Gillespie County

Horticulture Newsletter
Winter 2017/2018

Introduction

Yay, it's cold! As much as I prefer warmer weather, the cold weather has its uses too. Hopefully we will get enough cold weather to give the peach trees enough chilling, and kill off all those cucumber beetles.

This newsletter will be a shorter one than normal, because the next one is scheduled to come out in March. Read on to learn more about the different methods for counting chill hours in peaches, how to start transplants for your garden, program announcements and more!

If you have any questions about any of the topics or programs in this newsletter, please email these to me at elizabeth.mcmahon@agnet.tamu.edu or call us at the extension office at 830-997-3452.

One warning about calling our office. Our phone system is currently dropping calls unexpectedly. If your call is dropped while being transferred or while speaking to a staff member, please call us back or we will call you back. We apologize for the issue and appreciate your patience.

Preview

Texas A&M AgriLife Extension

Recent Chill Hours

The peaches on the left received adequate chilling. The peaches on the right did not. Picture taken by Adam Russell in Overton ,TX in 2017.

If your peach trees didn't produce fruit in 2017, it was probably due to a lack of chilling. The amount of chilling a fruit tree gets is determined by counting chill hours.

There are a few different ways to count chill hours. The easiest and most common method is to count all hours when the temperature is below 45°F after the first frost. However, fruit scientists have issues with this method.

It is thought that the chilling trees get is most beneficial at a temperature range of 32-45°F, and that no chill hour accumulation occurs below freezing. Some scientists think fruit trees receive partial chilling when the temperature is between 45-55°F. Still other scientists suspect that trees can lose chill hours if the temperature gets too warm during the winter.

Different chill hour models exist to account for these factors. The Dynamic Model (Chill Portions Model) accounts for most of them. This model is of limited use though, because of its difficulty to calculate and that it uses chill portions instead of chill hours. Chill portions are not commonly used and the amount of chill portions needed for many fruit tree varieties is unknown.

Between 2007-2016, Gillespie County commonly received around 800-1100 chill hours every winter. In 2017, Gillespie County only received 460 chill hours, which drastically reduced fruit tree bloom. 2018 season chill hours have already surpassed 2017, being 509 chill hours on January 5th, using the under 45°F method (19 chill portions).

If you want weekly updates for chill hours, please see gillespie.agrilife.org/agriculture-2/horticulture/chill-hours. You can also calculate chill hours yourself using the getchill.net website. First frost date being used is 10/28/2017.

Topping Crape Myrtles is Murder

Every year people think it is an acceptable landscape practice to cut the tops off their crape myrtles. Among horticulturalists, this term is called crape murder. Topping of crape myrtles destroys the beautiful growth forms crape myrtles naturally have. While you may have larger blooms, it does not create "more" blooms. This year, instead of topping your crape myrtles, let them grow out instead. Choose two branches, and let your crape myrtle assume it's natural form.

Which would you rather have?

Starting Your Own Transplants from Seed

An abridged version of this article ran as a radio program on KNAF 910 in December)

If you're crazy about "Green Zebra tomatoes, it's probably because you've started the seed yourself. Picture form Park Seed.

Sometimes you want something different to plant. Whether it's an heirloom flower or a crazy looking vegetable variety, something with better disease resistance or maybe you are trying to save a little money, starting your own flower and vegetable transplants can grant you your wish for something different.

The first step for starting your own vegetable or flower transplants is to choose the seed. If you're like me, I get quite a lot of seed catalogues every late November and December. When purchasing your seed, use a reputable seed source. If doing a seed exchange, verify that the plants weren't sickly, because viruses can infect seed. When choosing a vegetable variety, choose something that is adaptable to a warmer climate and high pH soils. I recommend getting a variety with good disease resistance and is reputed to have good flavor

Don't dawdle when obtaining the seed for your transplants. Many seed companies offer special deals or free seeds if you order before a certain time. Shipping and order processing seems faster earlier in the season than later. Also your transplants will need time to grow so they can be ready for planting. Most seeds take one to two weeks to germinate and they need time after to gain size. Please see the chart on the following page for details on common vegetable and flower seeds.

Vegetables that work best as transplants include: tomatoes, peppers, broccoli, kale, cauliflower and eggplant. Root vegetables and beans do not transplant as well, and should be avoided. Corn, lettuce and cucurbit vegetables can be grown as transplants, but do perfectly well seeded in the ground. If you are looking to get a jump on your garden, you can start them as transplants.

You can buy specific pots or reuse six packs from earlier plantings, providing that you clean them first with a diluted bleach solution. This is to prevent dampening off, which is a seedling disease that can slowly wipe out all your baby seedlings. You may see peat pots offered for use. These will grow seedlings, but in personal experience they seem to restrict rooting.

Seed can be started in six packs or flats. It is quicker to plant in flats, especially if you are starting many plants, but you will need to transplant them into bigger pots eventually. If starting in six packs, plant a few extra just in case. Make sure to label your seedlings! You can cover the pots with plastic to retain moisture, but this isn't necessary.

For potting soil, choose a looser potting soil. There are some mixes that are made just for seeding. You can use these, or use regular potting mix. Make sure you use a quality potting mix. I wouldn't use plain soil for starting seed, as that it shrinks and swells from pot edges, which makes watering difficult. Plant your seeds in the soil at the appropriate depth and water them in.

Many seeds such as those from peppers, tomatoes and cucurbits need warmer temperatures to germinate. Use a heating mat and place it under the seedlings in the tray. This can greatly increase germination. Make sure the heating mat is waterproof, or you may electrocute yourself.

Seedling heat mats are very helpful in increasing germination and growing strong transplants.

Starting Your Own Transplants from Seed, Continued

Once the seedlings are up, they will need light. If you must, you can use a very sunny windowsill, but your seedlings will be long and floppy. Optimally, you can rig up a florescent light and hang it over your seedlings to provide the light they need. You don't necessarily need a special growlight. Make sure that it is adjustable, because you will need to move it as your plant grows. Choose either a T-12, T-8, or a T-5 florescent light. Florescent lights do not give off much heat and should not be used as a heat source. They should be placed as close as 3-6 inches from the plants. Other types of light should be placed farther away. Give them at least 12-16 hours of light.

Pepper seedlings stretching due to lack of light.

When it gets closer to planting your garden, start moving your seedlings outdoors for short periods. This is called "hardening off". For the first couple of days set them outside in an area protected from wind but in the shade. Bring them back inside before temperatures drop. Leave them out a little longer and exposed to more direct sunshine. Do this over a period of two weeks, after which they should be ready for outplanting.

When you plant your seedlings, be gentle. If counting days to maturity, start counting when you plant the transplant, excluding the time it took to grow the plant to size.

Try these tips, and hopefully you will be able to grow that plant variety you have always wanted to try, but never found in a nursery.

Plant	Germination (Days)	Time for Growing Transplants (Weeks)
Tomato	6-12	5-6
Pepper	9-14	7-8
Broccoli & Cauliflower	7-10	4-8
Lettuce	6-8	4-6
Kale	10	4-6
Cabbage	4-10	5-7
Cucumber	6-10	2-4
Squash	4-6	2-4
Eggplant	7-14	6-8
Celosia	5-10	4-6
Cosmos	5	4-6
Sunflower	5-14	4-6
Impatiens	15-18	10-11*
Petunia	6-12	10-12
Marigold	5-7	4-12*
Zinnia	5-7	4-8
Snapdragon	7-12	15-16
Ageratum	5-8	10-11
Oregano	7-14	8-10
Basil	5-10	6-8
Mint	10-14	6-8

Sign-Ups for the 2018 Master Gardener Intern Class Under Way!

Hill Country Master Gardeners at the 2017 Blooms and Barrels plant sale and garden show. Picture by Jim Latham.

Compost day at the Glory Community Gardens. Picture by Lydia Jones.

New to the area and don't know anyone? Looking for something to do now that you've retired? Interested in volunteering with people who love plants as much as you do? Have you ever considered becoming a Master Gardener?

The Master Gardeners are a volunteer program that cooperates with extension offices and the community to promote gardening and horticultural education. There are Master Gardener chapters across the nation. Our local chapter is the Hill Country Master Gardeners, which includes Gillespie, Kerr, Kendall, Bandera and Real counties.

Example activities include maintaining educational plant demonstration sites, working on horticulture research experiments, leading or assisting with community horticultural programs or teaching kids about plants.

Don't let the name intimidate you. You don't need to be a master to join. Part of the initiation process is a 60 hour instructional course, geared towards horticulture in the Texas Hill Country.

During and/or after you complete the instructional course, you need to complete 50 volunteer hours to become a certified member. Remaining a member is easy. You need to have 6 continuing education hours from approved programs and 25 volunteer hours from approved projects. Working in your personal garden doesn't count unfortunately. Meeting attendance isn't necessary, but strongly encouraged.

Answering questions at demonstration garden open house. Picture by Vickie Killen.

If interested, please contact the Kerr or Gillespie County Extension offices for an application. You can also find an application online at: http://www.hillcountrymastergardeners.org/Training_Certification.htm.

Applications are due January 15th at the Kerr County Extension Office (Education Dept. 3775 Highway 27, Kerrville, Texas 78028). The 2018 Intern Class will start on February 6th, 2018 and be every Tuesday and Thursday from 9 am to 3 pm, with 30 minutes for lunch. The price for the class is $175. The last class will be on March 27th, 2018.

Call the Kerr County Extension office at 830-257-6568 or the Gillespie County extension office at 830-997-3452 for more information. If all you would like to do is take the class and do not wish to volunteer, contact the Kerr County Extension Service or stay tuned to this newsletter for upcoming programs.

Interested in vegetable gardening? The Gillespie County AgriLife Extension Service will be hosting a vegetable gardening seminar on Feb. 2 from 9 a.m. to 12:15 p.m. at the Gillespie County Farm Bureau Center, 237 Equestrian Dr in Fredericksburg. Registration will begin at 8:30 a.m. with the seminar to follow. Preregistration cost is $20 or $25 for those who wish to pay at the door.

The seminar will begin with a basic gardening program for the first 45 minutes with 15 minutes for Q&A's. Afterwards, there will be three sessions featuring various gardening-related topics.

Tentative topics to choose one from for session one includes: Tomatoes, Garden Pests, Herbs. Session 2 include: Raised Beds, Foodscaping, Onions and Garlic. Tentative topics for session three include: Compost, Potatoes, Tomatoes. The final program will be a Q&A session with Master Gardener Vegetable Specialists.

If you can't make the Plantastic Vegetable Gardening Mini-Seminar, the next horticultural program from the Gillespie County Extension Office will be on plant propagation. It is tentatively planned for April 25th, 2018. The goal for this program is to have different plant propagation demonstrations for participations to try, and for everyone to take their cuttings home, though this is tentative as that the program is still in the planning stages. Please watch for announcements in the paper and the spring newsletter for more information about this and other upcoming programs.

Office Closures

The Gillespie County Extension Office will be closed on January 15th, February 19th, March 2nd and March 30th.

Picture created by Ayla Reyes.

2017 Gillespie Pecan Show Results

On Nov. 30, the 2017 Gillespie County Pecan Show was held at the Gillespie County Extension office. There were 15 participants. The judge was Samuel Plumley. Plumley judged 50 entries with over 20 pecan varieties. The Central Region Pecan Show was on December 6th, and judged by Monte Nesbitt and Bill Ree. There were 161 entries.

Gillespie County Pecan Show Placings

Classic and New:

Apache- 1st: Doug Bode
Barton- 1st: Abbey Nedbalek and 2nd: Doug Bode
Burkett- 1st: Elmer Schmidtzinsky and 2nd: Darrell Jenschke
Comanche- 1st: Doug Bode
Maramec- 1st: Melissa Nedbalek
Other- 1st: Doug Bode, 2nd: Elmer Schmidtzinsky and 3rd: Mary Jenschke
San Saba Improved- Grand Champion Classic and New: Elmer Schmidtzinsky
Shoshoni- 1st: Kermitt Crenwelge and 2nd: Doug Bode
Variety Seedlings: 1st: Brodie Roeder and 2nd: Betty Roeder

Commercial:

Cheyenne- 1st: Doug Bode, 2nd: Austin Nedbalek and 3rd: Kermit Crenwelge
Choctaw- 1st: Dennis Henke and 2nd: Abbey Nedbalek
Desirable- 1st: Doug Bode, 2nd: Erna Jacoby and 3rd: Elmer Schmidtzinsky
Hopi- Grand Champion Doug Bode and 2nd: Kermitt Crenwelge
Kiowa- 1st: Herb Nebgen and 2nd: Abbey Nedbalek
Mohawk- 1st: Dennis Henke
Pawnee- 1st: Aimee Ransleben
Schley- 1st: Darrell Jenschke, 2nd: Elmer Schmidtzinsky and 3rd: Mary Jenschke
Sioux- 1st: Melissa Nedbalek and 2nd: Doug Bode
Wichita- 1st: Austin Nedbalek

Natives:

Lightest Pecan- 1st: Herb Nebgen and 2nd: Gina Jenschke
Natives- Grand Champion Mary Jenschke, 2nd: Erna Jacoby and 3rd: Darrell Jenschke

Central Region Pecan Show Placings

Apache- 1st. Doug Bode
Hopi-3rd. Doug Bode
Comanche- 2nd. Doug Bode
Shoshoni-1st. Kermitt Crenwelge
Schley-2nd. Darrell Jenschke
Lightest Pecan-2nd. Herb Nebgen
Barton-2nd. Abby Nedbalek
Wichita-3rd. Austin Nedbalek
Burkett-1st. Elmer Schmidtzinsky
San Saba Improved-1st. Elmer Schmidtzinsky
Variety Seedling-3rd. Brodie Roeder

Article prepared by Ayla Reyes.

Strange Tales of Horticulture

CRISPR: GMO or Not?

New vegetable varieties are commonly advertised in seed catalogues. They may have improved disease resistance, come in new colors, or taste better. Creating these new plant varieties using traditional plant breeding methods can be a complicated and long process. For example, say you want your "Black Krim" tomato to have nematode resistance. Using traditional plant breeding methods, you would make outcrosses with a tomato that is resistance to nematodes, say "Celebrity". The offspring may not necessarily be resistant to nematodes, and even if some were, they may not look like a "Black Krim" tomato. After years filled with self-breeding and crossing back to the parent plants, you may get a "Black Krim" tomato with nematode resistance.

Wheat being bred using traditional methods. Photo taken by Jackie Rudd.

Genetic engineering is a more focused approach for introducing the desired traits into a plant variety. It shouldn't take as long to develop plant varieties, because the desired genes can be artificially selected and introduced. Before newer techniques were invented, one method had the desired genes inserted into a special bacterium, which infected the plant and thus transferred the DNA. Another method involved putting the desired genes onto microscopic gold balls and shooting them into plant tissue at high speeds. However, these methods are not very precise , the DNA may not "take" , or the genes may be in the wrong spot.

Conventional apple on the left, Artic Apple on the right. Picture courtesy of Okanagan Specialty Fruits Inc .

Within the last 10 years, RNA interference has been used in plant breeding. This method can turn off or "silence" specific genes without adding foreign DNA. Example crops that have been bred using this technique include "Artic Apples" and "Innate" potatoes. These crops have only recently been introduced into the market.

Around 2015, a different gene editing tool came into popularity. This technique is easier to do and possibly more accurate than RNA interference techniques. It's called CRISPR.

CRISPR is an acronym which stands for clustered regularly interspaced short palindromic repeat. This method searches the DNA strands and inserts or deletes specific genes when it finds the section it is looking for. CRISPR is more accurate and has fewer issues with undesired mutations or genes being inserted into the wrong spot. While this method can be used to insert foreign genes, it will be more likely to be used to insert genes from the same species or to silence specific genes. So as in the earlier example, if nematode resistance was a singular trait, that singular trait could be copied from a "Celebrity" tomato, and inserted into the Black Krim tomato without having to change any other genes. There is less genetic manipulation than in traditional plant breeding.

Strange Tales of Horticulture

CRISPR: GMO or Not?

Continued

Because of the lack of foreign DNA, some crops altered using this technique may not be regulated as a GMO, even if GMO labeling laws are passed. The reason why lies in how GMOs are defined. The name GMO is a misnomer. GMO stands for Genetically Modified Organism. Technically, anything that humanity has intentionally bred is a genetically modified organism (including those heirloom tomatoes).

However, the term GMO has become representative of plants such as Bt Corn that have foreign DNA in them. Using the CRISPR method doesn't necessarily mean that foreign DNA will be added, therefore there is no reason to regulate every plant that has been altered with this technique as a GMO, even though it's not a traditional breeding technique. For example, a researcher at UMEA University in Sweden deleted a browning gene in mushrooms using CRISPR. According to an article published on Phys.org, the Swedish Board of Agriculture allowed the cultivation of the plant without prior permission, thus not regulating it as it would a GMO.

Mushrooms edited using CRISPR. Picture from Yang Lab.

In the United States, Dr. Yang at Penn State University also silenced genes that cause browning in mushrooms. The United States responded similarly, not regulating this mushroom as it would crops such as herbicide resistant soybeans or corn.

One of the interesting things about CRISPR is how easy it is. Middle schooler science teachers can purchase CRISPR kits to alter bacteria included in the kit to become antibiotic resistant. In the future, people could use CRISPR to breed new vegetables in their own backyard.

CRISPR isn't the complete answer to being able to alter a plant's genetics. Some traits involve more than one gene, and many plants do not have their genomes mapped. However, the future seems interesting when CRISPR is involved.

Local Horticulture Info on the Go!

Would you rather learn by listening, instead of reading? Check out my radio shorts on KNAF 910 in the morning around 7:10 am during the Farm and Ranch News. Or check them out on the internet, where you can download them and listen to them at your convenience on your phone, computer or MP3 player.
Go to https://soundcloud.com/txhillgarden , pick a radio program to listen to, click "More" and then click "Download" to download.

Upcoming Programs in Gillespie County

Gillespie County Livestock Show
January 11th-13th, 2018. Gillespie County Fairgrounds, Fredericksburg.
No plant shows yet, but come and support the kids and their livestock projects.

Plantastic Vegetable Gardening Mini-Seminar
February 2nd, 2018. Gillespie County Farm Bureau Building, Fredericksburg.
Registration at 8:30. Program starts at 9:00 and runs until 12:15 pm. Program will go over general gardening, have a Q&A session, and have three concurrent program sessions with topics such as tomatoes, raised bed gardening, onions & garlic, foodscaping and more.

Growing Fruit Trees in Harper
March 22nd, 2018. Harper Public Library, Harper, TX
Free program on growing fruit trees suited for the Harper area. Starts at 6:30 pm.

Upcoming Programs Outside Gillespie County

Hill Country Master Gardeners Intern Class
Application due January 15th, 2018. Class runs February 6th-March 27th, 2018. Class will be based in Kerrville at the Hill Country Youth Event Center. This is an intensive fifty hour+ course for those wanting to become Master Gardeners.

Hill District Youth Livestock Show
January 17th-20th, 2018. Hill Country Youth Event Center, Kerrville.
Livestock show featuring pigs, steers, heifers, lambs, and goats.

Texas Organic Farmers & Gardeners Association 2018 Conference
February 1-3rd, 2018. Georgetown.
Annual conference focusing on organic agriculture and gardening. Full conference price is $325 for non-members, $275 for members. One day passes available.

Pecan Growers Short Course
January 22nd, -25th, 2018, College Station.
Intensive short course for people who want to learn more about producing pecans. Cost of short-course is $225 if you pre-register, $250 on-site. Four lunch meals provided.

Garden Calendar

With tips taken from "Dr. Welch's Garden Tips" and Dallas Master Gardener Gardening by the Month Guide

January

- Plan gardens and flowerbeds.
- Sow seeds of petunias, begonias, and impatiens in flats in early January. Sow seeds of tomatoes, peppers, marigolds, and periwinkles in late January or early February.
- Avoid "topping" crape myrtles.
- If desired, test your soil.
- Plant onion sets in your vegetable garden.

February

- Prepare beds and garden area for spring planting
- Select and order gladiolus corms for February/March planting. Plant at two-week intervals to prolong flowering period.
- Protect tender plants from hard freezes
- Apply horticultural oil to fruit and pecan trees when temperature is 45-65 for two weeks (mid-February).
- Finish pruning pecan trees and fruit trees before spring bud break.
- Plant asparagus crowns, beets, broccoli, cabbage, carrots, cauliflower, kale, kohlrabi, leaf lettuce, peas, radishes, swiss chard and turnips in your vegetable garden. Start planting potatoes toward the end of this month into early March.

March

- Apply pre-emergent herbicides to established lawns to control warm season broadleaf and grassy weeds, such as dandelions and crabgrass no later than early March.
- Plant new shade trees, fruit trees, and evergreen shrubs. Mulch root areas.
- Continue to protect tender plants from freezes.
- Cut back ornamental grasses before new growth appears.
- Do not prune spring flowering shrubs and vines, until after blooming such as forsythia, quince, spirea, etc.
- Allow foliage on spring bulbs such as daffodils to die back and dry before removing, to create food for next year's plants.
- Plant beets, kohlrabi, radishes, and turnips in your garden. Plant potatoes in the first half of March. Though the weather may be warm, be wary about planting tomatoes and other warm season vegetables unless you can protect them from late frosts.

Name that Plant!

What is the name of this plant? First person to respond with the correct answer will get their name featured in next quarter's newsletter.

Last Quarter's Plant

Answer was Old Man's Beard. First person to submit the correct answer was Karen Buck.

This newsletter is a publication comes out quarterly, with issues out on February/March (spring), June/July (summer), September/October (fall), November/December (winter). If you would like to stop receiving this newsletter, please contact us me at elizabeth.mcmahon@agnet.tamu.edu.

For other questions, comments, and concerns, please contact us at:

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