



COLLIER FRUIT GROWERS NEWSLETTER

JULY 2018

'Preserving the Harvest,' presented Bonnie Hawkins and Jen Adriaanse, will be the topic of our July 17th Meeting. Bonnie grew up in southern California where she helped her mother in the garden and planted every seed she could find. As an adult, she started growing her own vegetables for her family. Bonnie and her husband Dave moved to Naples in 2013, and she has worked landscaping their 2-½ acre property. In December 2015, they had the back of the property cleared to plant tropical fruit trees. She is collecting trees of every type of tropical fruit she and her husband enjoy eating. They have already had some trees fruit that she has started from seed since moving to Naples.



Bonnie

Jen

Jen is a 5th generation born and raised Naples resident. She had a vegetable garden as a child with her dad. Jen's 85-year-old great uncle taught her air layering. Jen still has her 1st air layered lychee tree from off a local tree. Jen and her husband Mike decided after their twins were born that she would be a stay home mom. She has begun to turn their 2-½ acres into a mini homestead. Jen hopes that her vegetables, chickens, and young tropical fruit trees will soon provide her family with healthy and naturally grown food.

Bonnie and Jen met through a garden and chicken 'buddy' program in 2016 and quickly became friends. In 2018, they found out they were distant cousins through ancestry DNA.

At the July meeting, Bonnie and Jen will share how they have worked to preserve their tropical fruit harvest. This will be an open discussion with club members. Club members are welcome to bring and share any of their experience on preserving the harvest.

Meeting Date: TUESDAY, JULY 17th

The tasting table starts at 7:00 pm.

Meeting starts at 7:30 pm.

at the Tree of Life Church, Life Center, 2132 Shadowlawn Drive.

BURDS' NEST OF INFORMATION THIS and THAT FOR JULY

It's mango picking time again. There are a lot of new seedling varieties to be found and evaluated. Have a mango tasting party with your friends: Gather a maximum of 6 different mangos (taste buds after 6 tend to not be accurate). Have a sheet of wide ruled notebook paper for each participant. Rule: 8 ruler width vertical and horizontal lines for each evaluation category. In the margin, write the mango's name, maybe a 2 ruler spaces between each one. Then, **Rate the mango from 1 - 10 (1 being the worst). Here are you evaluation headings:**

- 1. EYE APPEAL.**
- 2. SNIFF TEST - the first thing a mango lover does .**
- 3. 2nd SNIFF TEST (scratch or cut into the stem end).**
- 4. HOW IS THE RIPE FLAVOR?**
- 5. THICK OR THIN SKIN ?**
- 6. STRINGY (when you peel it is it fibrous ?)**
- 7. CAN IT BE EATEN GREEN (before it is ripe, is it sweet while crisp?) some not yet ripe mangos are delicious.**

We have had many lovely evenings with friends doing mango evaluations while sitting around the kitchen table with snacks and drinks.

If you are growing for commercial purposes, check the mango variety for:

1. At the stem is it convex or concave ? Convex would shed water, whereas concave would hold it; possibly causing stem rot or anthracnose.
2. Also check how prone a variety is to anthracnose.
- 3 Shelf life after harvesting.
4. How long does it hold its flavor after being ripe for a while ?



RECIPE OF THE MONTH:

At CFG's July meeting, Bonnie Hawkins is going to demonstrate ways to preserve tropical fruits. Asian cultures often pickle mangoes as a way to preserve them throughout the year. Pickled mangoes make a delightful side dish for almost any dinner. The mangoes will keep for several months in the refrigerator after processing. You can increase the recipe to make multiple jars.

This recipe was found on www.foodnetwork.com. If you enjoy this recipe, try pickling pineapple, too!

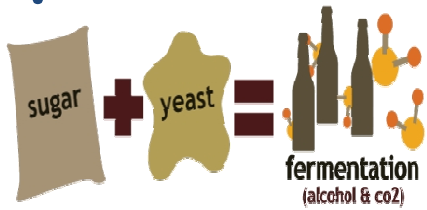
recipe: PICKLED MANGOES WITH GINGER

- 1 cinnamon stick
- 1 tsp. cumin seeds
- ½ tsp. black peppercorns
- ¾ cup white distilled vinegar
- ½ cup sugar
- Juice of ½ lemon
- Kosher salt
- 6 thin slices of peeled ginger
- 2 dried chiles
- 2 large firm mangoes, peeled and cut into ½ inch thick wedges



Heat the cinnamon stick, cumin seeds, peppercorns and cardamom in a small skillet over medium-low heat, stirring, until toasted, about 4 minutes. Make the brine: Combine the vinegar, ¾ cup water, the sugar, lemon juice, 1 tablespoon salt, the ginger, chiles and toasted spices in a medium saucepan; bring to a simmer over medium heat. Cook, stirring to dissolve the sugar, 5 minutes. Pack the mango wedges into a 1-quart jar, then pour in the hot brine; let cool completely. Cover and refrigerate overnight or up to 1 week.

Makes 1 quart.



History of Fermentation



Fermentation in food processing is the process of converting carbohydrates to alcohol or organic acids using microorganisms—yeasts or bacteria—under anaerobic conditions. Fermentation usually implies that the action of microorganisms is desired. The science of fermentation is known as zymology or zymurgy.

The term fermentation sometimes refers specifically to the chemical conversion of sugars into ethanol, producing alcoholic drinks such as wine, beer, and cider. However, similar processes take place in the leavening of bread (CO₂ produced by yeast activity), and in the preservation of sour foods with the production of lactic acid, such as in sauerkraut and yogurt. Apart from alcohol, widely consumed fermented foods include vinegar, olives, yogurt, bread, and cheese. In various parts of the world, more localized foods prepared by fermentation may also be based on beans, dough, grain, vegetables, fruit, honey, dairy products, fish, meat, or tea.

HISTORY

Natural fermentation precedes human history. Since ancient times, humans have exploited the fermentation process. The earliest evidence of an alcoholic drink, made from fruit, rice, and honey, dates from 7000 to 6600 BC, in the Neolithic Chinese village of Jiahu, and winemaking dates from 6000 BC, in Georgia, in the Caucasus area. Seven-thousand-year-old jars containing the remains of wine, now on display at the University of Pennsylvania, were excavated in the Zagros Mountains in Iran. There is strong evidence that people were fermenting alcoholic drinks in Babylon c. 3000 BC, ancient Egypt c. 3150 BC, pre-Hispanic Mexico c. 2000 BC, and Sudan c. 1500 BC. The French chemist Louis Pasteur founded zymology, when in 1856 he connected yeast to fermentation. When studying the fermentation of sugar to alcohol by yeast, Pasteur concluded that the fermentation was catalyzed by a vital force, called "ferments", within the yeast cells. The "ferments" were thought to function only within living organisms. He wrote, "Alcoholic fermentation is an act correlated with the life and organization of the yeast cells, not with the death or putrefaction of the cells." Nevertheless, it was known that yeast extracts can ferment sugar even in the absence of living yeast cells. While studying this process in 1897, Eduard Buchner of Humboldt University of Berlin, Germany, found that sugar was fermented even when there were no living yeast cells in the mixture, by a yeast secreted enzyme complex that he termed zymase. In 1907 he received the Nobel Prize in Chemistry for his research and discovery of "cell-free fermentation". One year earlier, in 1906, ethanol fermentation studies led to the early discovery of NAD⁺.

USES

Food fermentation is the conversion of sugars and other carbohydrates into alcohol or preservative organic acids and carbon dioxide. All three products have found human uses. The production of alcohol is made use of when fruit juices are converted to wine, when grains are made into beer, and when foods rich in starch, such as potatoes, are fermented and then distilled to make spirits such as gin and vodka. The production of carbon dioxide is used to leaven bread. The production of organic acids is exploited to preserve and flavor vegetables and dairy products.

Food fermentation serves five main purposes: to enrich the diet through development of a diversity of flavors, aromas, and textures in food substrates; to preserve substantial amounts of food through lactic acid, alcohol, acetic acid, and alkaline fermentations; to enrich food substrates with protein, essential amino acids, and vitamins; to eliminate antinutrients; and to reduce cooking time and the associated use of fuel.

Gardening Notes by Deana Bess

I always spray foliar applications in the early evening; our Florida sun can burn the leaves plus, pollinators are out and about in the morning and day but not so active right at dusk. When using nutritional sprays, this gives the leaves all night to absorb the nutrients. I always apply the nutrients to dry leaves. Be very careful if you choose to use any chemical insecticides. I, myself, will never use any chemicals because they kill everything beneficial that might control the problem in the first place.

After my short time working with fruit trees, the most common problem I see is a poor root flare and/or root structure during propagation. Burying the root flare prevents the proper aeration of the roots, and I believe also impacts the plant's ability to deal with our fluctuating dry/wet cycles. Dr. Brady has it right using tall containers to grow fruit trees. All the other growers use more shallow containers and bury the root flares. I just got some trees a few months back from a grower. I just had to bare root them because the root flares were so terribly covered by soil. I've also seen some terrible root structures in addition to that. A healthy root flare seems to lead to a healthy tree. Note the below picture of a root system on a cacao tree. A customer called me with this problem. I ended up buying the tree back from them and planting it myself. We'll see if it makes it but, I doubt it!



Poor Root Flare

All pest and disease issues are related to issues causing plant stress - most are environmental and related to air, water, nutrients, and sunlight. In the example above, this tree cannot absorb nutrients well because of those roots. Pests and diseases are nature's way of taking out or healing sick plants. It is important to note that native plants have cycles where they flourish and cycles where they die back - no treatment is needed for these plants, yet people do it all the time! Non-native plants, like many of our fruit trees, are growing in an environment where they may not have all the elements needed for good health. For instance, the Avocado cannot tolerate the heavy rain seasons of late. Some pests are actually helping the plant and normal for the plant's life cycle like the caterpillars that eat the passion vine. Depending on what is the root cause, many fruit trees will have reduced stress immediately with an application of liquid seaweed at 1 Tablespoon per gallon of good water (non-chemically treated). Sometimes that simple thing gives the tree enough of a boost to get rid of the problem. I like to teach people to look for the cause rather than treating the symptom.

Releasing beneficial insects annually early in the year is always helpful; for example, the wasps that control caterpillars. I have some snowbush shrubs that get span worms on them all the time. Doug Caldwell (UF IFAC Extension Service) says that they showed up here around 2007 and are not native. The paper wasp is a natural predator, but for guess what? I kill the span worms because they like to nest around the house and in places I don't want them. So, I need to use 'BT' or 'Spinosade.'

I also use Sluggo Plus for snails, pill bugs, cut worms, and ants in my compost bin. It's organic and works just great!

I use ground cinnamon (sprinkled around the trunk where ants are traveling), cinnamon oil blend, orange oil blend, and Come and Get it for ants (including fire ants). My absolute favorite combination weed killer and ant killer recipe (do not spray on fruit tree leaves, only on soil) is a mixture of a quart of 30% vinegar, three quarts white 5% vinegar, 20 drops of each cinnamon oil & orange oil, and 1 teaspoon of soap. If the ants persist time, I add a pint size bottle of 35% hydrogen peroxide to the mixture. Spray on a sunny dry day in the morning.

I use cornmeal tea and hydrogen peroxide for fungus and/or bacterial issues which I rarely have at all except right after Hurricane Irma. I include cornmeal in my vermin-composting and then apply that around the fruit trees annually.

I make the tea with the cornmeal using a 5-gallon bucket of water and one cup of cornmeal. I steep it for about 24 hours stirring it now and again, then strain and pour it into the sprayer. Use only certified organic cornmeal.

I get the 3% hydrogen peroxide and dilute it by half with water and spray it on the problem areas. It is also good for one-time soil aeration, using the stronger hydrogen peroxide, such as 35% strength.

The best pest and disease book I ever read is the "Texas Bug Book" by Howard Garrett. It has all the same issues discussed in the book that we see here in South Florida; they are not just Texas.

International Research

Research at the University of Toronto, Mississauga is confirming that beneficial bacteria in and around plant roots is accentual. The plant root microbiome encompasses a robust community of microorganisms that boosts the plant's nutrient intake. Also, plants that foster specific bacterial populations within their root systems tend to be more drought-resistant. It will take time to understand the complex 'web' of interaction between the plant roots and associated bacteria, especially in drought prone areas. To learn more on food security and crop sustainable go to: www.CGIAR.org. This is an international group supporting crop/plant research.

Note: An electronic copy of "Symphony of the Soil", a report on the new class of complex nutrition enabling fertilizers, has been place on the www.CollierFruit.org website. You will find it under the tab "Articles". Everyone is encouraged to read the report.

Common Fruit Tree Nutritional & Pest Control Foliar Sprays

The following is a summary of the more popular used foliar sprays for Fruit Trees and Plants.

<u>Name / % Active Ingredient</u>	<u>Amount/ Gallon of Water</u>	<u>Application / Remarks</u>
Citrus Nutritional (nutrients: 1% Mg, 4.1% S, 1.2% Mn, 1.7% Zn)	1 tablespoon	3 times/yr. [Sep/Feb/Jun]
For non-citrus fruit trees	1 tablespoon	3/yr. [Sep/after setting fruit/Jun]
Chelated Liquid Iron (50% Fe)	2 teaspoons	Used to correct yellowing foliage.
Omnigrow 350 tm (4)	2 teaspoons	3 /yr. [Sep/after setting fruit/Jun]
(micro-nutrients: 1.5% Mg, 0.75% Zn, 3.5% Fe, 0.2% Boron, 0.003% Molybdenum, 0.006% Cu, 4.0% S)		

Pest Control Sprays

Neem oil (70%) ⁽¹⁾	2 tablespoons	Alternate weekly w/ sulfur &/or soap during the dry season.
Baking Soda	4 teaspoons ⁽⁶⁾	3 times per yr., or as may be needed.
Commercial Orange oil	2 ounces	Use as may be required.
Liquid Dish/Agricultural Soap	1 tablespoon	Use in dry season, esp. before winter chills.
Lime Sulfur or Sulfur (90% S)	2 tablespoons ⁽⁶⁾	Alternate weekly w/ neem oil in dry season, temp. < 90F (Note: does not dissolve.)
Copper (31.4% Cu) ⁽²⁾	4 teaspoons	<u>NOTE: Extremely dangerous to eyes.</u> Use sparingly in the dry season only.
Malathion oil (50%) ⁽²⁾	2 tablespoons	3 times/3 days apart/during citrus flushing.
Thuricide (Dipel) ⁽¹⁾ (98% Bacillus Thuringiensis)	1 tablespoon	Use w/ molasses for worms and caterpillars.
Orthene tm (50% Acephate) ⁽²⁾	2 teaspoons ⁽⁶⁾	Use only as leaf damage dictates. Mix powder with water.
Molasses	1 teaspoon	Add to Orange oil w/ 1-cup 'compost tea.' ⁽⁵⁾
Simplex 350 tm (1)(3)(4)	2 teaspoons	Add to Neem oil or nutritional spray.

NOTE: Please be extremely careful to read and follow the instructions on the label for every product. There are many more foliar sprays which are equally as effective but may not be as commonly used as those listed above.

Additional Notes:

1. Certified Organic products are available.
2. Do not spray on flowers or fruit.
3. Considered a 'Spreader/Sticker.' Use with other insecticidal or fungicidal sprays.
4. Available only in two and a half gallon containers or larger.
5. The process of making 'compost tea' is beyond the scope of this table.
6. Measure as level spoon full.

Uses of a Handheld Refractometer

Any serious fruit grower or fruit consumer, for that matter, should have and actively use a portable handheld refractometer. Their primary use is to determine the nutritional benefits of the various fruits. All fruit is not the same, as many store-bought fruits have a low nutritional or 'Degrees Brix' value. Degrees Brix (symbol °Bx) is the sugar content (percentage) of an aqueous solution. One °Bx is 1 gram of sucrose in 100 grams of solution and represents the strength of the solution as percentage by mass. If the solution contains dissolved solids other than pure sucrose, then the °Bx only approximates the dissolved solid content.

The Brix scale handheld refractometers, measured in Brix% at 20C (Brix), were developed for sugar-related liquids such as fruit juices, honey, and wines. All are easily transportable for field use, simple to use, and require only an outside light source to be functional. Models with the 'ATC' designation are Automatic Temperature Compensated over a 50F (27.8C) temperature range. These units are used to help monitor and control the sugar concentrations of products in the food and beverage industry. Whether checking the "ripeness" of fruit in the field, verifying product quality after the harvest, or controlling concentrations during processing and packaging, refractometers provide critical information to ensure product quality. A full range of measurements are available, but a refractometer with a Brix scale of 0-32% [approx. 1.000-1.120 Specific Gravity] is adequate for the average fruit grower. For example, a mango can have a Brix of between 4 to greater than 14, where the greater Brix reading is an indicator of higher nutritional quality. A simple sampling of any fruit with a refractometer will evaluate its quality. Refractometers can be acquired at a reasonable cost on the internet.



A detailed article entitled "Using a Refractometer to Test the Quality of Fruits & Vegetables" by Rex Harrill has been placed on our website at www.CollierFruit.org, under the tab "Articles". Everyone is encouraged to read it. The Brix chart included in the article can be used for general comparison as it is incomplete and does not include most tropical fruits. Such Brix charts will become more complete as future in-depth studies are conducted and their results reported.

A secondary benefit is to determine the relative effectiveness of the various foliar spray fertilizers. Liquid from a tree's leaf can be measured before and again approximately two hours after the nutrient spray has been applied. To squeeze several drops of liquid from the leaves use a small garlic press. The general consensus is that the spray can only be considered effective only if the Brix reading has risen by a value of two or more. [Note: Granular 'slow-release' fertilizers are much more difficult to evaluate.]



Current Agricultural News Items

Florida Organic Growers (FOG), in cooperation with Florida Department of Agriculture and Consumer Services (FDACS), is pleased to announce the 2017-2018 Organic Certification Cost Share Program.

Certified organic operators in Florida can now apply for reimbursement of up to 75 percent of certification costs from October 1, 2017 to September 30, 2018, for a maximum of \$750 per scope of certification. The deadline to apply is October 31st.

Below you will find the Cost Share application for Florida residents. Please visit the FOG Cost Share webpage to learn more about the program and how you can apply:

<http://www.foginfo.org/our-programs/cost-share/>

If you have any questions regarding the above program, please call Rylee Daddio at 352-231-7116

Press Release: June 5 – Florida Department of Agriculture and Consumer Services began efforts to eradicate the exotic Oriental Fruit Fly. For more information go to: <https://www.freshfromflorida.com/News-Events/Press-Releases/2018-Press-Releases/Florida-Department-of-Agriculture-and-Consumer-Services-Begins-Efforts-to-Eradicate-Exotic-Fruit-Fly>

For Pest Alert FDACS-P-01162, Updated June 2018 go to: <https://freshfromflorida.s3.amazonaws.com/Media%2FFiles%2FPlant-Industry-Files%2FPest-Alerts%2FPEST+ALERT+Oriental+Fruit+Fly+-+Updated+June+2018.pdf>

We encourage all of members to submit relevant fruit tree articles of interest for possible publication in our recently expanded monthly Collier Fruit Growers newsletters. We would also like to know your opinion on the new format. Please submit all articles and comments to: rtaylorrm@comcast.net.

JULY CALENDAR OF EVENTS



Tuesday, July 3 Monthly Meeting: **Caloosa Rare Fruit Exchange**, 7:00 pm, Fort Myers-Lee County Garden Council Bldg., 2166 Virginia Ave., Fort Myers.



Repeats Every Thursday (**year around**), 9:00 AM until at least 1:00 PM, **Cornerstone Nursery**, 8200 Immokalee Road, North Naples – Learn about fruit trees, volunteer in the nursery, or just come and listen to Crafton's stories.



Tuesday 10 Monthly Meeting: **Bonita Springs Tropical Fruit Club**, 6:45 PM Tasting Table, 7:15 PM Program: First United Methodist Church, Fellowship Hall, 27690 Shriver Ave., Bonita Springs.



Friday, July 13 **International Mango Conference**, 9:00 AM at the Fairchild Tropical Botanical Garden, 10901 Old Cutler Rd, Miami, FL 33156. Registration Fee: \$85.00, Fairchild Members \$50.



Saturday & Sunday, July 14 & 15 **International Mango and Tropical Fruit Festival, 'Celebrating the Mangoes of Haiti,'** 9:30 AM Saturday to 4:30 PM Sunday, at the Fairchild Tropical Botanical Garden. Free for Fairchild Members, Adults \$25, Senior (age 65 and up) \$18, Children (ages 6 - 17) \$12, Free for children ages 5 and younger.



Tuesday, July 17 Monthly Meeting: **Collier Fruit Growers**, 7:00 PM Social, 7:30 PM Program: Tree of Life Church, Life Center, 2132 Shadowlawn Drive, Naples.



Saturday, July 21 The **Univ. Florida, IFAC Collier County Extension Service will host a fruit tour of three area gardens** starting from the Golden Gate Community Center at 9:00 AM. Below is a link for the Tropical Fruit Road Tour on July 21, 2018. It is limited to 20 people: <https://www.eventbrite.com/e/2018-collier-county-tropical-fruit-road-tour-tickets-46362046128>



Tuesday, July 26 Monthly Workshop: **Bonita Springs Tropical Fruit Club**, 6:45 PM: First United Methodist Church, Fellowship Hall, 27690 Shriver Ave., Bonita Springs.



Tuesday August 14 Monthly Meeting: **Bonita Springs Tropical Fruit Club**, 6:45 PM Tasting Table, 7:15 PM Program: First United Methodist Church, Fellowship Hall, 27690 Shriver Ave., Bonita Springs



Tuesday, August 21 No Meeting: **Collier Fruit Growers**



Tuesday, August 28 Monthly Workshop: **Bonita Springs Tropical Fruit Club**, 6:45 PM: First United Methodist Church, Fellowship Hall, 27690 Shriver Ave., Bonita Springs.

"I would rate the 'Skinner' Balata among the tastiest fruits on the planet,"

Crafton Clift

Please read the entire story of the '**Balata Fruit from Trinidad**,' posted under the tab "Articles" with the subheading "Crafton Tales" at www.CollierFruit.org.



There's a **NEW** Collier Fruit Growers Facebook page:
https://www.facebook.com/CollierFruitGrowers/?ref=br_rs
CFG Members are encouraged to submit fruit related articles on the page. Your comments are also encouraged. Please LIKE and share our page with your friends. Be sure to LIKE our new page!

**Upcoming Meeting Dates: TUESDAYS,
August - no meeting, September 18th, and October 16th**

The Collier Fruit Growers Inc. (CFG) is an active organization dedicated to inform, educate and advise its members as well as the public, as to the propagation of the many varieties of fruits that can be grown in Collier County. The CFG is also actively engaged in the distribution of the many commonly grown fruits, as well as the rare tropical and subtropical fruits grown throughout the world. CFG encourages its members to extend their cultivation by providing a basis for researching and producing new cultivars and hybrids, whenever possible. CFG functions without regard to race, color or national origin.

REMEMBER TO RENEW YOUR MEMBERSHIP!

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