Organic Care for the Best Fruits of Southeast Texas

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Some of these photos were provided by Heidi Scheesley and TreeSearch Farms

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Fruit Tree Issues

- There are many dozens of fruit varieties you can grow depending…
- And combined, they produce year-round.
- Many are low care and therefore easier for many people who have busy lives.
- So, this is a brief survey of what there is and some tips on how to do it

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Issues to Consider

- **Benefits**
- Deciding what to Plant
- Harvest times & Eventual Size
- Temperatures at your Location in Winter
- Where to Plant the Tree
- Planting the Tree
- Maintenance
- Pruning
- Best Fruits

101
44

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Fruits are Neat

- *Give us Delicious* food
- Beautiful
- Minimum weeding, watering, and labor.
- Provide shade and cooling for plants and house and
- Habitat for beneficial birds, butterflies, and bees.

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Fruit trees have environmental benefits

- Prevent erosion,
- Improve soil,
- Reduce neighborhood heat
- Reduce evaporation and increase condensation.
- Slow heavy rain movement to streets
- Sequester carbon and reduce food energy footprint.
- When deep rooted, survives drought easier than annuals.

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- Pruning

102.5
42.5

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Fruit Tree Issues

- For perennials, ***variety is everything***
- You need to do whatever it takes to find the best varieties.
- There are many fruits that work well grown the right way.
- And many that don't.

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Grading the Fruit: *A • Awesome*

There is much experience with these fruits in the Southeast Texas.

They are reliably productive, tasty, long-lived, and relatively easy to care for.

Apart from birds and mammals, they are mostly pest free.

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Grading the Fruit: *A • Awesome*

In this category put:

- Blackberries, cantaloupes/ muskmelons,
- Figs, sweet muscadines, pears,
- Asian Persimmons,
- In large acreages, pecans

- Grapefruits, mandarins/ tangerines/ tangelos,
- Oranges, satsumas.

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Grading the Fruit: *B • Better Than Most*

There is much experience with these fruits in our area.

They are generally productive and tasty.

Most people will be glad to have them.

They are either less easy to care for, have more pests, or are shorter lived than an A-rated fruit.

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Grading the Fruit: *B • Better Than Most*

Possibilities

B+: Apples, blueberries, calamondins, papayas (in warm zones), plums, pears.

B: In warm zones: bananas, pummelos, Meyer lemons, loquats; everywhere: bunch grapes, watermelons, kumquats, blueberries, kiwis

B-: Pecans (on small lots), Florida cranberry/roselle/Jamaica, peaches and nectarines, strawberries, pomegranates

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Grading the Fruit: *C • Checkered*

There is much experience with these fruits in our area.

They are productive.

Not a good use of land for people with space limitations.

Fruit have some good points and many defects.

Perhaps pest or hardiness problems or are too much work

Many think these do not have a taste sufficient to put up with the negatives.

It is common however to find growers that love these fruits.

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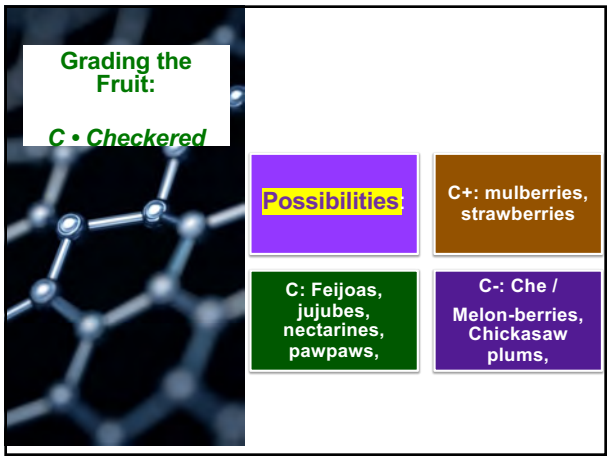

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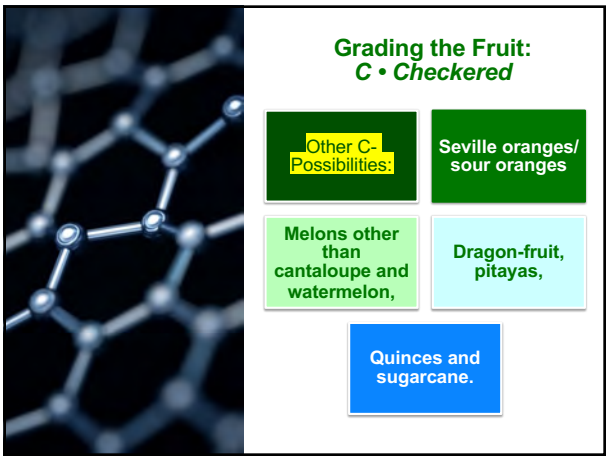

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There are Many
Grade D
Disappointing Fruit;

Grade F
Fruitless Ones, and

Plenty that We Haven't
Evaluated Yet
Grade I

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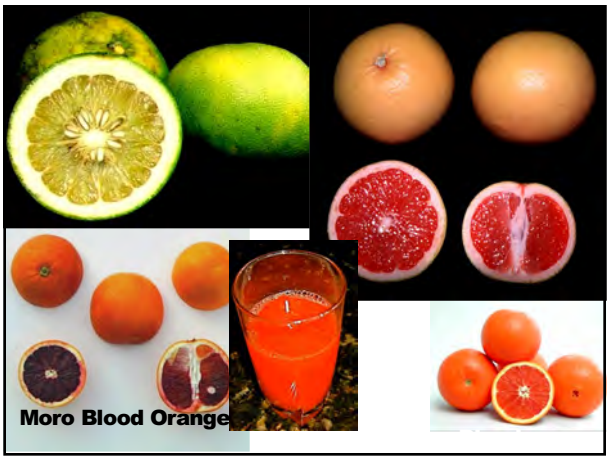

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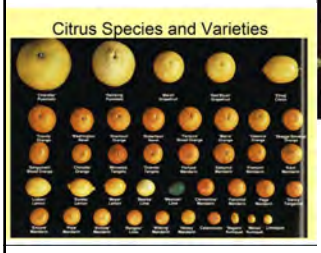
Other Uses

Marmalade (Seville/ sour orange,); chutney, pie



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Yummy Satsuma Juice!

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Some #1 Sweet Orange Types

- Moro Blood Orange
- Cara Cara Blood Navel
- Marrs Navel

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Honey Mandarin

Owari satsuma

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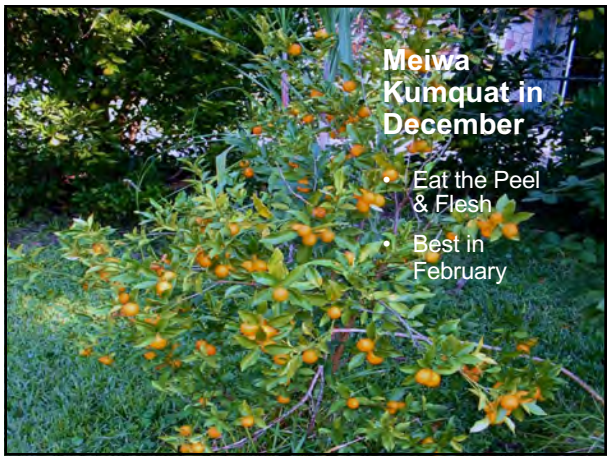

Meiwa Kumquat in December

- Eat the Peel & Flesh
- Best in February

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Figs

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Great Figs: Celeste, Cormons Harlem, LSU Gold



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Pakistan Mulberry

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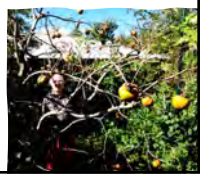
Asian Persimmon



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Pomegranates

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Loquats

Best in Places that rarely get temperatures below 25˚F

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Ice Cream Banana

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Fuzzy Kiwis

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Easy To Grow from Seed

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Fruit Protection Bags from Amazon

Apples

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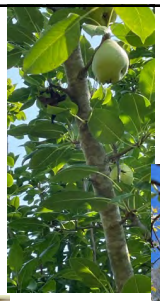
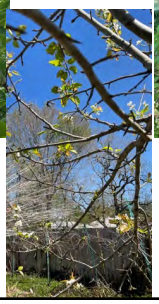
Pears



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Some Great Pears


European

1. Acres Homes
2. Southern Bartlett
3. Tennessee

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Peaches (Needs Fruit Protection Bags)


- Midpride
- Tropic Snow

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Red Baron Peach

- But poor production

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Plums

- Gulf Beauty Plum
- Does better with Pollinator like Gulf Blaze or Gulf Ruby

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Pecan: After a decade, needs lots of space and two varieties in the neighborhood for cross pollination



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Kiowa Blackberry

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Jujube

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Bunch Grapes: (European X American Hybrids)

Mortensen Hardy Tetraploid

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Southern Hybrid Muscadines

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Rabbit Eye & Southern Highbush Blueberries

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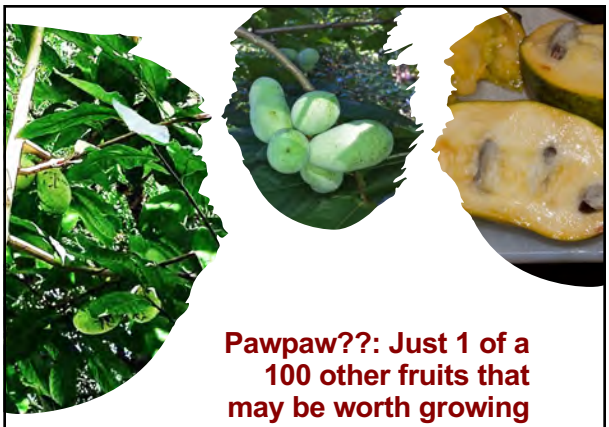

Pawpaw??: Just 1 of a 100 other fruits that may be worth growing

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Issues to Consider

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- Maintenance
- Pruning

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27.5

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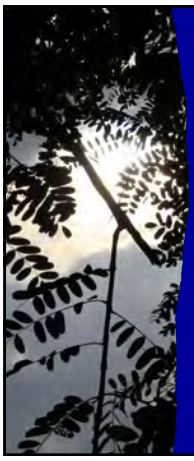

Fruit Growing Considerations

- Sunlight: Plant them in sunshine.
- Citrus, blackberries, and some tropicals will fruit in only part day sun but prefer full sun.
- Drainage: No surface water an hour after a bad storm.
- You can usually fix this problem. Pears are tolerant.

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Fruit Growing Considerations

- Spacing: Most fruit need about 10 feet
- But will grow at closer spacings if…
- You accept less production per plant, prune more, and don't need to walk between them.
- Cost: Trees cost $20-60 once, often cost nothing after 2-3 years, and some produce for decades.
- Production: With very little work, you can have fruits every month of the year.
- So, plan for monthly harvests!

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Before You Buy: What to Think About?

How easy is it to plant?
Blueberries, strawberries, melons have special beds; Grapes and kiwis need trellises.

How expensive is it?
In addition to special beds and trellises, some tropicals are very costly.

How big will they get?
In 20 years need two pecans 25 to 50 ft wide.

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Before You Buy: What to Think About?

- What kind of drainage does it take and what will you need to do?
- Peaches, plums, kiwis, and blueberries are needy.
- Does it get a lot of pests and what do you need to do to stop them?
- Peaches, blueberries, bunch grapes, strawberries need to be protected.

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Before You Buy: What to Think About?

- Does it need a lot of watering? *Blueberries, bunch grapes, strawberries especially do.*
- Does it need a lot of pruning? *Pears are the worst; grapes, kiwis, and peaches also do.*
- Does it need protection from cold or windy weather? *All semi-tropicals and tropicals do, some like guava, limes, and papaya more than others*
- *Or like cold?* Most (but not all) apples need more cold weather than we often get. Forget gooseberries.

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Before You Buy: What to Think About?

- Will the tree get a big crop yearly? *Tangerines, oranges, grapefruits, blueberries, peaches, lemons, plums, blackberries, persimmons, figs, grapes do.*
- Does it provide fruit at time of year when you won't have much else? *Kumquats, mulberries, blackberries, blueberries, calamondin, loquats fruit in early spring.*
- Great taste? *Probably 100+ kinds of delicious fruit, especially if you plant the best varieties. Peaches--yum.*
- When can you expect the first significant production? *Melons—3 months; Strawberries 5 months; Blackberries 15 months; most others 3-7 years.*

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Before You Buy: What to Think About?

- Does it save you money? *Most will save you money. Pummelos, blackberries, figs, blueberries, pomegranates, and persimmons are very expensive fruit in stores.*
- Is the plant beautiful? *Peaches, plums, persimmons, jujubes, and feijoas are attractive..*
- Can you get other benefits from it—fragrant, shade on walls, privacy screen, windbreak, butterflies or birds? *Citrus does all of this.*
- Long lived tree? *Oranges, pecans, blackberries, muscadines*

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124.5
20.5

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Two Issues of Importance

1. What size space do you have?

   How big will the branch spread be when the plant is mature?

2. When will the fruit be ripe?

   Can we use the fruit then?

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Size of Trees

- Fruit trees vary considerably in their sizes.
- Pecans at maturity are huge though they take decades to get there.
- Grapefruits get to 30 ft., kumquats are maybe 8 ft., blackberries are just 4 ft., and strawberries just a few inches.
- Some trees like jujubes, pongkoas, and honey mandarins are tall and very thin,
- While others like satsuma tangerines and Meyer lemons are short--10 ft tall but 10 ft. wide.

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Harvesting Your Eventual Fruits in Mixed-Houston by Bob Randall, PhD © 2013

Harvest Month	In Pot or 1-3 ft Canopy	4-7 ft. Canopy	8-12 ft Canopy	15 ft Canopy	20 ft Canopy	30 ft Canopy
November	Roselle (aka Florida Cranberry)	Lemon, Lime, Papaya	Kiwi, Orange, Satsuma	Persimmon	Carambola, Pecan, Pummelo	Chestnut, Tamarind
December		Lemon, Lime	Orange, Mandarins		Canistel, Pecan, Carambola, Pummelo	Grapefruit, Tamarind
January		Kumquat, Lemon, Lime, Mysore Raspberry	Mandarins, Orange		Canistel,	Grapefruit, Tamarind
February		Kumquat, Lemon, Mysore Raspberry	Jaboticaba, Mandarins, Orange		Canistel	Grapefruit
March	Strawberry	Kumquat, Lemon	Cherry Rio Grande, Grumichama, Jaboticaba, Mandarins, Orange	Loquat, Mulberry		Grapefruit
April	Strawberry	Blueberry	Cherry Rio Grande, Mayhaw, Grumichama, Jaboticaba, Mandarins, Orange			Grapefruit
May	Blackberry, Strawberry	Blueberry, Lime, Chickasaw Plum, Cantaloupe	Cherry Rio Grande, Grumichama, Jaboticaba, Mayhaw, Orange	Cherry, Nectarine, Peach, Plum	Lychee	Grapefruit, Mango
June	Blackberry, Dragon Fruit, Bunch Grape, Groundcherry	Blueberry, Lime Chickasaw Plum, Cantaloupe	Apple	Cherry, Fig, Plum Wampee, Guava, Nectarine, Peach,	Carambola, Lychee, White Sapote	Cotonul, Mango
July	Pineapple, Bunch Grape, Blackberry, Dragon Fruit	Banana, Lime, Papaya, Cantaloupe, Sugar Apple, Pomegranate	Che, Jujube, Olive, Pawpaw	Fig, Guava, Pear, Wampee	Carambola, White Sapote	Avocado, Mango Longan Cotonul,
August	Pineapple, Dragon Fruit, Bunch Grape,	Banana, Lime, Papaya, Sweet Musadine, Pomegranate, Sugar Apple	Che, Olive, Pawpaw	Guava, Pear, Wampee	Carambola, White Sapote	Avocado, Cotonul, Longan, Mango
September	Pineapple, Peanut, Passionfruit, Dragon Fruit	Banana, Lime, Papaya, Pomegranate, Sugar Apple	Che, Kiwi, Satsuma, Olive, Pawpaw	Guava, Persimmon	Carambola, White Sapote, Pummelo	Avocado, Coconut, Longan, Mango
October	Pineapple, Dragon Fruit,	Banana, Lime, Papaya	Feijoa, Kiwi, Satsuma	Guava, Persimmon	Carambola, White Sapote, Pummelo, Pecan	Avocado, Cotonul Chestnut

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128.5
16.5

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Before You Buy-- Temperate Climate Trees

- Temperate-climate trees need to become dormant in late fall and wake up on time in spring.
- They need to measure how much cool weather (chill units) happened so they can do this.
- Different deciduous fruits have different chill requirements.
- Figure out how much chill there is in the winter in the area where you grow.

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Before You Buy Semi-tropical Fruit--

- Cold: How cold it gets on the coldest nights in 10-20+ years determines what semi-tropicals and tropicals will do well at your place.
- Different semi-tropicals can tolerate different low temperatures.

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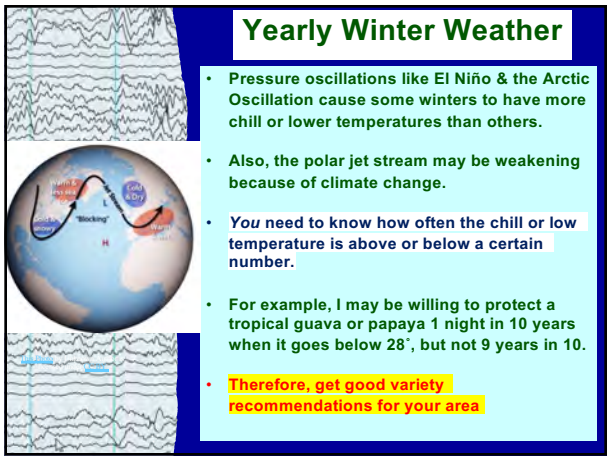

Yearly Winter Weather

- Pressure oscillations like El Niño & the Arctic Oscillation cause some winters to have more chill or lower temperatures than others.
- Also, the polar jet stream may be weakening because of climate change.
- *You* need to know how often the chill or low temperature is above or below a certain number.
- For example, I may be willing to protect a tropical guava or papaya 1 night in 10 years when it goes below 28˚, but not 9 years in 10.
- Therefore, get good variety recommendations for your area

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Very Cold Nights

- On very cold nights, cities and built-up areas are warmer than surrounding rural areas.
- So too are Gulf Coast barrier islands like Galveston Island.
- Also, there may be 7˚ difference between the warmest part of a yard and the coldest part!
- For example…

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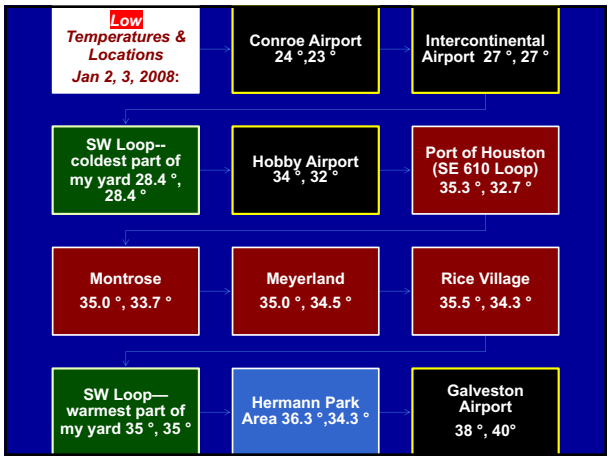

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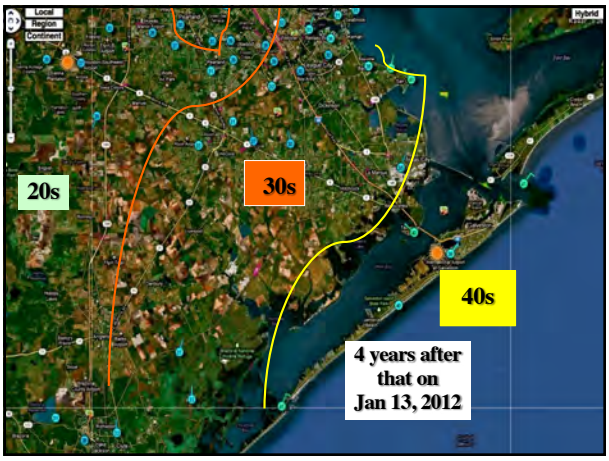

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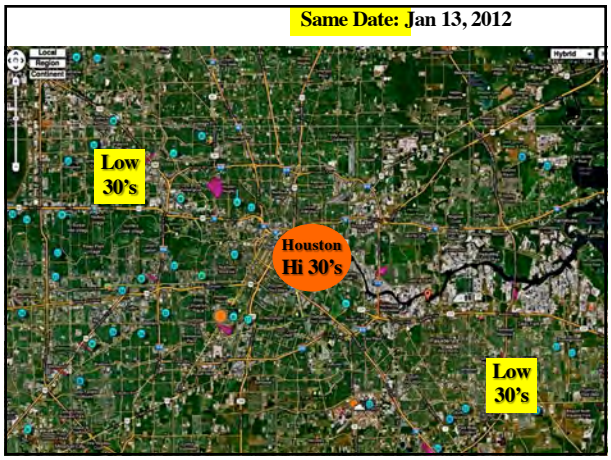

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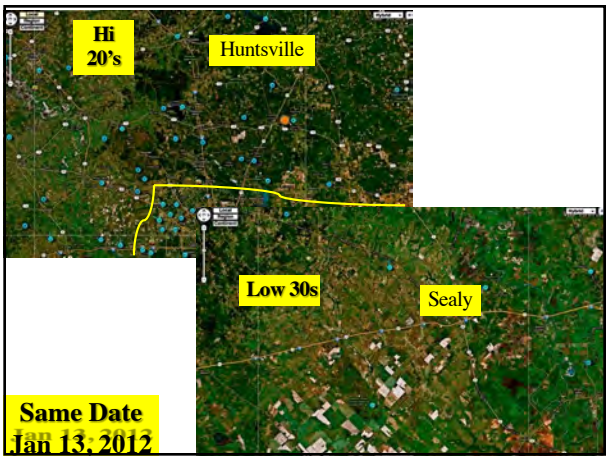

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From late-December to early February, most citrus on trifoliate rootstock are hardy to 22˚ without protection. Survives lower.

Figs and feijoas survive to 10˚F.
Papayas to 30˚.

Deciduous trees are hardy to low temperatures WHEN THEY HAVE NO LEAVES. When in leaf, all bets are off.

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Chill "Units"

How cool it is in January determines which temperate (deciduous) trees like pears, figs, and peaches will do well.

For each kind, there are chill numbers you can use to select a tree right for *your site.*

In winter, every degree of *average* daily temperature below 66° down to 48° provides 55.5 units of chill.

Too much chill and *the plant buds out early* and in colder places is frosted;

Too little chill and *it buds out late and growth is sickly with bad fruit.*

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Yearly Winter Weather

- You can find good information summarizing yearly chill and cold variation for all 52 weather stations in Southeast Texas in the "Chill and winter weather" heading
- at

YearRoundGardening.ME		Winter Low Temperatures (F°)				Winter Chill (in Chill Units)				
Harris County--Then Alphabetical by County	© 2013 Bob Randall Year Round Gardening Weather Station	YRG Winter Low Temp Zone	1992-12 50% Low Temps = or Above Number In Cell	1992-12 90% Low Temps = or Above Number In Cell	100% Low Temps = or Above Number In Cell	YRG Winter Chill Zone	1992-12 10% Chill = or Below Range In Cell	1992-12 50% Chill = or Below Range In Cell	1992-12 75% Chill = or Below Range In Cell	1992-12 100% Chill = or Below Range In Cell
Harris	Houston Hobby AP	9b+	28	23	20	9b	200-399	400-599	600-799	800-999
Harris	Port of Houston	10a-	30	23	20	9b-	400-599	400-599	600-799	1000-1199
Harris	Ellington Field	10a-	30	23	20	9a+	200-399	600-799	600-799	800-999
Harris	Baytown(19)	9b+	28	20	20	9a+	400-599	600-799	600-799	800-999
Harris	Intercontinental AP	9b-	25	20	18	9a+	400-599	600-799	600-799	800-999
Harris	Spring/Tomball AP	9b-	25	18	15	9a	400-599	600-799	800-999	1000-1199
Harris	Med Center Area ??	10a-	30	28	23	9b	200-399	400-599	600-799	800-999

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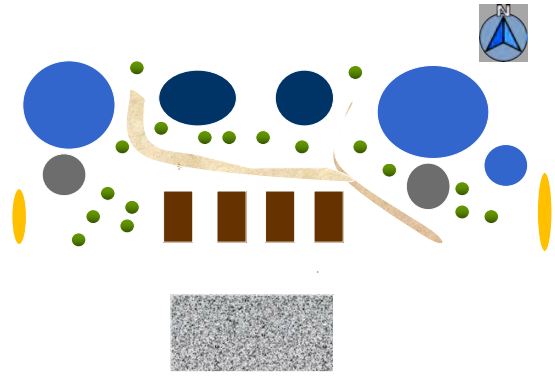
Placement Of Trees As Windbreaks While Avoiding Unwanted Shade



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Drainage

On flat clay soils, unless it is well drained, you need to lower the surrounding area for drainage.

May want to create a rain garden.

Clay that you dig out can be used to raise the nearby area where fruit will be grown.

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Moving the Tree

For trees being moved, to stay alive, their roots must stay moist though not wet. In pots soil does this well.

Once trees lose their leaves and go winter dormant, they can be cheaply moved without their soil attached.

If their roots don't dry out.

Plant or temporarily plant these "bare root trees" in damp mulch or soil as soon as they are acquired.

Tropical and semi-tropical trees keep their leaves and are tender so stay in pots until planted.

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When to Plant the Tree

Deciduous trees should be planted as soon as they are dormant Nov. to Feb. Earlier is better.

Semi-tropicals should be kept in pots until all danger of frost passes.

If temperatures forecasts are below 40˚, bring these indoors over night.

Put them outside when temperatures go back up.

Plant semi-tropicals in mid-March.

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Planting

Site the plant where it will have enough space & sunlight.

Create landscape benefits; avoid problems, have enough drainage.

Dig a hole bigger than the pot or root ball. Put the tree at same depth it grew previously.

First roots should be just at ground level and if there is a graft scar, clearly visible.

In clay, to prevent drowning, *do not add different soil.*

Cultivate the first 6 inches of soil out another two feet or so around the hole.

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Mulches

- Trees need decomposing ligneous material on the surface of the soil.
- This fosters fungal decomposition and beneficial microbe tree interactions.
- These fungi are eaten by predator micro-organisms that are eaten in turn by others.
- These provide nitrogen and micro-nutrients for tree roots.
- In such soils, mycorrhiza and rhizofageous bacteria form beneficial nutrient exchanges with tree roots.
- Trees thrive.

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Good Mulches

- Shredded branches & logs that have been composted (Native Mulch),
- Rotted leaves
- ORGANIC hay.
- Fresh leaves and branches are fine provided the lowest layer is rotted material.
- Each type of mulch has advantages and disadvantages.

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Maintenance

- Put down mulch several inches thick.
- If you don't have the energy to remove lawn or weeds, mow and put down cardboard or 10 sheets of newspaper before covering with mulch.
- Mulch out at least to the drip line (furthest branch).
- Don't mulch within 2 inches of the trunk.
- Protect from rampaging weed trimmers
- In hot weather, if it hasn't rained a lot, check young trees for moist soil (finger test under mulch) twice a week.

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Fertilization

Use MicroLife or a similar balanced, microbe-activated organic fertilizer.

When planting the tree, put about 10 bits of fertilizer in the hole and mix it with the soil.

Until mature, yearly hammer 4-8 holes into the ground with rebar several inches deep around the dripline of the branches.

Put about ¼ cup fertilizer in each hole and water in. Mulch well.

Fertilize this way in February, May, and for deciduous trees September.

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Fertilization

If the tree grows poorly ***increase*** this some. If grows too much, ***reduce fertilizer or discontinue***

Older well mulched trees need little or none

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Irrigation

After 1-3 years, mulched trees will get their roots into the water table,

Depending on type and weather, be fairly drought hardy.

Fall fruiting crops (citrus, pomegranates) may take up sudden rainfalls and split before they are ripe.

Bananas and small fruits—grapes and berries need lots of water.

Heavy mulching and timed watering to get the soil damp but not soggy is effective.

DON'T DROWN PLANTS

If you have access to cheap quality water, trees will produce more regularly watered.

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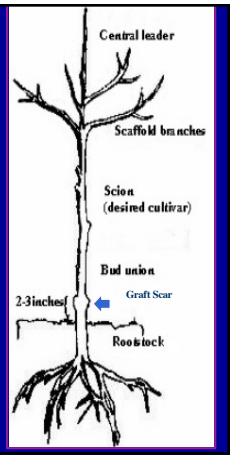
Fruit Tree Pruning & Training at http://urbanharvest.org

Most fruit types will be much more productive and healthier

With correct training of the young plant and

Correct pruning of the mature one.

I teach Fruit Tree Pruning and Training in 3 2.5-hour classes.



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Goals of Pruning

Why prune?: scaffold development for strength and maximum sunlight exposure makes many fruits.

Why prune?: tree health and convenience

Why prune?: growing future fruiting wood

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Pest Management: From Cheap, Easy, Safe and Effective to the Opposite
1. Bio-diverse multi-habitat landscape. Cheap, easy, safe, effective
2. Healthy plants. Cheap, easy, safe, effective
3. Encourage pest eating & pest parasitizing "pests of the pests". Cheap, easy, safe, effective
4. Keep pests away or off by diverse plantings or barriers. Safe, More expensive, more work, less effective.

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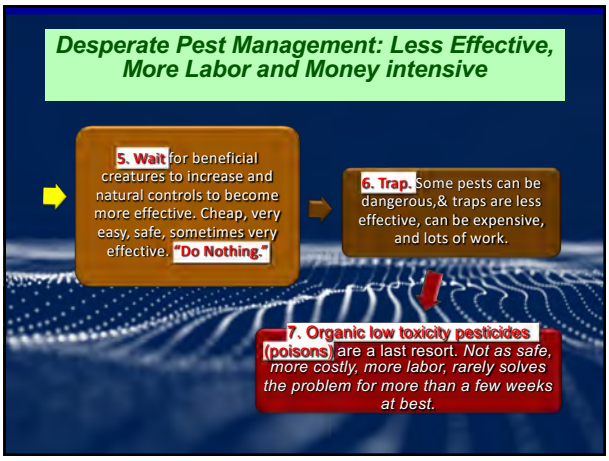
Desperate Pest Management: Less Effective, More Labor and Money intensive
5. Wait for beneficial creatures to increase and natural controls to become more effective. Cheap, very easy, safe, sometimes very effective. "Do Nothing."
6. Trap. Some pests can be dangerous,& traps are less effective, can be expensive, and lots of work.
7. Organic low toxicity pesticides (poisons) are a last resort. Not as safe, more costly, more labor, rarely solves the problem for more than a few weeks at best.

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Instead
Learn about your ecosystem.
Build a habitat for your family, community, and nature.
Study the fruits you are growing by taking other fruit growing classes.
Or read my book. Or do both.
Have Fun!
Practice growing
And eating!
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I will post these slides as a pdf within a month at http://YearRoundGardening.ME

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