As the third year of the Taro Tattler comes to a close, we wish you and yours a safe and joy-filled holiday season. We hope that you can make Hawaii grown taros (and other QUALITY Hawaii grown products) a part of your celebrations and the celebrations of others.

We will be winding up this newsletter in the next few issues, but we assure you that research projects will still be progressing, and valuable information on taro will still be available from the College of Tropical Agriculture and Human Resources, the State Department of Agriculture and other State agencies, just like before our newsletter began.

THE YEAR IN REVIEW

Preliminary indications from the Hawaii Agricultural Statistics Service are that 1991 was, in general, a very good year for poi taro producers and millers; Chinese taro farmers, shippers and chippers, and lu'au leaf growers. We hope that this prosperity will last for years to come, but we caution you that there is still much hard work to be done and that there are always more ways to improve your product, your marketing and your service—please do not rest on your past accomplishments or knowledge as the market is a moving target.

In this issue of the Tattler we again bring you some valuable hints through the eyes and efforts of our imaginary farmers (Max and Leilani) and companies (NoKaOi and Diamond Head Taro Chips). We have offered these hints in the last few issues as a way to perhaps give you another perspective on your product and this industry. We are gratified by the fact that some of you have taken those ideas and run with them. We also bring you more information on how to be a better business person, how to plan for your future, and how to increase your taro propagation rates and reduce disease at the same time.

TARO PRODUCTION COURSE

Project Waipa and the Kauai Community School for Adults are sponsoring a 6 week intensive taro production course. Students will learn about land preparation, planting, fertilization, cultivation, weeding, harvesting, and post harvest management, among other topics, in both classroom and field settings. The course, to be held in Hanalei Valley, is tentatively scheduled to begin in early January 1992 and will run for 4 one-hour sessions over 6 consecutive Saturdays. There will be a charge for this class and it will be hard work, but class organizer, LaFrance Kapaka (the lady who invented tough but fair love for taro farmers) says that it will be worth it. Growers and potential growers from all parts of the State are invited to attend and there are some sleeping accommodations available. The class will be taught by Dr. Ramon de la Peña, a CTAHR taro specialist. Call Project Waipa on Kauai at 826-6192 for more information.

NaKaOi Foods and Diamond Head Taro Chips join forces to produce their first [make believe] Hawaiian Christmas Pack. See page 5 for story. And of course, all the products have the new FDA nutritional information right on the back!
REMEMBERING THOSE THAT HAVE GIVEN A LOT TO TARO

With the passing of long time taro enthusiast 'Uncle' Harry Mitchell of Maui a while back, taro supporters lost another of the fine people who have helped to nurture interest in this plant and the taro industry. One of Mr. Mitchell's many accomplishments was to organize the Kanakai Lo'i on the UH's Manoa Campus. Thank you Mr. Mitchell. We'd like to take a moment now to say thank you to some of the many other people who have also given a good number of years of their lives in the interest of taro. By no means is this list complete so we encourage you to send us a post card with the names and accomplishments of others.

- Ms. Beatrice Krauss of the Lyon Arboretum, who has helped educate many on the botany and history of taro.
- The Reppun family and the people of Hui Ulu Mea Ai of Oahu, who have worked hard for taro water rights and have put together their community-based processing facility with more will and determination than money.
- Dr. Don Anderson, formally of the Lyon Arboretum, a man whose name is always spoken by taro enthusiasts. Don taught many young people about taro.
- Dr. Ramon de la Peña of UH's College of Tropical Agriculture and Human Resources, Ramon knows taro and he has made sure others know about it too.
- Ms. Maili Yardley of the Honolulu Advertiser's Food Section, who has introduced many newcomers to the taste of taro and taro products over the years.
- Funding agencies such as our congressional delegation, our state, county, and city governments and institutions, especially the State's GACC.
- Our research and extension institutions, the University of Hawaii, CTAHR, the Department of Agriculture, and the Department of Health, among others.

And all the countless other taro farmers, millers, chippers, shippers, restaurants, news media people, community leaders, volunteers, and consumers, who have supported good food and healthy eating, research, and taro business in Hawaii over the years. A Big Mahalo to all!

SOURCES AND RESOURCES

A while back we talked about Max (our imaginary taro farmer) and her unique taro-house plant idea and how she was selling them like crazy at craft fairs. Here's how she found out where to sell her products:
- She read the front of the Yellow Pages and the Talking Phone Book which have a sports calendar and cultural calendar for events planned throughout the year in Hawaii.
- She called her local extension office for information.
- She contacted J.E. Tamura & Co., who puts out a monthly periodical called the Island Craft Bulletin. It's $12 for 12 issues (a year's subscription) and covers all aspects of craft fairs in the State. Call 622-7088 on Oahu for more information.

As it turns out, "Sticky," of NoKaOi Poi fame, will be selling his poi and kulolo; Leilani will be selling her lu'au leaf; Max will be selling her taro planters; and James Ono, of Diamond Head Taro Chips (a new company we've invented—see below), will be selling his products. They will all be joining together to share the cost of a single booth, which they call Taro Central, at all the fairs.

Taro Variety Information

Max has been potting the same taro varieties that she uses in her taro beds for those planters we've talked about, but there are many other varieties of taro here in the Islands—you just have to know what they are and who to talk to, to get them. Some of the best ideas Max found for next years line came from the 1939 Taro Varieties in Hawaii by Whitney, Bowers, and Takahashi (Hawaii Agricultural Experiment Station of the University of Hawaii, Bulletin No. 84). The publication is now out of print, but she found a copy in her local library. With all the information she's learned from this book, she's added stories to the tags which hang around the planters, about the origin of the names and histories of these special taros. Her customers are thrilled! Out at the UH Kauai Branch Station, Kapaa, Kauai, 822-4984, you may be able to find out more about these varieties.

DEMAND R.E.S.P.E.C.T. FOR YOUR TARO PRODUCTS

If your taro product always seems to be placed on the bottom shelf of a display rack or is set in an inappropriate place (such as not being placed on a cold counter or raw items being so over watered that they've learned the backstroke) you and your distributor should find out why this is happening and take action immediately! You may find out that store personnel do not know how to handle or display your product properly—this is your problem, not the stores. Here are some suggestions to remedy the situation:

1) Type or print out neatly on paper the best way to display your product. Phrase the wording in such a manner as to show that this method will perhaps help the store make more money. Get an appointment with the manager or the people in charge of your product display and discuss it one-on-one. Ask them to post your direction sheet in an obvious place.

2) Provide the store with a display basket or box—you can probably have them made; kulolo, for instance, displayed in Samoan style pandanus baskets or wicker would be awesome, or get display boxes from an office, kitchen or restaurant supply store.

3) The most important factor in all of this, however, is attitude. As with taro farmers, if they don't keep providing you with a good looking product, you will not continue to buy from them. The same is true of the relationship between processor and consumer; if you do not have enough respect for your product and have that respect demonstrated in your product packaging and store display, then you can not expect to hold on to your market very long. R.E.S.P.E.C.T. is a two way street.
New farms and new quality plantings are difficult to establish when planting materials are not readily available, or the material that is available is diseased. Aside from purchasing corms or hulis, there are several ways to propagate taro from your own stock: 1) buds, 2) tissue culture, and 3) hulis, keikies, and corms. Propagation from buds is slow. Tissue culture on the other hand is extremely efficient, producing large numbers of virtually disease-free planting material in a short time, yet it is expensive and beyond the cost and abilities of most farmers. However, if you want to try, call us at the University. Farmers are doing taro tissue culture in South America with great success. Replication from corm stock and suckers, however, is a way that new planting material can be produced quickly and inexpensively. It's no surprise then, that this is the method of taro replication here in Hawaii. Here are some hints that should help you with your replication work, and remember you are never too old or experienced to learn new techniques!

**Hulis and Keikies**—A large taro plant may yield a number of hulis and keikies. Hulis, prepared by cutting about 1/2 inch of the mother corm (or large keikies) and about 12-16 inches of stem, can be replanted into a fallowed field after proper cleaning, disinfection (see how below) and drying or curing. Smaller keikies can be put in a nursery tray or field nursery to be used as future planting material. As with corms, only healthy hulis and keikies which are apparently disease-free, should be selected. Remember, cutting the tops off your mother corm may make them less salable—check with your buyer!

**Corms**—Whole corms can be divided into 2 to 16 pieces, and each piece planted in a nursery tray or field. The number of pieces will depend on the size of the corm. As a rule, the cut pieces should not be smaller than 1 inch x 1 inch x 1 inch. The chance of the plant's survival is greatly reduced as the pieces become smaller. Each piece must have an eye (like a potato) from which the new plant can grow.

Cuttings should be planted with the eye facing up and the cut portion facing down, and buried in the growing medium for best sprouting results. If the corm is cut into only 2 pieces, cut it in half the long way and plant each piece with the cut portion facing down.

Inspect all cuttings for signs of disease before planting. If nursery trays are used, vermiculite or perlite are good sterilized growing mediums. If you use a nursery bed, make sure it is as disease free as possible; like your production fields, nursery areas need to be fallowed too. Nursery trays should have good drainage and be watered once a day. Keeping them in partial shade for the first few days also helps the cuttings get started on the right track.

Disease Prevention During Propagation

1) The quality of your next harvest (and your future financial return)

starts with screening out bad materials at the time of your current harvest. If you typically cut your hulis in the field always make sure hulis are cut only from healthy, disease free corms and use a sharp, clean knife to prepare the huli. Do not cut hulis from corms which show signs of Dasheen Mosaic Virus, Pythium rot or Phytophthora leaf blight. Carry over of such diseases to planting material can cause major crop loss.

2) Once the hulis are brought to the sorting and storing shed or area, continue your disease prevention program. Wash all potential planting material (including all corms, hulis and especially corms to be cut up for propagation) in clean potable water, not in your taro patch or irrigation ditch water.

3) Soak all hulis and cuttings in a 10% bleach solution for about 30 seconds to limit or prevent disease. Make sure all surfaces are washed in this solution. Just over 1/2 cup of bleach per 1 gallon of potable water are used to make a 10% solution. Change solution as often as needed.

4) To further minimize or prevent disease, especially rots, store cuttings and hulis two to three days before planting to allow wounds to dry and heal. If any hulis or cuttings are diseased, it should show up within that time. Store all planting materials in a dry, well ventilated, elevated (ants can spread diseases), cool or partly shaded place. Make
sured the huli stacks are not too high or dense, so that all plants have adequate ventilation.

5) Before planting, inspect the cut portion of each huli or keiki for any fungal growth. If the huli or keiki is diseased you will notice cotton-like patches on the material. Discard bad material far away from your fields and storage areas and NEVER, NEVER plant diseased materials. If you think you can fool Mother Nature, think again...why do you think the health of some of your patches have declined over the years?? Also, never store hulis or cuttings in water, especially in dirty ditch water. Warm, stagnant water enhances the growth of fungi and bacteria which cause planting materials to rot and your financial returns to stink!

BEING MORE THAN JUST A TARO FARMER OR PROCESSOR

NoKaOi (our fictitious food company) is a small business in comparison to a lot of guys, but the community where the processing factory is located is small so the company can have a big effect on the "health and wealth" of the town. The factory depends on local farmers to keep the quality of their taro up as much as they depend on him to buy their produce. "Sticky" Jones, owner of NoKaOi, helps out in the community, especially when it comes to programs for kids. He sponsors a local softball team called the "NoKaOi Team"! They're pretty hot stuff! Won 8 out of 10 games last season. Leilani's daughter, Rachael Kaiulani plays shortstop on the team.

"Sticky" encourages the children of his taro farmers to join. It gives him a chance to get to know growers on a more personal basis. He gives some money for team uniforms and equipment and provides lots of team spirit. He sees the results of encouraging team spirit and pride. He talks to the team about how important it is to do the best they can, especially when it comes to helping out at home. Most of the team member's parents work hard to produce taro for NoKaOi and "Sticky" likes to return the favor through the softball team and other community programs for the elderly and for local schools. Leilani sees Rachael carrying over her sporting achievements to her home and the family's business life. Here's an example.

Leilani can't always be in the house to answer the phone, but she doesn't want to miss important phone calls for the family business. She's done two things. First she bought an answering machine and recorded the following message: "Aloha, you have reached Leilani's Taro Farm. No one is able to come to the phone right now, but your call is very important to us. If you would like to leave a message, please leave your name, phone number, and the time you called after the beep and we'll get back to you as soon as possible. Mahalo for your business."

The second step Leilani has taken is to work with Rachael to set up a system for answering the phone so that if Leilani is busy in the taro field, Rachael can take a clear message. They both answer the phone with "Leilani's Taro Leaf Farm, may I help you?" (If they need to call for one another, they make sure the receiver is covered before they call out). Now they both felt a little uncomfortable at first when friends would call and ask why they answered that way, but they quickly realized it made a good impression on their buyers. Next, Leilani drew up a list of standard questions she needed Rachael to ask the caller in case she was not in the house. They put the list on the wall above the phone so that Rachael could look at it in case she forgot a thing or two. On the counter was a pencil attached by a string to a note pad. The list said: 1) Always use ma'am and sir when speaking on the phone. 2) Be sure to ask whose calling and how to spell their name "May I ask who's calling?" (unless its someone like Auntie Pua, you sure better know how to spell her name already!) 3) Ask the caller's phone number. Repeat the number back to the caller to double check that it's right. 4) Ask if there is any message and write it down. If they talk too fast, ask them politely to slow down so you are sure to get the message right. They'll understand. 5) Let the caller know her mom (but say "Leilani" instead of "my mom" because it's more professional) is "busy" (Rachael already knows not to tell strangers that her mom might not be in the house-she learned that at school) and will return the call as soon as she's free. 6) End the call with "Thank you for calling." It took a little practice to get this system going, but since Leilani and Rachael set up the system they improved their business and have been getting many repeat orders. Leilani is proud of her daughter and never misses a softball game (or a phone call).

IT'S NOT TO LATE TO SAVE

Rachael is now 8 and Leilani is beginning to plan for the future. As a single parent, it's been difficult to save much money, but she realizes now that she must make a plan and stick with it. She met with Associate Specialist Dr. Linda Cox at the University of Hawaii's Department of Agricultural and Resource Economics to work out a plan. Here's what Linda had to say...
Leilani's Future Birthdays

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of Investment ($)</th>
<th>Retirement Income: $30,978 for 15 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>50,000</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>100,000</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>150,000</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>200,000</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>250,000</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>300,000</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>350,000</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>400,000</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>450,000</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>500,000</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>550,000</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>600,000</td>
<td>0</td>
</tr>
</tbody>
</table>

In September, NoKaOi and Diamond Head Taro Chips (another new company we've invented) met with a local Hawaii-only product consolidator about an idea they had for a Christmas special delivery package (like a Hickory Farms food pack). Their target market was all those Hawaii families on the Mainland who are hungry for a taste of home. They've put together a nice (and somewhat perishable) gift package which includes a large bag of Diamond Head Taro Chips, a package of NoKaOi's special Macadamia "Candy of Kings" kulolo and a bag of Eleele poi (one of the royal "black" taros which produces a rich purple colored poi). [For really distant markets, they've substituted freeze dried Eleele poi powder with mixing instructions.]

The plastic poi bag is wrapped in a small replica of an old time muslin cloth poi bag. The bowl or calabash holding all these goodies was locally woven from palm fronds or pandanus leaves. A commercial artist was hired to design both the muslin poi bags and a Christmas card to be included with the gift. A second card was designed to be sent to the paying customer, thanking them for choosing this Hawaii pack to convey the holiday spirit. Their overriding philosophy, however, was if they could not supply a quality product in a quality package they were not going to embarrass themselves.

To make this package work the men had to work hard on their timing. How early in the year would they need to know about orders? NoKaOi, Max and Leilani met to talk about expanding planting of Eleele (for this year they relied on Leilani's current supply). How many months would other farmers need to grow the taro so it would be just perfect for the holidays? How much advance time did the bowl weavers need to build up a supply? Many issues need to be worked out.

For this year, since NoKaOi and Diamond Head Taro Chips didn't really have the lead time to develop more than a limited supply of products, they had to rely on an unplanned supply of taro and bowls. They aimed for local and California markets (and a few friends and relatives across the sea) and basically used this year to test the water and gather and incorporate feedback. But for next year they will be ready for a big increase in orders!

**EVENTS OUTSIDE HAWAII CAN AFFECT YOU**

Pesticide poisoning, poor harvest, crop loss from flooding, drought, or insects can have a major impact on local and world supplies of agricultural produce. Consumers lose their trust in products from a company or country when there is a pesticide scare. Soil erosion from floods or droughts takes years to recover. How many of you remember sugar, coffee and peanut shortages? Or the Alar scare last year? What does that mean for Hawaii farmers? It may not mean much in the larger scheme of things, but, on a small scale it can bring some benefits, most especially for short term crops.

Take for example the problem California is having right now. If you caught the article "Superbug does a bad number on California's Crops" in the November 8th issue of the Star Bulletin, you'd see that even if the State can eradicate the whitefly this year that it will take more than a year to recover. Neighboring Arizona,
and Northern Mexico are also being attacked by the “superbug”. Melons, broccoli, cauliflower, carrots, cabbage and lettuce have so far been effected. Markets will feel the impact all over the world and not just this year but next as well.

Other states will have to take great care that the whitefly does not hitch a ride with fruits and vegetables being imported, that includes Hawaii. Prices will go up for those commodities and that can mean good news for local farmers producing such crops.

It seems like everyone is putting out crop fact sheets, teaching guides, and farm management literature these days. One of the best sources we have found was the University of California Cooperative Agricultural Service. Recently we ordered these fine publications for our library: UC IPM Pest Management Guidelines ($80); Agricultural Marketing Guide ($3); Statistics and [Agricultural] Resources ($2); Children’s Gardens; A Field Guide for Teachers, Parents and Volunteers ($10), Specialty and Minor Crops Handbook-36 specialty crops ($30), among others.

Another good source of information on agriculture and good Earth practices has been Rodale Press. Here are a few titles that may pique your interest: The Encyclopedia of Natural Insect and Disease Control ($24.95); How to Grow Vegetables Organically ($21.95), Rodale’s Garden, Insect, Disease and Weed Identification Guide ($21.95). These books and many others like them are available from Rodale Press, Emmaus, PA 18098.

Looking for a definitive guide to composting all of your culls and trimmings? Let it Rot! by Stu Campbell, 1990, may be just the ticket. This informative paperback can be found in local bookstores for around $6.95.

Bugs, Slugs, and Other Thugs: Controlling Garden Pests Organically, by Rhonda Massingham Hart is another book that may help you with plant pest management—hey, so you have a field not a garden, it may just be a matter of scaling up! This 214 page book sells for $9.95 and is published by Story Communications.

** Mele Kalikimaka **

### BUSINESS OPPORTUNITIES

- ** Around February 3-4, 1992 – Chinese New Year, Hawaii and LA. **
- ** April 10, 1992 – Natural Products Expo West, world’s largest natural/organic product trade show, Anaheim, CA (contact Jamie Tanous, New Hope Communications, 1301 Spruce St., Boulder, CO 80302, (303) 939-8440). **