

Gulf Coast Fruit Study Newsletter

Volume 14, Issue 3

Edited By: Ethan A. Natelson, M.D.

January 29, 2000 Meeting

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Current Meeting:

The next Gulf Coast Fruit Study program will occur on January 29, 2000 from 8:00 AM to 3:00 PM. There will be demonstrations of how to plant, graft and prune trees. There will also be a plant sale sponsored by Treesearch Farms, with numerous varieties available for purchase.

Contact Us!

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Plant Propagation From Cuttings

Propagating plants from cuttings is often useful to the home gardener who wishes to replicate an existing plant without resorting to grafting a bud or a scion onto another root system. A promising rootstock or an unusual sport of a more common cultivar may be multiplied in this manner. Certain fruits such as figs, pomegranates and, frequently, grapes are propagated in this way, since there may not be a preferred rootstock. While the principles are simple, the process may be frustrating, since "takes" may vary from year to year, even under like conditions.

Hardwood cuttings are best for starters — use last season's firm growth which contains good food reserves and is collected in November-January. Select lengths about 6" long. The cutting may be fashioned in the style of a heel, or mallet with more difficult plants, or simply a straight shaft (see figure 1 below).

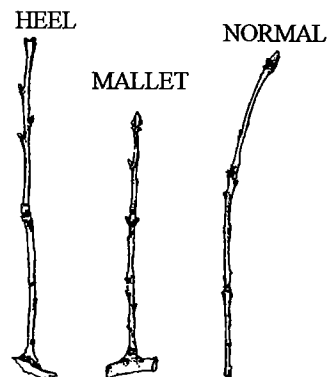


FIGURE 1

The wood is cleaned and then dipped for several seconds into a dilute fungicide solution such as Benomyl, Captan or thiram. The severed base is then dipped into an **auxin** (a chemical which stimulates root production), for 5-10 seconds. The usual **auxins** are indole butyric acid (IBA) and Naphthaleneacetamide (NAA) or mixtures of the two. Commercially, these are usually found as a dry powder, mixed with talc and often with a fungicide. The liquid solutions which are in ethyl or isopropyl alcohol if the acids, or water, if formulated as the sodium or potassium salts, are more effective than the powders. The final concentrations of IBA used in the dip are about 0.2-0.5% and for NAA about 0.1-0.2%. Long soaks in alcohol are toxic to the plants. This is less of a problem with aqueous solutions (see figure 2 below).

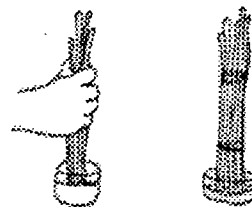


FIGURE 2

Now the cuttings may be treated in one of several ways.

1. They may simply be planted in a humid chamber with warm heat (about 70° F) at the bottom. After 4 weeks, they should have callused adequately and can be planted.
2. Alternatively, they may be placed in a media (various sand, peat, soil, sawdust, vermiculite, perlite mixtures) upside down. This delays bud growth until the wound has callused. After 4 weeks, or in the Spring, they may be retrieved and planted right side up.
3. A third technique is to allow callusing to occur in a closed, moist plastic bag, in the dark, at about 50° F. The cuttings may be periodically inspected for callus and root formation, and when ready, planted.

Pawpaws for the Gulf Coast

One of the shyest fruits that may be grown in the Houston area is the American pawpaw (*Asimina triloba*). Max Porch has had some success with a tasty variety that several of us have sampled, but Bob Randall's trees have generally been barren. What is the secret to success?

This small tree prefers humid growing zones from 5-8, making our lesser chill, in zone 9, marginal for most named cultivars. An understory tree, young plants may be killed by direct sunlight and prefer a well-drained area with some shade. The pawpaw is easily germinated from seed after moist stratification for about 3 months at 32-40° F. When potted, use an elongated container to accommodate the taproot, *a la* pecans. These trees are not early bearers when grown from seed, usually needing to reach 6 feet in height and 5-8 years in age. They may bear in 3 years as grafted trees. The pawpaw is nearly impossible to root from cuttings and is generally grafted by a simple whip and tongue technique or by a bark inlay graft, like pecan or persimmon. T-budding is said to

rarely be successful, although chip budding has been used. The trees grow slowly in pots and seem to be helped by certain beneficial fungi.

Pollination is often a limiting factor in fruit set because the stigma (female) ripens before the pollen on an individual tree, effectively making it self-unfruitful. If you have more than one tree, you can wait for insects (especially night flying moths) or hand pollinate with a small brush when the pollen anthers are yellow-brown and the tips of the pistils are green and glossy. The flowers are soft purple in color, and shaped like an inverted bell. One variety, **Sunflower**, found in Kansas, is said to be self-fertile. The individual fruit may reach a pound with cultivars such as **Convis** and **Jack's Jumbo** and flesh color may vary from yellow to orange to white. Some have large seeds while others have few and smaller seeds.

Low-chill, named varieties best for the Houston area are **Duckworth A** (from San Mateo, FL) and **Duckworth B** (LA seedling), **Mango** (from Georgia) and **Ford Amend** (from Portland, OR). There are a number of low-chill culti-

vars native to Louisiana but many of these have small fruits. Scion wood from many of the many named cultivars may be obtained from the USDA germplasm repository for *Asimina species*. Contact Kirk Pomper, Ph.D., Pawpaw Research, Kentucky State University, Atwood Research Facility, Frankfort, Kentucky, 40601-2355 (e-mail: kpomper@dcr.net). There are many commercial sources for grafted trees, including the Papaya Tree Nursery in Granada Hills, California, the Louisiana Nursery in Opelousas, LA, Sherwood's Green House in Sibley, LA, and Just Fruits Nursery in Crawfordville, FL.



Modern French Grapes Have Humble Origins

Recently, Yvonne Gibbs was vacationing in Maine and came across an interesting local news article concerning the paternity of many familiar, high-class French wine grapes, including Chardonnay and Pinot Noir. It seems researchers at UC Davis, in California, applied DNA analytical techniques to many modern wine grapes in order to ascertain their relationship to each other. It turns out that many have the humble French grape, Gouais blanc, in their parentage — frequently crossed with the higher quality, Pinot strains.

The Gouais grape, itself, was once banned from propagation in France as a disgrace to the wine industry. Its wine's name is thought to be the origin of the French adjective "gou", a term of derision and probably, to our slang, "goo". The original Gouais blanc grapes are retained in a botanical archive (repository) near Montpellier, in France. There are always surprises when you delve into geneology.

Pawpaw Custard Pie:

1 c. 2% milk.	1 c. cream	3 eggs
3/4 c. sugar	1 c. pureed pawpaw pulp	

Mixing the ingredients as you add them, beat together the milk, cream, eggs, sugar and pawpaw. Pour the custard into a pie shell and bake at 450° F for 15 minutes, then reduce the heat to 325° F and bake an additional 40 minutes or until a knife inserted near the center of the pie comes out clean.

Pawpaw Cookies:

1/2 c. pawpaw pulp	3 c. sifted flour	1/4 tsp. allspice	1 egg
3/4 c. shortening	1 Tbsp. baking soda	1 tsp. nutmeg	1/4 tsp. ginger
1 1/3 c. sugar	1 tsp. Salt	1 tsp. cinnamon	

Cream the shortening and sugar thoroughly. Add beaten egg and pawpaw. Stir in the dry ingredients, which have been sifted together, and mix well. Form into small balls and place on cookie sheet. Press into round flat shape with the bottom of a glass that has been lightly greased. Bake in a moderate oven (350° F) for about 15 minutes.

Pawpaw Bread:

1 c. melted butter	1 Tbsp. lemon juice	2 c. sugar
4 c. sifted all-purpose flour	4 eggs	2 tsp. baking powder
2 c. pawpaw pulp	3 c. pecan pieces plus 16 pecan halves	

Preheat oven to 375° F. Grease two 9 x 4 x 2 loaf pans. Beat together butter, sugar and eggs. Add and beat in the pawpaw pulp and lemon juice. Sift the flour and baking powder together, and stir them into the batter. Stir in the pecans and scrape the batter into the loaf pans. Garnish each loaf with 8 pecan halves, and bake for 1 hour and 15 minutes. The top corners of the loaf will burn, but that adds flavor and character.

Pawpaw Punch:

1 pawpaw	1 1/2 pints cold water	sugar to taste
1 strip lime peel	1 pinch of salt	

Wash and peel pawpaw, then mash in a bowl with lime peel. Gradually stir in 1 pint water. Mix well and strain. Add another 1/2 pint water, mix, and strain again to be sure all the flavor is extracted. Add salt and sugar. Chill before serving.

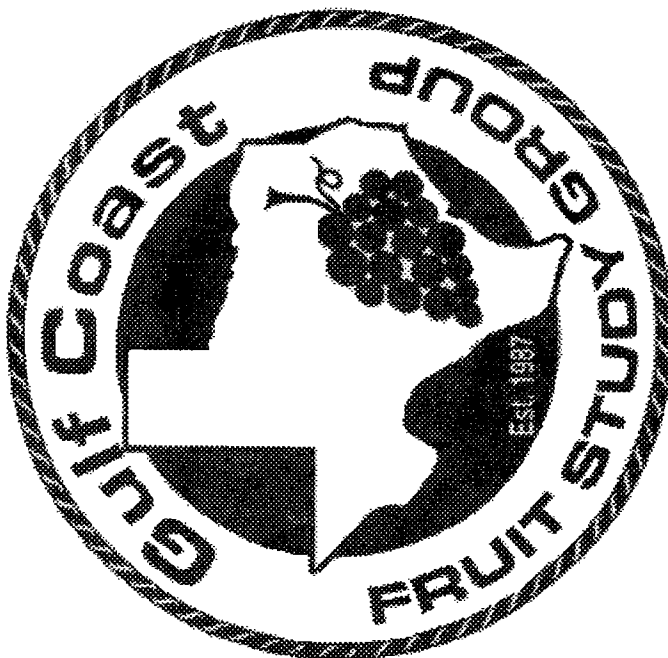
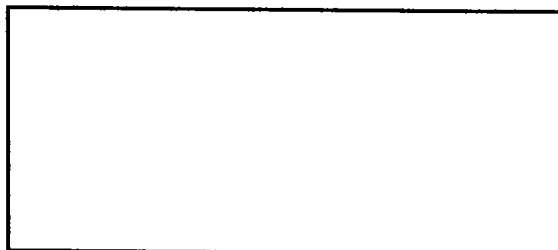
GOOD BOOKS ON PLANT PROPAGATION:

There are many books on plant propagation, ranging in price:

1. *Plant Propagation: Principles and Practices*, by Hudson T. Hartmann, et al. 1996. \$99.00 if ordered through Amazon.com
2. *The Reference Manual of Woody Plant Propagation: From Seed to Tissue Culture*, by Michael A. Dirr and Charles W. Heuser, Jr. 1987. \$35.00 through Amazon.com
3. *Complete Book of Plant Propagation*, edited by Charles Heuser. 1997. \$20.97 through Amazon.com
4. *Creative Propagation: A Grower's Guide*, by Peter Thompson. 1992. \$19.96 through Amazon.com

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