING A COVERING FOR A GREENHOUSE... NO SMALL DECISION!

There are many choices of greenhouse covering materials that should be investigated before you start to buy. Each has various monetary, longevity and plant growth benefits that should be considered.

Greenhouse covering choices include; polyethylene (single and double layer), acrylic (single, double or triple walled), polycarbonate (corrugated, twin or triple walled), fiberglass or the traditional glass panes.

Polyethylene Film

One of the most popular is the polyethylene (poly) films. About 90% of all commercial greenhouses are covered in polyethylene film. Inflating between the two layers of poly with air retains more heat inside the greenhouse and saves about 40% in heating costs. The TCMGA greenhouse has two layers of poly with forced air between.

Polyethylene is available as sheets from 12 to 50 feet widths and in any length to fit. The polyethylene tubes save effort instead of handling two separate sheets for double layer applications. The tubes though, are limited in available sizes.

Polyethylene greenhouse film is sold in different thicknesses from 3 mil (75 micron) to 10 mil (260 micron). Mil is a unit of measure in thousands of an inch. A micron is equal to one thousandth of a millimeter. The industry standard for commercial greenhouses is a 6 mil poly which is rated for 4 years. Do not use clear construction grade film for greenhouses unless it is for a short-term seasonal protection of plants.

Many greenhouse poly are manufactured to be super clear for maximum light transmission. Some even have a UV stabilizer to increase the durability of the film and reduce the degradation from natural elements. Other polyethylene films have an anti-dust additive to reduce accumulation (reduction in light transmission). Also available are drip-less films that contain an additive designed to help disperse condensation buildup. Water droplets can reduce light transmission by 20%. Most films have an ability to reduce radiation loss and traps more infrared (ie: heat) rays from leaving the greenhouse. Delaying the exit of infrared radiation and

maintaining more heat inside the greenhouse longer provides for more energy savings. Finally, some polyethylene greenhouse films are a white, opaque color that provides an amount of shading.

Polyethylene has a short life span when compared to polycarbonates, has the possibilities of ripping and tearing and is often not totally clear. The low cost (in comparison to more rigid coverings), ease of replacement, high light transmission, and good heat retention make it a favorite covering.

Rigid Panels

Acrylic panels in single, twin and triple wall widths offer another choice. The double wall types deliver up to 91% sunlight transmission in the visible range. They are more shatter-resistant and half the weight of glass. Acrylic panels often come with a 10-year warranty against loss of light transmission and are available in clear, bronze, grey or white colors to reduce radiation transmission. High costs have made this form of covering prohibitive for many.

Polycarbonate is one of the newest coverings for greenhouses. The material is rigid but flexible and is available as corrugated, twin or triple walled. Some types of polycarbonate are clear enough to give almost the same light transmission as glass panes but without the heavy weight, high cost and risk of breakage. Polycarbonate have good design flexibility and can be used for curved greenhouses, easy installation and are more economical than glass. Many have 20 times the impact strength of fiberglass and are 40x stronger than glass or acrylic. They have integral UV resistance and are light weight with condensation control. Available as polished and matte clear form as well as tints. The twin wall types have high light transmission with good energy efficiency and have a 10 year warranty and 15 year life span.

Panels can be cut with a fine tooth saw or sharp knife using protective masking. Polycarbonate must be installed with the proper orientation so the specially treated outer side can resist outdoor weathering.

Glass is revered for its beauty and historic importance for greenhouses. But it is one of the least effective materials for retaining heat and has little insulating value. Consider double or triple strength for increased heat efficiency and decreased breakage risk. Glass is much heavier than other covering and requires a stronger framing. Glass doesn't diffuse light so there's a risk of burning plants. It is harder to install and breaks easily - especially if subjected to hail, trees, or kids,

Fiberglass was one of the earliest "plastic" replacements for glass. It is translucent (opaque) but not transparent. Fiberglass retains heat better than glass but not as good as newer polycarbonates or double polyethylene. Fiberglass is UV protected by a gel coating that eventually deteriorates in the sun after about 6 years and turns yellow. Dirt also can accumulate and reduce light transmission drastically.

So given all these choices for a greenhouse covering, the decision should be based on the possibility of hail, length of time desired between replacing, cost, stability, design of the structure, crop grown, and year round or seasonality of the greenhouse.

Some considerations are that the least expensive is a single polyethylene film. Double poly lasts longer and is the most often used for commercial greenhouses. Polyethylene could last 1 year to 5 years. Polycarbonate (corrugated shape) is the most popular permanent cover.

Anne Marie Van Nest



AAGC News

The AAGC President, Dr. Laura Joseph, let us know that a card was circulating around for, Sadie McRae, who is sick, and she was our “Thought for The Day”.

1. Anyone not receiving “Down the Garden Path”, who wants it, should send their request and address updates to: [info@zilker-garden.org](mailto:info@zilkergarden.org).
2. The 2007 Budget was approved by the body.
3. Take a look around you as you stroll through Zilker any day now, and you will see that several trees are removed, and the Taniguchi garden streams are resurfaced and running again. If you want to see pictures of the stream being repaired you can find them at, bamboocentral.net.
4. Charlotte had a real strong message of each club turning in their volunteer hours. Broken down each hour is worth \$10.65 per person. She also thanks each club for keeping the kitchen cleaned. Give yourselves a pat on the back.
5. Julie Johnson announced that the new computer is updated and working. There is also a new computer at the receptionist desk, with a wireless printer available.
6. The Vice President’s report was asking each club to send money from the Bazaar, tagged “Holiday Bazaar” to Bill Ater.
7. Don Freeman had a picture of the new gate for the Taniguchi garden. Should be finished by March.
8. Robert Beyer asked that all articles and ads be turned in to him by January 30th.
9. Education: no takers yet, can you do it?
10. Anyone that bought a memory brick, look for them in February, hopefully.
11. I picked up the tickets for Zilkerfest (March 29-30), 170 members, 2 tickets per person at \$3 = \$1,020.00.
12. Donna announced that we need ads for the “Inside Edition” section of The Statesman for Zilkerfest. The Master Gardeners have a paid for space already.
13. The Dino Exhibit is still being funded by a lot of organizations, it will be a big group effort.
14. The “Ghost Land Concert”, was a great success, all who participated were better for it.

Hope I got around to all your questions, if not and I should add anything else. Let me know.

Angela Dixon, AAGC Representative



Closing The Garden Gate

Ah, February – the month includes Groundhog Day, Valentine's Day, Presidents Day and Chinese New Year to name a few. That's a lot of activities to put in the shortest month of the year. I sure wish we could add a “work in your garden day.” My yard looks like Chernobyl. I haven't cut back a thing or really even stepped out in it except to fill the bird feeders since before the holidays. What a mess! At least the birds are happy. I'm going to get out there and trim it up just as soon as the rain stops or my neighbors are going to insist I move. However, after reading Patty's article I really want to plant some potatoes so that may come first! Well, such is the life of a gardener.

Happy Valentine's Day!

Rebecca Matthews

Garden Trivia

Red roses signify "I love you." They are the ultimate symbol of love filled with romance and passion. So, if on this Valentine you wish to say "I Love You" to someone or want to propose to your sweetheart, then red Valentine roses are just for you.

Pale pink roses signify grace, gentleness, and gratitude. You can give them to your sweetheart and to a person whom you respect a lot.

Light pink roses express fun, happiness and joy. Share this pink Valentine rose with your friends and family.

Deep pink roses say "Thank you." Show your gratitude and warmth with deep pink Valentine roses.

Lilac rose is for love at first sight. The rose indicates that the sender has fallen head over heels in love with you and is just crazy about you.

In Closing

"A single rose can be my garden...a single friend, my world." Leo F. Buscaglia



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