

Growing Great Tomatoes Part 1 of 3

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TEXAS A&M
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EXTENSION

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Galveston County

A Product of the Galveston County Master Gardeners

A Couple of Reminders

Thank you for turning off your cell phone.

We value your input. While you wait for the presentation to begin, please find your evaluation form and answer questions 11, 12, and 13 located on the back page.

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Growing Great Tomatoes in Galveston County

- This first program is about starting tomatoes from seed.
- The second program deals with growing tomatoes in Galveston County.
- The third program will deal with tomato diseases and tomato stress management.

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Tomatoes ???



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Little Known or Cared About Tomato History (Trivia)

- Where do tomatoes come from?
—Western coast of South America, present-day Peru and Southern Ecuador. Eight species of tomatoes still grow wild in the Andes Mountains (*Pimp variety*).
- The tomato was a very important crop among New World Indians by the 15th century.
- Aztecs called it "Xitomatl" (means a round, plump fruit w/ a navel). Early Aztec writings mentioned dishes comprised of peppers, salt and tomatoes.

*** This could be the original salsa recipe!!!

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More Tomato Trivia

- Central American tribes called it "Tomati".
- The tomato made its way across the Atlantic to Europe shortly after Cortez conquered the Aztecs in 1521.
- The earliest mention of the tomato in European literature was found in Italy in 1544. Tomatoes, described as *pomi d'oro* (Golden Apple) were eaten with oil, salt and pepper.
- ...So, it seems that the small yellow varieties may have been the first to reach the Old World.
- Red varieties were introduced to Italy by two Catholic priests many years later (exact date not known).

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Even More Tomato Trivia

- Tomatoes became widely cultivated over the next several decades in Spain, Italy and France where it was called "*pomme d'amour*" (Love Apple). It might have been used as an early aphrodisiac.
- In German folklore, witches used plants of the nightshade family to summons werewolves. So, it's not surprising that the common German name for tomatoes translates to "Wolf Peach".
- The scientific name for tomato is *Lycopersicon esculentum*, which means "edible wolf peach".

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Can you believe it! More Tomato Trivia

- Plants brought BACK to the Americas by early British colonists were used as ornamentals.
- Northern European cultures associated the tomato with poisonous members of the nightshade plant family.
- In 1596, one English author refers to "love apples as being eaten abroad" but having "a rank and stinking savour."
- The first cookbook to mention tomatoes was published in Naples, Italy in 1692.

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All right, *enough is enough!!!*

- In 1781 Thomas Jefferson brought tomatoes to his table, along with French fries. He is given credit, by many, for popularizing tomato use in North American culture.
- Closer to us, New Orleans cuisine is reported to have incorporated tomatoes by 1812.
- Col. Robert Gibbon Johnson supposedly put all doubts about tomatoes being poisonous to rest in 1820 when he ate a small bushel of tomatoes on the Salem, New Jersey courthouse steps. Thousands are reported to have turned out to watch the poor man die ... HE DIDN'T!!!
- By the late 1800's Henry Heinz was selling ketchup.

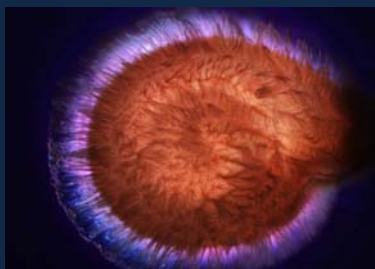
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Growing Great Tomatoes in Galveston County Programs Offered

- Now that you have a brief background on the history of the tomato, how do you go about growing these great tomatoes successfully from seed here in Galveston county.
- Part 1... This program today is the first in a series of programs and will focus on growing tomatoes from seeds.
- Part 2... The next program will cover the planting of the tomato transplants grown in the garden or pots. (1/21/23)
- Part 3... The last program will cover tomato plant diseases, insects and plant stress management. (3/11/23)

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What is this?



11

What is this?



12

Tomato Seeds ... Pelleted or "Naked"

- Why Pelleted? ... commercial machine use.
- For home gardener ... easy to handle, especially small ones like carrots or lettuce.
- High rate of germination. Higher cost.
- Precaution:
 - Be sure growing medium remains moist... not soggy.
 - Must be used in the season purchased. Pelleting shortens the lifespan of seeds.

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Tomato ... Fruit or Vegetable?

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Tomato ... Fruit or Vegetable?

- It's both.
- Botanically the tomato is a fruit.
- But from a culinary standpoint it is used as a vegetable.

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Family Kinfolk

- Peppers
- Eggplant
- Potatoes
- All part of the nightshade family (Solanaceae).
- Crop rotation should not be done with kinfolk.

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Why grow your own tomatoes from seed?

Why are store bought tomato tasteless?

- They are picked green and chemically treated to turn red and ripen.
- They are refrigerated for shipping.
- It's in their genes.
 - A gene mutation has been deliberately bred to make a uniform "pretty" scarlet tomato.
 - Other mutations have produced thicker tougher skins that travel well.
 - Unfortunately, all of this has led to reduced compounds that produce the tasteless flavor.

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Why grow your own tomatoes from seed?



- The tomato plant on the left is from a store-bought transplant. Notice the weak root system. This occurs because it sat too long in a small container with little sun and is not watered or fertilized correctly. All of this will make it a slow grower.
- This plant may also introduce diseases to your garden.
- You can't tell what you are buying ... Variety? ... Quality?.
- You want to try new varieties.

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What this program Part 1 will cover?

- Planning before starting your seeds
- Deciding on a variety(s)
- Understanding the timing of when to start your seedlings
- Understanding how to start your seedlings
- Transplanting the starter seedlings
- Hardening them off
- Protecting seedlings against disease

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Planning Where to Plant Your Tomatoes and How Many to Grow



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Plan... But Understand What is Achievable!!!



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Plan Ahead

- Pick a garden site that will give your tomato plants at least 8 hours sunlight a day with good air circulation.
- Plan on using a raised bed here in Galveston County to grow tomatoes (gumbo soil, rain, drainage, easy to water).
- Figure out how much space you have available for planting tomatoes. You will need 2 to 3-ft between each plant depending on variety selected and about 48-inches between rows (this will help you determine how many plants to grow.)
- Plan to either stake, trellis or cage your tomatoes. All work well.
- You will need good water access. Plan to water on a regular basis.

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Planning what to do before starting your seeds

- Plan where you will start your seeds and where to place the seedlings.
- Understand how many seedlings you will need (usually 1 to 2 plants per person).
- Obtain the supplies and necessary items needed to start your seedlings, as well as a place to work on them.
- Plan when you will need to start your seedlings. This will depend on when you can transplant them in your area after the last frost.
- Know where you will place the starter transplants to receive necessary light.

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Planning what you need before starting your seeds.

- What you will need:
 - Tomato seeds you want to start.
 - Sterile potting soil for seed starting.
 - Sterile seed starting pots.
 - A warm place with sufficient warmth and natural light or grow lights.
 - Fertilizer.

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Seeds - Choosing a Variety



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Seeds - Choosing a Variety

- According to the USDA there are over 25,000 varieties of tomatoes ... others say 10,000 ... that's still a lot to choose from!!!
- The heaviest tomato on record weighed in at 7lbs 12 oz. (3.51kg). A 'Delicious' variety, it was grown by Gordon Graham of Edmond, Oklahoma in 1986. Gordon sliced the tomato to make sandwiches for 21 family members.
- The largest tomato plant grown ('Sungold' variety), recorded in 2000, reached 65-feet (19.8 meters) in length and was grown by Nutriculture Ltd. of Mawdesley, Lancashire, UK.

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Seeds-Choosing a Tomato Variety

- Determinate vs. Indeterminate
- Early Season, Mid Season, Late Season
- Heirloom and Open Pollinated vs. Hybrid
- Disease Resistance
- Taste
- Planned Usage

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Seeds-Choosing a Variety – Determinate Plant Growth

- Refers to a bush variety that reaches a certain height, stops growing and puts its energy in developing fruit.
- These varieties should be part of your tomatoes you are growing as they take up less square footage of your growing space. Therefore, more production for the space you have.
- Majority of the fruit will grow with all fruit production maturing within about month.
- Many varieties are especially suited to growing in pots and smaller gardens.

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Seeds - Choosing a Variety – Determinate Plant Growth

- Commercial and large garden growers use these varieties because of their bush characteristics.
- Better disease resistance in a disease prone environment.
- Lower maintenance and easier to handle.
- These are good varieties for canning and freezing since they are ready to harvest about the same time (2 to 4 weeks).
- You can stagger the planting if you want to stagger production.

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Seeds - Choosing a Variety – Indeterminate Plant Growth

- This variety continues to grow and produce tomatoes throughout the growing season.
- Produces most of the fruit all along the stem.
- Needs extra tall supports of at least 5ft.
- Can grow to 10 to 15-ft on average.
- These are great varieties for salads and sandwiches and tomatoes are available throughout the growing season.
- Many fun and exciting varieties to grow.

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Seeds - Choosing a Variety – Indeterminate Plant Growth

- Because they continue to grow throughout the growing season, they require staking support and more maintenance especially in a disease prone environment.
- Will require more square footage to grow.
- Will require much larger container if grown in a pot.

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Seeds - Choosing Plant Growth Early, Mid-Season, Late Season Variety

- Early Season Variety – A tomato that matures in 42 - 67 days.
- Mid Season Variety – A tomato that matures in 68 - 75 days.
- Late Season Variety – A tomato that matures in 76 - 80 + days.

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When Should You Start Counting the Days To Maturity?

- ... when you plant it in the garden?
- ... when you start the seeds?

- It can be somewhat confusing to glean when to start counting. Unfortunately, there is no standard definition.

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Counting Days To Maturity

- Most sources work on the general agreement that:
 - If you start the seed indoors and transplant it into your garden, start counting from when you transplant. This also holds true for transplants you purchase. Look for healthy transplants 6 to 8-inches tall with a good central stalk.
 - If you direct sow direct in the garden (not recommended here) ... wait and don't start counting until the true leaves appear.
 - ... These are only general guidelines.

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Factors That Impact Days To Maturity

- All kinds of factors will impact the actual number of days to maturity.
 - ❖ Weather has the biggest influence.
 - ... Cold weather can cause seedlings to slow their growth and perhaps even stunt it ... too little or too much rain can also play havoc with young plants ... too much wind ... not enough sun.
 - ❖ Soil conditions ... Well-composted, rich organic material is needed.
- We rarely have ideal growing conditions, but given somewhat reasonable conditions, you can expect the number on the seed package to be an approximate gauge on the days to maturity.

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Seeds - Choosing a Variety - Hybrid

Hybrid Tomato:

- A tomato variety bred by crossing different varieties.
- Hybrids are bred to offer better disease resistance, higher yields and improved traits.
- Usually are self-pollinating by wind and insects.
- Seeds kept from the plant will generally not bear true and can be sterile.

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Seeds - Choosing a Variety – Open Pollinated

Open Pollinated Tomato :

- Open pollinated tomato plants are those that require cross pollination by the wind, insects, or the gardener to set fruit and produce seeds.
- Seeds from the plant will breed true and can be saved to produce like tomatoes.

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Seeds - Choosing a Variety - Heirloom

Heirloom Tomato :

- Any tomato variety that is at least fifty years old and not a hybrid.
- Usually are self-pollinating by wind and insects.
- Seeds from the plant will breed true and can be saved to produce like tomatoes.
- Tend to be late season varieties which in our area will result in low production unless started much earlier and a more mature plant is planted.

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Seeds - Choosing a Variety - Dwarf

Dwarf:

- Plant breeders have developed tomato varieties that require limited space yet produce full-size fruit called dwarf tomatoes, referring to the size of the plant and not the size of the tomatoes.
- Dwarf varieties can be indeterminate or determinate.
- Because of generic breeding, they continue to produce fruit and flavor, still appropriate planted in a small area.
- Plants usually vary between 2 to 4-ft when fully grown.
- There are also micro dwarf varieties now available that grow 4 to 6-inches and produce well.

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Seeds - Choosing a Variety - Dwarf

Dwarf:

- For container growing and small places.
- Dwarfs are usually 2 to 4-ft tall.



Micro Dwarf:

- There are also micro dwarf varieties now available that grow 4 to 6-inches and produce well.



Seeds - Selecting Disease Resistance

- Disease resistance is very important. When selecting your seeds check for the following notations concerning disease resistance:

V ... Verticillium Wilt

F Fusarium Wilt ... F, FF or FFF = 1,2 or 3 strains of Fusarium wilt

N ... Nematode Resistance ***

T ... Tobacco Mosaic Virus

A ... Alternaria Wilt

St ... Stemphylium Grey Leaf Spot

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Seeds - Selecting Taste

- Cherry tomatoes, or small fruit variety tomatoes, tend to be sweeter than most other tomatoes.
- Color of the pigment tends to produce different balances of sugars and acids. Orange, yellow and pink pigments tend to taste milder and less acidic than red tomatoes.
- Tomatoes with plenty of foliage capture a lot of sunlight and can convert more sunlight into sugars and other flavor components. Heirlooms have a larger amount of foliage than hybrids and many claim they taste better.
- In the end, tomato flavor is a matter of taste — your taste.

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Seeds - Selecting the Planned Usage

- Salads (use small fruited, slicing, heirloom)
- Sandwich (use larger beefsteak, heirloom, slicing tomatoes)
- Canning, Paste, Sauces - (determinates work well)
- Soups, Stews – any tomato will work here, even frozen tomatoes keep flavor but are mushy.
- Salsa - uses drier tomato generally like a paste tomato.
- Dried - any variety works.
- Fried Green Tomatoes - bigger tomatoes like slicers work best.

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Seeds - Choosing a Variety For Galveston County

- See Varieties List Handout provided for the Galveston County area to help you choose a variety.

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This Years GCMG Tomato Test Trials

See 2021 Tomato Test Trials Handouts for Results



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This Years GCMG Tomato Test Trials

See 2021 Paste Tomato Test Trials Handouts for Results

- | | |
|-------------------------------|-----------------|
| • Andiamo | • La Roma III |
| • Black Plum | • Pozzano |
| • Hungarian Italian Paste | • Roma |
| • Incas | • San Marzano |
| • Invincible | • Sunrise Sauce |
| • Heirloom Marriage Marzinera | • Yaqui |

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This Years GCMG Tomato Test Trials

- Recommended from 2021 Test Trials:
 - Andiamo - Taste, Early and Production
 - Black Plum - Taste Early and Production
 - Roma – Taste and Production
 - Sunrise Sauce - Early and Production
 - San Marzano - Taste and Production
 - Heirloom Marriage Marzinera -Taste and Production
 - Yaqui – Size and Taste

***Not Recommended from 2021 Test Trials:

- Hungarian Italian Paste

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Saving Seeds from a favorite Tomato

- Save the seeds (Open Pollinated/Heirloom) of tomatoes that you really feel it's the best, i.e. the taste, size of a variety or a variety you want for canning, slicing, etc.
- To save seeds from a tomato it's generally best to use a non-hybrid. Hybrids seeds will generally not bear true to the variety selected.
- Heirloom and Open Pollinated tomatoes do best in providing true seeds for another season.
- You need to save the seeds from more than one healthy plant and the tomato needs to be at its prime, not overly ripe.

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How to Save Tomato Seeds

- The first step entails nothing more than squeezing a bit of the seed-gel (goo) mix out of the cavity of the tomato into a glass.



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How to Save Tomato Seeds

- The gel contains inhibitors (enzymes) that keep the seeds from sprouting while inside the fruit.
- Add some water to the seed gel mix to leach and ferment the inhibitors away.



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How to Save Tomato Seeds

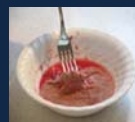
- Cover the containers with either plastic wrap, cheese cloth or even the cover.
- You will need to poke a few holes in the cover to allow the fermentation process to begin.
- Place in a warm location, usually for 2-3 days.



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How to Save Tomato Seeds

- After letting the slurry ferment for two or three days, remove the fermented cover (doesn't smell nice).
- Remove any seeds that are floating, they will not germinate.
- Pour the slurry through a fine strainer, washing the seeds well.



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How to Save Tomato Seeds

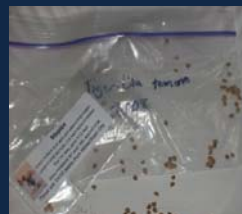
- Spread them out on a plate with a paper towel or coffee filter to dry for about a week.
- Stir the seeds a few times during the drying process to assure they are evenly dry. Drying time is usually about a week.



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How to Save Tomato Seeds

- Once dry, store in a dry, cool temperature area ready for starting. Normal viability for tomato seeds is 4 years at 75 degrees.



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Saving Seeds from a Favorite Tomato

- If you save your seed from the year before, think about this: the life of a seed can be cut in half by an increase of just 1 percent in seed moisture or by an increase in storage temperature of just a few degrees.
- A simple rule of thumb is that the sum of the storage temperature (in degrees Fahrenheit) and percent relative humidity should not be greater than 100.
- If placed in the freezer many seeds can last maybe 10 years.

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Where will you start your seedlings?

- Whatever place you choose - tomato seeds will need to germinate for at least 7 to 10 days in a moist seed starting mixture at a temperature of approximately 75 to 85-degrees F.
- If temperatures are higher or lower, the germination period will take longer. Also, if the temperature is too high or too low ... or too wet or dry ... they will not germinate at all.
- If possible, presoak your seeds before placing in starting mixture.

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We have Two Growing Seasons here in Galveston County : Spring and Fall



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Timing ... When to start your plants?

- Timing is everything when it comes to growing tomatoes.
- The season is best extended at the beginning rather than trying to stretch into late June or July.
- In Galveston County by late June to early July, the summer heat and repetitive high night-time temperatures (above ~75) will effectively end the production of quality tomatoes.
- Leaf-footed bugs & diseases such as Early Blight can also bring the season to an early close.
- If planting in the fall, you will need timing to beat the first frost.
- ❖ **Earlier Start = Longer Season = More Production**

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Average Last Spring Frost Dates

It's best to start your seeds about 6 to 8 weeks before your average last spring frost date (late varieties will need to be started 8 to 9 weeks before planting).

- Galveston Island ... ~Jan. 31
- Texas City – La Marque Area ... ~Feb. 9
- Dickinson - Santa Fe Area ... ~Feb. 12
- League City - Friendswood-Kemah Area ... ~Feb. 20
- Clear Lake - Houston ... ~March 1

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Average Seed Starting Times for Galveston County Spring Planting

- To guarantee the best transplants at the right time, make 2 starts about ~10 days apart:
 - >1st start ~Dec. 26 - 30
 - >2nd start ~Jan. 13 -16
- For Extra Early Planting Feb. 1---12
- Early Planting Feb. 13---20
- For Reg. Season Planting Feb. 21---28
- For Late Planting Mar. 1---10

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Average First Frost Dates

For starting seeds for fall planting, you will need to know the variety and if it's an Early, Mid or Long season variety to determine when to start your seeds. Early Season Varieties do well for fall planting (Celebrity, Bush Early Girl, Early Girl, Parks Whopper). Heirlooms probably won't get much production at this time of year.

- Galveston Island ... ~Dec. 17
- Texas City – La Marque Area ... ~Dec. 9
- Dickinson - Santa Fe Area ... ~Dec. 2
- League City-Friendswood-Kemah Area ... ~Nov. 28
- Clear Lake-Houston Area ... ~Nov. 28

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Average Seed Starting Times for Galveston County Fall Planting

- To guarantee the best transplants at the right time, make 2 starts about ~7 days apart:
 - 1st start ~July. 1- 4
 - 2nd start ~July. 10 -16
- For Extra Early Planting Aug. 20 - 25
- Early Planting Aug. 26 - 31
- For Reg. Season Planting Sept. 1 - 5
- For Late Planting Sept. 5 -10

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Where to Purchase your seeds and supplies?

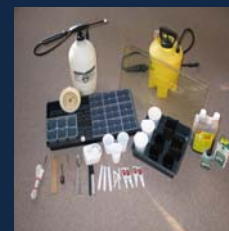


See handout for possible merchants and info on where you can purchase seeds and supplies

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What items and supplies will you need?

- Cell packs or 40 to 50mm Jiffy peat pellets and trays.
- Sterilized seed starting soil or soil-less mix.
- Watering can or pump sprayer.
- 12 to 16 oz. Styrofoam cups.
- Plant tags to label varieties.
- Water soluble plant food.
- Thermometer.
- Dibble, Spoon, Permanent Marker.



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Getting Your Equipment Clean



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Getting Your Equipment Clean

- Scrub your equipment and pots with a liquid dishwashing detergent and water.
- If mineral deposits are present remove with soft scouring pad.
- To disinfect pots and equipment, soak them in a solution containing one part household bleach to nine parts water for 10 to 15 minutes.
- Rinse well and dry.

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Getting a Good Seed Starter Mix



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Making Your Own Seed Starting Mix

- 50% Sifted Peat Moss
- 25% Vermiculite
- 25% Crushed Perlite

All are usually readily available.

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Understanding the Lingo of the Seed Package

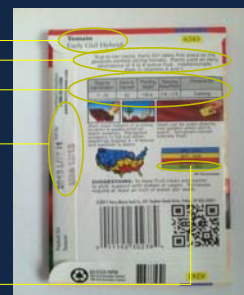
- Number of seeds in the package (either by weight or number)
- Plant Requirements
- Type of Tomato



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Understanding the "Lingo" of the Seed Package (back)

- Tomato Variety
- Description
- Planting guide
- Use By Date
- Suggested start for your area

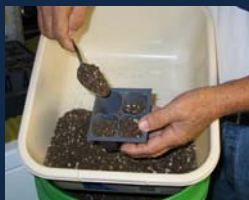


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Seed Starting Process



- Fill cell-packs or peat pots with a good sterilized potting soil or soil-less mix.



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Seed Starting Process



- Firm gently but do not pack.

72

Seed Starting Process



- Using a dibble, make a hole in the center of the potting mix about ¼-inch deep.
- Drop in 1 to 2 seeds and refill hole.

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Seed Starting Process



- Firm lightly



74

Seed Starting Process



- Moisten the growing medium.
- Keep moistened not wet.
- Never allow seed mix to dry out. If this happens your seeds are probably toast!!!!

75

Seed Starting Process



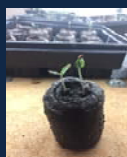
- Cover cell-packs. The cell-pack trays usually have a clear plastic dome for covering. The clear plastic dome creates a mini greenhouse environment.
- Other trays and containers may be put inside if you are not using the entire tray.
- Don't forget to place ID tags on seedlings

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Seed Starting Process

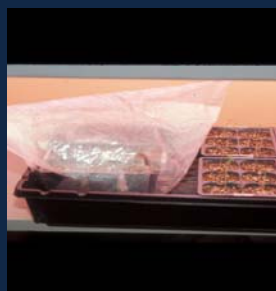


- If cell-packs are not available, other containers can be used to start seeds such as "Jiffy" peat pellets, egg cartons, pans, etc.



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Seed Starting Process



- If you don't have a dome, you can use a clear plastic zip-loc bag and sealed.
- Include a few breather holes in the plastic.

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Seed Starting Process



- Keep planted seeds in soil at about 75 to 85-degrees and covered until seeds germinate (7 to 14 days).
- Heat mats can speed germination.
- Remove clear plastic dome when seedlings emerge.

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Seed Starting Process



- Once seedling emerge, move them to full light.
- Increase the light levels to prevent the seedlings from stretching and producing a weak leggy plant (etiolation). Consider setting up grow lighting. A full spectrum LED light will help keep the seedling short and stout.

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Seed Starting Process

- Etiolation can be a problem when the first leaves appear.
- Etiolation is long, spindly growth caused by poor lighting conditions. Plants will tend to be more yellowish because chlorophyll is lacking from improper photosynthesis.
- You will see it at its worst when trying to start plants before you have enough sunlight to properly enable photosynthesis.
- The plants react to reduced light exposure, and hormones kick in trying to grow tall enough to get it. This happens quickly.
- The cure is to start later when you have more sunlight or find a way to provide **strong** enough artificial lighting, so the plant grows properly.

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Seed Starting Process



- The cotyledons (seed leaves) or "first leaves" appear in about 7 to 14 days.
- During this time, the seedling uses the seed storage tissue to develop a root system.

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Seed Starting Process



- The true leaves start to appear around a week later and that's when photosynthesis begins, allowing the plant to grow and develop.

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Seed Starting Process



- Seedlings will need abundant light.
- Lighting used should be of the **bright white** or highest frequency when growing vegetables.
- A low velocity fan can also help strengthen the seedlings stems.

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Seed Starting Process



- Keep seedlings a max 2 inches from source when using fluorescent lights.
- Do not overwater as it may lead to damping off.



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Disease to Watch for on Seedlings

Dampening Off (Fungus)



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Transplanting



- To avoid any hesitation in the plants growth they need to be shifted to larger pots as they grow.
- When the seedlings have fully developed their first set of true leaves, they should be ready for transplanting into larger containers with a good potting soil mix to grow until time to be planted in the garden.

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Transplanting



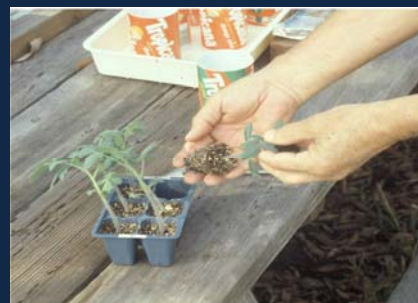
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Transplanting



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Transplanting



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Transplanting



91

Transplanting



92

Transplanting



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Transplanting



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Transplanting



- There are a couple of ways to feed your seedlings.
- One is to add soluble fertilizer to the water. When plants are 2 to 3 weeks old with true leaves, use a water-soluble plant food at 1/2 of regular strength and apply on a weekly basis.
- Fertilize (6-12-6)

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Growing the Transplants



- Try to use bright white (hi-frequency) fluorescent light bulbs for vegetables.
- Warm white (lower frequency) fluorescent light bulbs do better when growing flowers.
- Always keep fluorescent lights about 2 inches from the tops of the plants.
- Incandescent bulbs and most regular use LED light bulbs don't work.
- Fan helps with air circulation and helps produce stronger central stem.

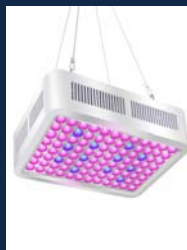
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Growing the Transplants



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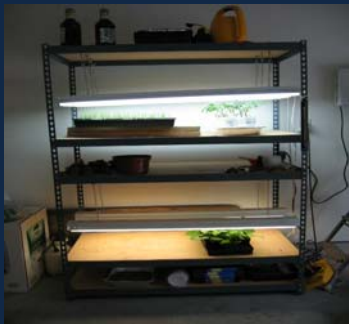
Growing the Transplants



- Use of LED grow lights is increasing as pricing becomes more reasonable. Presently wide variation in size and pricing from \$20 - \$600 exists.
- You will require an LED light with a full spectrum panel arrangement for growing.
- Generally, distance from plant starts will be much further than florescent lights and these lights will last much longer.

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Growing the Transplants



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Growing the Transplants



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Growing the Transplants



101

Growing the Transplants



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Growing the Transplants



- If no grow lights, a window with full sun exposure in a cool room is also ideal.
- Seedlings will grow best at a cooler temperature of 65 to 70 deg F.
- Too warm and little light and they will become leggy.

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Growing the Transplants



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Growing the Transplants



- Timers can be used to turn Gro-lights, fan on and off.
- Lights need to stay on for 16 to 18 hrs.
- The transplants will need rest to grow (Nightshade).

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Hardening Off

- A week prior to transplanting into the garden adapt your plants to outside conditions.
- For the first 2 to 3 days, protect them from wind and direct sun.
- Gradually expose them to garden conditions as weather permits.
- Hardening off strengthens plant cell structure.
- It also results in a more rapidly growing plant after transplanting into the garden.

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Hardening Off



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Hardening Off



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Greenhouses



- Highly recommend you attend a course before jumping in.

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Cold Frames/Hot Beds



- Cold frames are simply a box generally with wood frame and a slanted, hinged lid covered with glass, clear fiberglass or clear plastic.
- Hot Bed is a cold frame with a provision for heat such as a heating cable used on pipe and is used primarily for seed starting.

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Others



111

Have Fun!



112

The Results of a Good Plan!



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Projected End Results for Attending!!!!



114

Growing Great Tomatoes Part 1

End of Part I
Questions ?

115

Questions next, but first...

Don't forget to complete
an evaluation form.

Thank you for your input.

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Disclaimer

References to trade names are made with the understanding that no discrimination is intended and no endorsement by Texas A&M AgriLife Extension Service is implied.

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Thank You!

The Galveston County Master Gardener Program
Texas A&M AgriLife Extension Service - Galveston County
Providing volunteer support in planning and offering educational programs that serve the needs of our county residents



Visit our website by searching *Galveston County Master Gardeners* or
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