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**From Connie Arden**

What's up *buttercups*?  
 What in *carnation* has been happening?  
 We think of you every *daisy*.  
 We *be-leaf* in you and  
 We are always *rooting for you*.  
 Cannot wait until we all meet  
 Again once and *flor-all* and we  
 Can live life in *full bloom*.

Stay well and remember the “3 W’s” ( wear a mask, wash your hands, and watch your social distance). See you all soon.

*Phone Apps for Identifying Plants*

Have you ever found yourself trying to identify a plant and getting nowhere? If you are like me, you might take a picture, go back to your computer and start looking for a plant that might resemble your picture. Or you might send the picture to one of your expert friends and ask them to identify it. Now you can use today’s technology to help you not only identify your plant but also find care and maintenance for that plant.

Below are a few apps for phones that have been recommended by plant experts. This is not an endorsement for any of these apps but rather a brief capsule of what they do, how much they cost, and how easy they are to use.

**PictureThis:** This is a free app that identifies plants and flowers displayed in a picture with pretty good accuracy. When you take an image with your phone, PictureThis will scan and analyze the image and provide you the details from a plant database. It will also allow others to comment on the picture. PictureThis also detects the user’s location and will display plants the user has discovered on Google Maps.

**Flora Incognita:** Another free app that displays the following options: Identify Plant, Species List, or My Observations.

**Leafsnap:** LeafSnap is a free app developed by Columbia University, Maryland University and Smithsonian Institute. It is a tree leaf identification guide that helps users identify trees with the leaves. Once you take a picture of a leaf, the app will start searching through a vast database for leaf images. Once matched, it will provide the most relevant picture along with plant details.

**Pl@ntNet:** Another free app. Pl@ntNet works differently from the other plant identifier apps. It does not work simply by matching the picture of your plant to a database. Instead, it uses a combination of the plant picture and the location in which the photo was taken. It matches up database pictures with your plant picture. You can isolate a part of the plant, and the app will still give you details about the plant. All the plants you photographed are also collected and placed in their database.

**PlantSnap:** With this app, once a picture has been taken, the plant identifier initializes and will provide the name of the plant and how to care for it. Once it has done that, it will redirect you to a certified nursery where the plant can be found. This app is free but does require registration.

**Plantix:** Got a problem with an infected garden or plant? With Plantix, you can identify the disease and find a solution. The app will scan fruits and vegetables on-line and find recommended pesticides to treat the plant. It is one of the best apps for identifying plant diseases and is also free.

These are only a few apps that are on the market today. There are many more available and some that you might already love and have on your smartphone. Check them out.

## *Why Crop Rotation is Important*

Even if you are an experienced gardener, it doesn't hurt to go back to the basics and review good gardening practices. One of those is vegetable garden rotation. Here's the science behind crop rotations and why it's so important. If you leave the same plants to grow in the same area season after season, then you are inviting more disease, more pests, lower yields, and low soil fertility. Different families of plants affect the soil differently, and they often suffer from the same pests and diseases. Some will draw all of the nutrients out of the soil, while others will build it back in. By rotating the different groups, gardeners can replenish their soil without having to add as much organic matter or fertilizer.

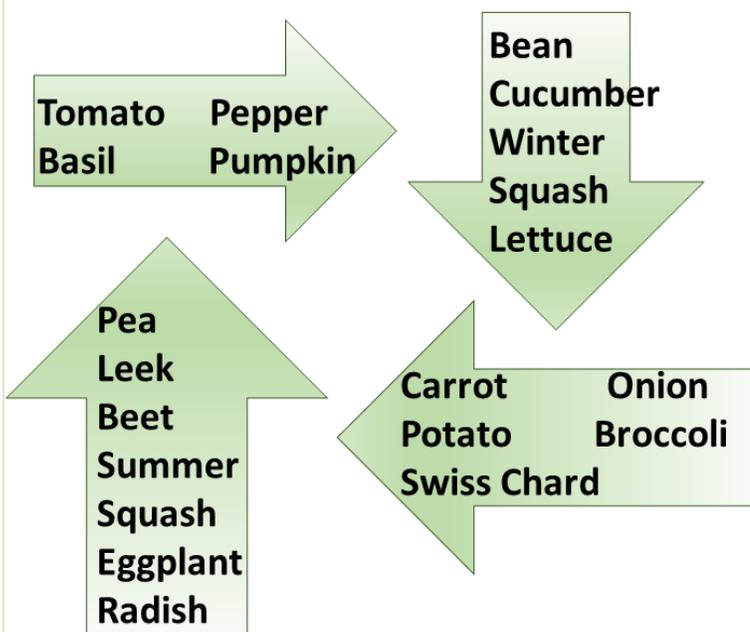
There are a couple of methods of crop rotation: by **harvest groups** or by **plant family**. Crop rotation by **harvest group** divides the crops into their harvest groups: rotate leafy crops, root crops, and fruiting crops. A typical harvest group rotation would be:

- Leafy crops: lettuce, spinach, cabbage, broccoli, Brussel sprouts, cauliflower.
- Root crops: carrots, turnips, potatoes
- Fruiting crops (flowering crops): tomatoes, peppers, eggplants, cucumbers, squash

Crop rotation by **plant family** is the more traditional way, but it does require a larger garden to do so and might not work well with small garden plots. Here are the different family groups of vegetables and how they affect the soil:

- **Curcubits:** Squash, Cucumbers, Pumpkins, Melons & Gourds. Heavy feeders with large root systems that go deep into the soil.
- **Brassicas:** Broccoli, Cauliflower, Cabbage, Kale, Brussels Sprouts. Brassicas are heavy feeders and need constant feeding with a balanced fertilizer to stimulate root growth and ensure the formation of healthy heads.
  - **Legumes:** Beans, peas, and Soybeans. Legumes are soil builders adding nitrogen back into the soil.
  - **Alliums:** Onions, Leeks, and Garlic. Alliums are heavy **phosphorous feeders** and prefer soil amendments that are low in nitrogen and high in phosphorous, such as bone meal and rock phosphate.
  - **Umbellifers:** Carrots, Fennel, Parsley, and Dill. Light feeders, but don't produce well in acidic soil.

### Plant Family Crop Rotation



Above is a typical 3 to 4-year rotation plan for family groups of vegetables

## *Lovely Luffas*



If you are a beginner gardener or looking for an easy-to-grow vegetable in your garden, then look no further than the lovely luffa plant. Loofah (*Luffa aegyptiaca*) is a type of gourd that is distantly related to squash, watermelon, cucumber, and other hard-shelled gourds. In some countries, they are cultivated to be eaten when the fruit is small and tender. They can be used in salads or sautéed and taste similar to cucumbers. However, because of their rapid growth, about an inch and a half a day, it can be challenging to harvest small fruit before they become too large and fibrous.

In the U.S., luffas are mainly used as a natural scrubber – whether as a facial or body scrubber or in the kitchen to help clean your dishes. But be aware that they take much longer to mature than other gourds – about 90 to 120 days. Plus, they will need to be left to dry on the vine in order to develop the touch inner fibers. That can add an additional 60 – 90 days before harvesting for a total of 150 to 200 warm, frost-free days. In our long Texas growing season, this doesn't present a problem, but our neighbors up north will have to grow and harvest the fruit before their first freeze.

**Planting:** In our area, you can plant the seeds directly into the ground as soon as there is no danger of frost or freeze. Plant 3 to 4 seeds per plant spaced six feet apart.

**Trellised:** The luffa vine is a vigorous grower and needs heavy support to keep the fruit off the ground.

**Soil Type:** Any kind of soil that has been enriched with organic matter.

**Water:** Keep the soil moist for developing seedlings after that, water the base of the plant about 1"/week. Do not water vines as this can spread disease like powdery mildew.

**Sunlight:** Six plus hours a day of full sunlight.

**Pests:** Cucumber beetles and spider mites.

**Harvesting:** Here is the fun part. Wait until the fruit turns brown and is lightweight. You can shake a luffa and hear the seeds rattling inside. Peel the fruit or soak for 20 minutes in water to make peeling easier. Shake out all of the seeds to use for a new crop. Clean out any leftover pulp and leave to dry in the sun. Store in a cloth bag to keep from getting dusty. In this way they will keep for years.



### **Luffa Squash Pickles**

#### Ingredients:

- 1/2 pound luffa
- 2 tbsp. kosher salt
- 2 cups ice cubes
- 1 cup cider vinegar
- 1/2 cup water
- 3/4 cup sugar
- 1 tsp. mustard seeds
- 1/2 tsp. celery seeds
- 1/4 tsp. turmeric
- 1 medium sweet onion, thinly sliced crosswise and separated into rings

#### Directions:

- Scrub luffa and peel only the ridges, then cut diagonally into 1/2" thick slices. Toss with kosher salt in a bowl, then cover with ice and let stand 2 hours. Drain any unmelted ice.
- Bring vinegar, water, sugar, mustard seeds, celery seeds and turmeric to a boil in a one quarter nonreactive saucepan, stirring until the sugar dissolves. Add luffa and onion, then reduce heat and simmer uncovered for 5 minutes.
- Transfer pickles with liquid to a 1-quart heatproof bowl and cool to room temperature. Refrigerate, covered for at least 2 days for flavors to develop. Store refrigerated up to 1 month.

## *Trash to Treasure: Home Made Garden Fertilizers*

While there are several excellent plant fertilizers on the market, it's fun to experiment with leftover waste and see what great fertilizers can be made at home. A true trash to treasure exercise. Here are a few items that have been tested and proven to be winners for adding nutrients to your plants.

**Epsom Salt:** Epsom salt is made up of magnesium and sulfate. It's great to use on magnesium-loving plants like house-plants, roses, peppers, tomatoes, and potatoes. Mix one tablespoon of Epsom Salt with one gallon of water. Pour directly on plants.

**Coffee Grounds:** Coffee grounds are rich in nitrogen, magnesium, and potassium. They are also a natural acidifier, but it takes a lot of coffee grounds to change soil pH, plus once brewed, the pH of coffee becomes neutral again. The best use of coffee grounds is to put them in your compost and let the biodegrading action add nutrients.



**Banana Peels:** Banana peels provide up to 42% of potassium and 25% of phosphorus plus calcium, magnesium, and sulfur. That's why banana peels make such good fertilizers, but there is a downside if you put them directly into the soil: insects. There are several ways to make banana peel fertilizer. You can soak the peel in a mason jar for a week then use the water. You can grind up the skin and then put it directly into the soil.

**Egg Shell Fertilizer:** Use eggshells in place of garden lime. They also contain calcium, selenium, and nitrogen. You can crush up the shells into a fine powder or make an eggshell brew mixing 30 grams of shells with a gallon of water, boil then let stand for a few days. Strain and then use the enriched water to pour on garden plants.

**Fish Emulsion:** Fill the bucket about 2/3 of the way full by layering fish scraps and brown organic matter (like leaf litter) in equal parts. If you'd like, add molasses and seaweed to get more nutrients in the emulsion. Fill the bucket with water to cover all the material, put on a lid, and keep it out of the sun. Stir the mixture every few days for several weeks, and then it should be ready to use. Pour off the water and catch it in another bucket—this is your fish emulsion. You can use the remaining fish scraps and leaf litter to brew another batch, or just put them in your compost pile or worm bin. To use the fish emulsion, dilute it with water. Use about a cup of emulsion to a gallon of water. The dilution can be used to pour on garden soil or to spray on leaves.

**Unflavored Knox Gelatin:** Yes, that's right, gelatin. This product was tested and proven to provide an excellent source of nitrogen. To mix 1 pouch of Knox Unflavored Gelatin with 50 ml. of cold water in a 1-liter jug. Leave it for two minutes. Add 250 ml of cold water and stir until it dissolves, then fill the jug up with cold water and water your plant with the mixture. Plants will only need once per month.



## *Trench Composting— The Lazy Method*

There are different types of composting but one that requires very little effort on the gardener is "trench composting". This is the lazy person's method of sowing nutrient material directly back into the garden soil. The term trench is used loosely here as it's basically digging a 12 inch hole and filling it up with kitchen scraps and garden waste. As you recall, this was the method that Native American used centuries ago when the Europeans came to North America. There are a few different ways to do this: dig and drop; trench between rows and side dress; or trench rotation which will eventually add compost to your entire garden. No matter what method you use, the benefits of this lazy method will last some time in the garden, it won't attract animals and emits very little odor.

## *Bumble Bees vs. Carpenter Bees*



This summer, there has been a lot of bumble bee activity in the garden, but there have also been a large contingent of black carpenter bees observed as well. What's the difference? Bumble bees are important pollinators while carpenter bees, which closely resemble a bumble bee, are known for robbing pollen from plants by creating holes near the base of the plant rather than flying from petal to petal. Plus, carpenter bees can cause damage to your home by nesting in the wood.

How do you tell the difference? Bumble bees have soft hairs covering their entire body with contrasting colors of black and yellow. They also have a proboscis for gathering nectar and pollen. A carpenter bee, while similar in size and shape, does not have fuzzy hairs except on the middle abdomen and will appear black and shiny. However, some carpenter bees will have a yellow patch on their

head. It's the shiny black abdomen that helps distinguish between the two. Also, instead of a proboscis, carpenter bees have mandibles for drilling holes into wood.

Both of these bees have vastly different behaviors. Bumble bees are social bees that live in an underground colony of about 50 individuals - not nearly as large as a honeybee colony. Being underground allows them to stay cooler and avoid direct sunlight. Typically, the nest will only last one season except for the queen, who hibernates during winter only to emerge in the spring and start foraging for pollen and nectar to feed the first eggs. These eggs will be daughter bumble bees, and once they have developed into adults, they will take over the pollen and nectar gathering for future eggs. The queen can now get down to the business of laying more eggs for the colony while her daughters supply the food. From mid-to-late summer, the first male bumble bees will be produced. Once the males reach adulthood, they will leave their breeding nests to forage and find a suitable nest to attract a female. When new queens emerge, the males will vie for mating

opportunities to attract the new queens. As temperatures drop and flower sources diminish, the old queen and her daughter workers will slowly decline and eventually die. The males in their new nests will also perish. All that is left are the new queens who will search out protected areas to overwinter.



Carpenter bees, unlike bumble bees, are solitary creatures. Instead of living in an underground colony, they seek out woody areas in a home to tunnel inside to lay their eggs. Sometimes the tunnels can become quite elaborate because of repeated nesting from year to year. When the female lays her eggs, she will also spend time depositing a mixture of pollen and regurgitated nectar known as bee bread. During this time, while she is constructing the nest, the male will defend their territory. Once the eggs hatch, they will become larva and eat the provided food left by the female. Since they are in

their own individual cells protected inside the wood, they are less vulnerable than other types of insects during this phase. About seven weeks after being laid as an egg, an adult carpenter bee will emerge to forage for food and search for a mate. As the season winds down, both the parent male and female will eventually die inside their nests, releasing pheromones to direct next year's bees to the nest.



There are specific carpenter bee traps that can be used in the early spring and late fall to capture carpenter bees. Knowing when they will emerge from their nests is critical to trapping and destroying these harmful bees.

**Continuing Education**

Due to the Covid-19 Pandemic, no continuing education classes are available except for virtual learning and webinars. Below are on-line classes made available for those members who need additional educational hours. Some virtual classes are being offered on Facebook by Agrilife Water University in partnership with Texas A&M Agrilife Extension. There are also several virtual offerings by Gardening on the Gulf Coast.

# September 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 	2	3 	4	5
6	7	8	9 	10 	11	12
13	14	15 	16 	17	18	19
20	21	22	23 	24	25	26
27	28	29	30 			

## Continuing Education

For registration information on Gardening on the Gulf Coast you will need to register in advance through the link at <https://www.eventbrite.com/e/gardening-on-the-gulf-coast-tickets-106812198160>

- Sept 09: Gardening on the Gulf Coast Online Series, “Soil Amendments for Gardens & Raised Beds”, 10—11 a.m.
- Sept 16: Gardening on the Gulf Coast Online Series, “Turf Maintenance”, 10—11 a.m.
- Sept 23: Gardening on the Gulf Coast Online Series, “Herbs for the Coastal Garden”, 10—11 a.m.
- Sept 30: Gardening on the Gulf Coast Online Series: “Citrus Varieties”, 10—11 a.m.

There are four virtual classes being offered in **Agrilife Water University in partnership with Texas A&M Agrilife Extension**. Please go to: <https://wateruniversity.tamu.edu/events>

- Sept 01: **Plant Combos & Companions**, 6:00 p.m.—8:00 p.m.
- Sept 03: **Preparing for your UPlantIt POLLINATOR Garden**, 6:30 p.m.—7:30 p.m.
- Sept 10: **Made in the Shade: Shade Gardening**, 6:00 p.m.—8:00 p.m.
- Sept 15: **Pots in Small Spots: Container Gardening**, 6:00 p.m.—7:00 p.m.

Montgomery County Master Gardeners 2020 On-Line Fall Plant Sale (2 Days starting at 8 a.m. )

September 15, 16 with pick-up on Saturday/Sunday (Sept 18-20)

*Lots of butterfly host and nectar plants, native plants and all time favorites. Fall vegetables, tomatoes & herbs*

## OUR EXTENSION BEDS



THANK YOU KADY!

Many of our members have not had a chance to visit our Extension Office much this year. Next time you are in Navasota, please drive by our Extension Office and take a look at our beautiful flowerbeds. These beds have been planted and maintained by one of our newest Master Gardeners, Kady Hackenberg. Kady has brought a huge bunch of enthusiasm, hard work and ideas this year. And she's brimming with new ideas for our winter garden. Please take the time to thank Kady for all of her hard work this summer. This is the best our summer flowerbeds have looked in a long time!



# Texas Master Gardeners

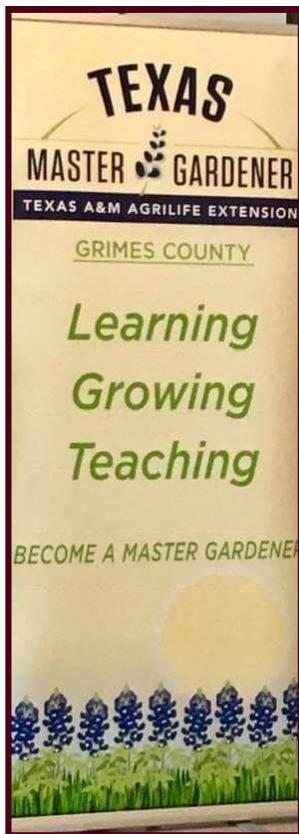
203 Veterans Memorial Drive  
Navasota, Texas 77868

Website: [txmg.org/grimes](http://txmg.org/grimes)  
Facebook: [www.facebook.com/GrimesCountyMasterGardeners](http://www.facebook.com/GrimesCountyMasterGardeners)



## Grimes County Master Gardeners

Please send submissions and photos by the 20th of each month to: [pwparmley@gmail.com](mailto:pwparmley@gmail.com)



## 2020 Board of Directors

- President.....Cathey Hardeman
- Vice President .....Jamie Bruns
- Secretary .....Paula Parmley
- Treasurer .....Herb Abraham

## 2020 Committees/Chairs

- Advertising/Publicity .....Peggy Sloan
- Auditing.....Jena Jackson
- Community Garden.....Cathey Hardeman
- Co-op.....Fred Vesperman
- Social Media.....Jamie Bruns
- Fundraising .....Carol Garnet
- Historian.....Sharon Murry
- Intern Class Coordination.....Herb Abraham
- Junior Master Gardener.....Kay Douglas
- Newsletter .....Paula Parmley
- Nominating.....Carol Garnet
- Timekeeping.....Martha Brogdon
- TMGA Awards .....Sharon Murry