



TAMPA BAY CHAPTER, RFCI

TAMPA BAY CHAPTER, RARE FRUIT COUNCIL INTERNATIONAL, Inc.

NEXT MEETING.....SUNDAY, FEBRUARY 1, 1981 AT 2:00 PM

MEETING PLACE.....NORTH TAMPA COUNTRY HOME OF
JOE & JANE CONSTANTINE
ON LAKE LECLARE ROAD

PROGRAM.....Because of the anticipated long business meeting concerning last minute preparations for the Florida State Fair booth, we will not have a guest speaker this month. Instead we shall watch a portion of the TV tape made by Paul Rubenstein featuring our own members being interviewed on local stations prior to the plant sale in October. Time permitting, we shall also have a Question/Answer Forum. Members should bring any questions they have concerning fruit plants and the growing of same. Our own experts will try to furnish the answers.

March Program Announcement: For our March 1st program we shall have as our guest expert, Major Harold N. "Nick" Acrivos from the Melbourne Rare Fruit Society. Nick has already given us two very informative and well received programs. This time Nick will demonstrate grafting and budding in a "hands-on" class for those members who wish to participate. We shall try to provide plant material for those members to practice on, but finding enough seedlings, should there be a large turnout, will be a problem. Therefore, members are urged to bring to the March 1st meeting (NOT TO THE FEBRUARY 1st MEETING, please) any seedlings useful for grafting or budding. At that time of year loquat, avocado, carambola and annona would be good. Either bring something for which there will be budwood at Joe's or bring your own scions also. You will need a good sharp knife, too. This is the same program format that Jim Mercer gave in August and which was so enthusiastically received. We shall try to have one program per year on grafting. It has been the most requested subject and Nick Acrivos is highly qualified to give it.

Report of January 4, 1981 Meeting

President Joe Constantine opened the meeting at 2:00 PM. The Treasurer's report showed \$1097.50 in the checking account. We have a total of \$3305.89 in savings. Of this \$3000.00 is in 90 day certificates bearing 18%. The balance of \$305.89 is in the passbook savings account.

Paul Rubenstein mentioned that the St. Petersburg Garden Club had requested that we furnish a speaker for them. George and Mildred Palmer also asked that someone give a program for the Suncoast Botanical Gardens in St. Petersburg (4th Sunday of the month). We hope someone volunteers as this sort of activity is very good for our chapter.

President Joe Constantine called upon the members to get busy with growing and propagating plants for next year's plant sale.

The balance of the business meeting was spent discussing preparations for the Florida State Fair booth. Elizabeth MacManus (949-4352) is Chairwoman of the preparations. The fair will run from Feb. 4th thru the 15th. The booth will be manned 12 hours per day between 10:00 AM and 10:00 PM. That is, three 4 hour shifts. The roster must be filled with volunteers and soon. Please contact Paul Rubenstein (at 920-6256) who is organizing the manpower to set up and run our booth. Set-up and tear-down crews will be needed on the 4th and 15th. If you cannot reach

Paul, try Irene at 872-9925. If you have any useful display material, contact Elizabeth or Paul. Last year's booth was so successful that we do not want to lose the momentum. But we do not want to have to do it with only a handful of overworked people like last year.

Betty Dickson generously volunteered to make papier mache replicas of our rare fruits. These will be used at the plant sale and at next year's Fair booth to show the public what we are all about. But Betty must be provided with samples of real fruit as models. Please contact her as soon as you have ripe specimens. That covers the whole growing year, of course.

Betty Dickson also volunteered to be Chairwoman of a committee to collect recipes. Instead of publishing recipes haphazardly here in the newsletter, Betty will compile the best for the possibility of being printed up separately for distribution. On occasion the most interesting will be printed here in the newsletter, but it would be best to employ this space for club news and educational articles.

At any rate, send your fruit and recipes to: Betty Dickson

Also, of possible
interest as a source
of seeds (catalog
available):

Exotica Seed Company
Suite 125
8033 Sunset Blvd.
West Hollywood, Ca 90046

2038 Iowa Ave. NE
St. Petersburg 33703
Telephone 522-5147

Program Chairman Ray Thorndike introduced our guest speaker, Dr. R. J. Knight, Jr., from the USDA Subtropical Horticulture Research Station at Chapman Field south of Miami. Dr. Knight is a Research Horticulturist specializing in fruit. He is also a past (1965) President of the RFCI in Miami.

January 1981 Program - Dr. Robert J. Knight, Jr.

Dr. Knight opened with a brief history of the USDA Station at Chapman Field in Miami. A plant introduction garden has been located in Miami since 1898. The USDA Station moved to Chapman Field in 1923. The research mission of the station includes introduction of subtropical fruits and ornamentals, postharvest storage and quality maintenance of fruits and vegetables, biology and control of tropical fruit flies, and treatments of commodities infested by fruit fly larvae. Tropical fruits, primarily mangos, avocados, and lychees, are being studied to improve flavor, cold hardiness, and disease resistance, as well as to extend the growing season.

Illustrating his talk with colored slides, Dr. Knight discussed the various fruits by family in alphabetical order:

Anacardiaceae - Mango

- | | | |
|----------------------------------|----------------------------|---------------------------------|
| Objectives of selection program: | 1- Dependable Productivity | (with disease resistance) |
| | 2- Longest Harvest Span | (early and late varieties) |
| | 3- Fruit Quality | (attractive and tasty) |
| | 4- Commercial Adaptability | (market range) |
| | 5- Dwarfness | (compact trees = more per acre) |

The Mulgoba was the first grafted mango of the Indian race to be introduced into the USA by the USDA. Most mangos are self-sterile and thus need to be cross-pollinated. Since "Turpentine" was the most common Florida mango at that time (1889), it is assumed Mulgoba was crossed with it producing Haden which first fruited in 1910. Although widely grown, Haden is not a dependable producer and is not disease resistant. Some introductions arrive in the USA with high recommendations, but end up as terrible disappointments in Florida. The conclusion is that many mangos are well adapted to their local ecology but when planted in other localities they do not perform the same. Florida mangos, which are mostly mixtures of either Phillipino or Vietnamese and Indian types seem to have a wider range of adaptability.

Most widely grown early bearing cultivar is Tommy Atkins.
Most widely grown late bearing cultivar is Keitt.

According to Dr. Knight, Tommy Atkins has more fiber than is desirable, tastes like a "big wet peach", is very sweet and firm, has extremely good disease resistance, and is very productive. Due to its excellent appearance after shipment to northern markets, it sells the best. Therefore Tommy Atkins is the preferred variety by the growers in Florida. No cultivar meets the five objectives stated above as yet. But the work does go on at Chapman Field. Dr. Knight showed many of the cultivars being tried and being used for breeding stock. It is a very slow process, needless to say. The worst disease problem is Anthracnose, which attacks many other fruit besides mango. Anthracnose is a fungus disease causing problems from flowering to fruit harvest. It makes black spots which may destroy the flowers and eventually makes large black areas on the fruit. Resistance can be bred into mangos. Keitt is very resistant to Anthracnose, but is plagued by another disease, powdery mildew. Dr. Knight showed how they cage a tree with netting to control pollination. Unwanted cross-pollination by insects must be prevented in order to have a controlled breeding program. Then he described how they laboriously performed hand pollination on one tree only to be rewarded with one fruit. That meant only one seed for trial. As mangos are customarily cross-pollinated, they cage one variety and put flowers of another in with it and add flies to do the work. Dr. Knight has tried bees, but rejected their further use because they panic when caged and tend to beat themselves to death on the netting. Bluebottle flies are the preferred agent. We were shown a slide of a dead bobcat that Dr. Knight found on the road. He took it to the station and left it in the woods to ripen a bit for a couple of days. Then they put the carcass in the cage, flies and all. Later a couple of dead raccoons serviced another cage. They were rewarded with a heavy fruit set in both cases. This idea has been exported to Israel, but the Israelies are now trying bees in the cage instead.

Bromeliaceae - Pineapple

Pineapples were an important Florida crop until World War I. The Florida industry was a war casualty when potash supplies from Germany were cut off. After WWI the growth of vast industries in Hawaii, Puerto Rico, and Cuba prevented the return of the Florida pineapple industry. But now a commercial firm in Clermont has 30,000 plants under glass with the idea of starting a new pineapple industry. The main reason is the current high cost of transportation. Thus a local industry could compete favorably. They will use overhead irrigation and due to the relatively high average water temperature, they can protect plants from cold this way.

The objectives of the USDA selection program are spinelessness, precocity, ruggedness and disease resistance. Pineapples are self-incompatible (i.e., self-sterile) and must be cross-pollinated. This is a simple process. Using a lead pencil or other blunt instrument, poke into the flower of one and transfer pollen to the flower of the other desired parent. Dr. Knight recommended this as a worthy and easily started project for any layman. A new cultivar meeting the above objectives and acclimated to Florida growing conditions would be welcomed.

Probably the best variety to begin with is the Smooth Cayenne, which is almost spineless, found commonly in the markets. If the top is in good condition, save and plant. Spinelessness is genetically dominant and the USDA Station has 61 spineless pineapple seedlings waiting to fruit.

Flacourtiaceae - Dovyalis

Dr. Knight showed various species of Dovyalis. The one of most interest being Dovyalis abyssinica x hebecarpa, a naturally occurring hybrid discovered on the grounds at Chapman Field. The fruits are small, but prolifically borne. They average one inch in diameter and have the fuzz and coloring of the apricot. The juice has been used commercially, but is extremely acid. It may be sweeter if touched by cold (however, the plant is not hardy) or if grown in improved soil.

Lauraceae - Avocado

We looked at damage done to Waldin and Pollock trees at Chapman Field in the January 20, 1977 freeze. 24[°] caused total defoliation and crop loss. These are West Indian types. Near them a Guatemalan variety, Taylor, survived. Dr. Knight mentioned another somewhat hardy Guatemalan variety, Suardia, brought from Cuba the same week that Castro took power. He warned us that Choquette, despite claims for its cold hardiness, will not take our Central Florida temperatures.

The varieties recommended by Dr. Knight for dooryard use this far north were all of Mexican parentage. They were Ettinger, Bacon and Brogden. Ettinger is from Israel, quite cold hardy but bears a small fruit. The Israelis do not consider it firm enough for shipping, but it is being shipped from California. Brogden is a first generation cross between a Mexican and a large fruit type.

Young #1 and Young #2 are pure Mexicans hardy enough to grow in Jacksonville. The fruit of Young #1 is very small (3" long) with thin skin, good flavor. The tree is very cold hardy, quite productive and early bearing, BUT, not disease resistant. Around Mexico City the natives call this one "Aguacate" and think it's the only one worth eating. The big green one we eat they call "pava". They think anyone who would eat "pavas" would steal hogs. Another typical Mexican variety, Brooksville (developed there), has a dark skinned (very thin skin) small fruit with good flavor but a large seed. F1 and F2 seedlings (first and second generation) of Brooksville showed promise in selecting for cold hardiness, but the fruit sizes are small and the seeds generally large.

Imported from Mexico in 1911 and popular in California, Fuerte is the most widely grown variety in the world. Its fruit has a dull gray green cast. It is not a disease resistant variety and thus poor for Florida. Teague (CRC 1411) is another California variety. Teague does not take the cold as well as Ettinger and Bacon and is poorer in quality. It is not recommended for dooryard use in this area.

Commercially 300 grams (454 grams = 1 pound) is considered the ideal weight for avocados by some. This is much smaller than for the usual Florida avocado. For example, Waldin is 520 grams. Brooksville is about 95 grams and Teague is the ideal at 300 grams.

Myrtaceae - Eugenias and Guavas (Psidium)

About 3 years ago Dr. Knight was sent to southern Brazil which has a climate similar to Central Florida, i.e., it has considerable cold. He collected a few Eugenias and guava relatives that exhibit cold tolerance like the jaboticaba and hopes to release them for distribution in the near future. He collected seeds of a Eugenia biflora in Mexico that has foliage similar to the podocarpus. Its fruit is similar to the grumichama, but not as good and has a large seed. He also brought guavas from Mexico that are different in coloration from the average Florida guava. They have a red blush. The fruit is firm, has few seeds, but is not large.

Oxalidaceae - Carambola

The Carambola is a very productive tree, but not too cold hardy. Before the 1977 freeze we were sending a lot of fruit to Sweden. Dr. Knight wondered if they could be reputed to have an aphrodisiac quality there. A visiting Israeli explained it for him. The Swedes have many fish restaurants and slices of Carambola are served on the platter with the fish. Unlike mangos and avocados it is very easy to perform hand pollination on Carambolas. So controlled crosses are easier to make. There is a program to develop fruit low in oxalic acid and high in quality. Dwarfness is also highly desirable.

There are two types of Carambola flowers: (1) long stamens and short pistils, (2) opposite. Some varieties are not very self-fertile and bear poorly in isolation. Golden Star does fruit well in isolation. It is a long pistil, short stamen type introduced by the U. of Fla. Crossing usually results in larger fruit than self-pollination, but generally more seeds. However the seeds are larger in self-pollination.

Dr. Knight went on to cover the work being done on Passifloraceae, Rutaceae, Sapindaceae and Solanaceae species. Unfortunately a malfunction of the tape recorder or operator thereof (namely me) eliminated this concluding portion of a very interesting program.

As promised in last month's newsletter, here are some articles on budding and grafting lifted from the Miami newsletter. First, from the December 1969 issue:

BUDDING AND GRAFTING

by Seymour Goldweber

Graft unions are made between cambium layers of the rootstock and budded wood or grafts. When grafting, the cut from both the scion and the rootstock should include part of the woody core. The cambium layers of both should be in contact in as much of the area as possible. The piece of wood used as a scion should have a bud.

The easiest plants to start budding or grafting with are hibiscus and loquat. Grafts may even be made upside down and still be successful on the loquat.

The best time to graft is when the buds or grafts are in good physical condition. Rootstock should be in even better shape, if possible. Do not use water sprouts or suckers.

Budwood or grafts should be large enough to be handled easily. It is not necessary to remove the leaves. Leaf removal will make the buds become more active, however. Leaves should be cut off, not peeled off, because of the danger of pulling off some of the bark. Preferably the scion should be used the same day, but buds will last for some time in a plastic bag unrefrigerated in a cool place away from the sun.

"Slipping bark": When the bark peels back easily from the wood it is in good condition for grafting or budding. Bark on a good tree will "slip" any time of the year. When bark does not peel well enough, the chip bud should be resorted to.

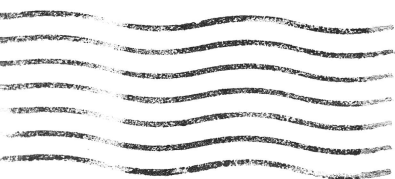
Overlap wrap as little as possible, including the bud. Rubber bands or plastic may be used. Clear plastic is preferred as the progress of the union may be observed. The wrap may be cut off in two or three weeks. Cut the rootstock back gradually or lop off completely, half way, or girdle or notch. (Ed. note: "lopping" is defined by grafters as cutting part way through the rootstock plant and bending back, well above the graft. This forces bud growth.)

In grafting a mango, a terminal bud is used with all leaves removed. The cut is started just below the terminal bud and curved slightly outward. In wrapping, only the extreme terminal bud is exposed.

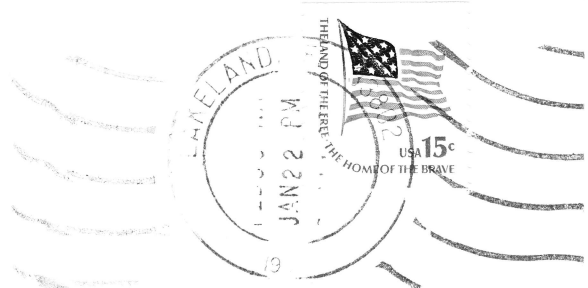
Additional tidbits gleaned from the Miami program of August 1980 given by Mary Ann Ogden:

It is preferable to graft mangos in June or July during most active growth. Select a terminal (knuckle) 2 or 3 inches long and remove the leaves. Make a longitudinal cut on one side by either cutting the budwood in half or by just skinning the bark and exposing the cambial layer. The Cambial layer (or cambium) is the actively dividing tissue occurring between the xylem, the water conducting tissue, and the phloem, which conducts food (sugars and protein) and inorganic substances. Put simply, the phloem is the bark and the xylem is the wood.

Next, turn the budwood over and make an oblique cut at the base. Then prepare the rootstock by removing a very thin layer of bark, leaving a flap at the bottom. The flap is where the oblique portion of the budwood will make contact. The longitudinal cuts are where the two will be placed together. After lining up the two parts and especially making certain that they touch, seal them together with grafting tape. Polyethylene seals water out, but permits oxygen. Polyvinyl blocks both.



Tampa Bay Chapter Newsletter
Rare Fruit Council International, Inc.
3114 Troy Avenue
Lakeland, Florida 33803



P. Judson Newcombe
314 Deer Park
Temple Terrace, Fl 33617

402 Forest Park
Tampa, FL. 33617