CAFNRM/Agriculture Club Newsletter

Inside this issue:

Deans Column 2
UH Hilo Earth Day @ Pana’ewa Farm 3
CAFNRM Taste of Honey 4
Compost, Vermicompost, and Compost Tea Workshop 5
Faculty Highlights, Columns, and Recognitions 6
Facebook Has Ag Club! 7
2011-2012 Ag Club Officers Job Opportunity
More Service Day Photos 8

CAFNRM Spring 2011 Senior Awards Night
Friday, May 13, 6:30PM @ Pana’ewa Farm Pavilion

Everyone is invited to a dinner reception to recognize our graduating seniors and their families! Service and Academic awards will be given, along with gifts for all graduating seniors.

Food and Entertainment will be provided.

If you are a graduating senior, we expect you and your family members to be there.

For head count, please get your free tickets at the CAFNRM office.

Hope to see you all there!

Service Day: Students, faculty mālama campus
Reported by Kim Kido

Many students and faculty volunteered at the CAFNRM Service Day on April 29, 2011, organized by the CAFNRM Agriculture Club, to transform under-utilized spaces around the College's buildings into beautiful and productive landscapes.

Five citrus and one Surinam Cherry tree were planted along the sidewalk that runs behind the CAFNRM buildings. With the help of many students and some CAFNRM faculty, the wild shrubbery covering the adjacent hillside was cleared and planted with impatiens and orchids. One area was terraced using logs and rocks, and planted with anthuriums. CAFNRM seniors Cory Mullen and Ron Bento planted four avocado trees behind the Hale ‘Ikena dorms and an ‘ulu (breadfruit) tree near the Square Foot Gardens, an ongoing project of another CAFNRM senior, Sam Robinson. A picnic bench was moved in under the existing avocado tree, and then surrounded with cinders.

To keep everyone going, plenty of food and drink was provided by Sodexo and Ag Club, funded by the UHHSA.

CAFNRM student Service Day volunteers Jesse Potter and Nicholas Schaffer enjoying pau hana
Civilization, as we know it, has a problem. And only a handful of people seem to be concerned about it. Not the politicians, not the administrators, not even many of the scientists. Not the public at large unless you happen to live where the impact is already pronounced. The problem is this: hunger has increased in the world by 100 million in the last 5 years. And only a few international agencies and people in the know are trying to do something about it this catastrophic rise. So...we have a problem. The Food and Agricultural Organization (FAO) of the United Nations estimates that in 2011 we had 925 million people undernourished; about 1 in 7 people in the world. In 2006 we had 820 million undernourished, up 23 million from 1996. Southern Asia (578 million) and sub-Saharan Africa (239 million) are the worst off. A recent (2010) World Bank report on land acquisitions entitled “Rising Global Interest in Farm Land” (see farmlandgrab.org) documents that since October 2008, 46.6 million ha of land was being swept by foreign interests in sub-Saharan Africa, SE Asia and other places to grow food or energy for export. Countries like China and Saudi Arabia are behind it. Agreements between countries ignore resident concerns about displacement and do not take resident hunger into consideration. The concerns include loss of land, local food production systems, wood and water that contribute local survival.

And now comes other factors driving up food costs. In the US, food prices have increased between 10.8% and 45.5% in March alone (see Table). These costs are 2-5% higher in Hawaii due to shipping costs.

Factors driving the “Perfect Storm” of rising hunger are manifold. The cost of grain is >30% higher since 2008 because of the use of corn in making ethanol and soybeans in making biodiesel. Water is becoming a scarce commodity in many parts of the world declining even in the Ogalala Aquifer that feeds the U.S. Great Plains. Fertilizer is more expensive since it depends on natural resources, such as oil, which are becoming depleted. Petroleum is now over $114/barrel driving the cost of agricultural production still higher. Global climate warming is shifting the top growing agricultural zones farther North into less fertile soil and will eventually lead to failure of the breadbaskets of Russia, India, China and the US. It will also result in the drying of the growing areas of Hawaii below 4000 feet and cause less rain to fall. The worldwide failure of the economy has blocked development in the third world leading to slipping support for sustaining food shipments for those countries. Regional ideological differences resulting in armed conflict are affecting food production and distribution. The fisheries and natural resources of the world have declined to the point that failure of agriculture will not allow us to return to subsistence living in many parts of the world. Erosion continues to be a problem with respect to loss of topsoil. Against this scenario, the world’s population will double in 40 years. A perfect storm is brewing for the failure to nourish human populations.

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<table>
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<th>Item</th>
<th>March 1st Price</th>
<th>April 1st Price</th>
<th>%Change</th>
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<tr>
<td>Sugar 55 lb</td>
<td>$33</td>
<td>$37</td>
<td>10.8</td>
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<tr>
<td>Flour 50 lb</td>
<td>$11</td>
<td>$16</td>
<td>45.5</td>
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<tr>
<td>Butter 30 lb</td>
<td>$74</td>
<td>$91</td>
<td>18.6</td>
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<tr>
<td>Margarine 30 lb</td>
<td>$17</td>
<td>$24</td>
<td>29.2</td>
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<tr>
<td>Catfish 15 lb</td>
<td>$54</td>
<td>$89</td>
<td>39.3</td>
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<tr>
<td>Cheese 42 lb</td>
<td>$2.55/lb</td>
<td>$2.91/lb</td>
<td>12.4</td>
</tr>
</tbody>
</table>

Outside the USA, prices have increased on average of 30% through March.

But CAFNRM is committed to helping our students be successful farmers so they can help in creating food security. Watch for an announcement for a meeting that will tell you how we are creating a public-private partnership that will enable students to get their own land and to help fund their own startup.
UH Hilo Earth Day takes community to CAFNRM Farm
Reported by Aley sia Kaha

Earth Day 2011: The Student Activities Council (SAC) and the College of Agriculture Forestry and Natural Resource Management (CAFNRM) put together an impressive festival, bringing families, farmers, students, and children together to celebrate and learn more about our papa (earth mother). There were many different activities for both children and adults, ranging from jumping castles, cute animal hats, information booths about sustainability, music, ono grinds, and a grand tour of the UHH farm. On the farm, UHH students were able to talk to families about their class projects and introduce to the community a world of gardening, sustainability and even aquaculture.

The tour first starts with an introduction to our Dean of CAFNRM, Dr. Bill Steiner, who welcomed every family that came with big aloha and introduced the tour with an overview of the 9 stations that would be visited. As tour-guides continued on they stopped at the sustainable gardens—Bee Keeping Area, where Professor Lorna Tsutsumi displayed a brilliant landscape where, unbelievably, she raises honeybees and spoke about their importance to the natural environment.

Station 3, Dr. Marcel Tsang got to show off his newly built greenhouse fully equipped with energy efficient systems that created a cooling environment where fans and sprinklers keep the green house constantly moist. It was a nice stop to escape from the clear sky and sunny day. Station 4, Dr. Bill Sakai had his Hort 263 students give a briefing about their class project growing 3 varieties of cucumbers hydroponically as well as carrots from the cucumber water waste. Station 5, Dr. Erik Cleveland spoke about the animal component of the UHH farm—the living laboratory of our students animal science courses. Station 6, Professor Elizabeth Stacey and her researchers monitor ‘ōhi’a growth as affected by several environmental factors.

Station 7, the Pacific Aquaculture & Coastal Resources Center (PAC-RAC), took groups around the facility at the back of the farm and showed people about the various fish species they are studying. Also, in station 9 students of the Hort 263 hydroponics class spoke to the groups about their aquaponic systems growing varieties of vegetation and using tilapia waste.

Lastly, in Station 8 and 9, the groups were guided through gardens made by the students in the Hort 262 class and HCC Ag students of Chris Jacobsen. People were able to see gardens in action, the types of vegetation, and the students design and were inspired to make their own home gardens. The tour guides, successfully put on by the Ag Club Advisor Dr. Arancon, were essential to Earth Day, it not only brought people together to celebrate earth day but it made students the teachers. Students were able to give back to the community the knowledge that they are learning here at the CAFNRM and I could see that it inspired the community to become more involved with becoming sustainable.

Earth Day was a blow out and if you weren’t there than you didn’t get a t-shirt tan, get to steal fatty cucumbers, and ya didn’t get to be the teachers for once! GASP… next time earth day comes around be there or be… sad… very very sad.
Taste of Honey Serves It Up to All  
Reported by Marie Faatuala

Under the CAFNRM, the Entomology 350: Advanced Bee Keeping class hosted “A Taste of Honey” for the public on the 21st of April, which people swarmed in like bees to have a taste of honey. “A Taste of Honey” was held at the breezeway of the CAFRN and it started at 12:00pm to 2:00pm. The young and the old ooh-ed and ahh-ed when they tasted the honey, giving priceless expressions and good comments that gave the Entomology class 350 something to buzz about.

This Ag fair was an exhibition to show off what the Advanced Bee Keeping hands-on experience project that the students have learned throughout this Spring semester. In addition to the taste of honey, there were exhibited projects on Aquaculture, Horticulture, Apiiculture, a Mead Making by Richard Short and the Pre-Vet club were present.

This was the first year that there was a showing off the honey making and the different products by the students, such products were Healing Balm for insect bites and heat rash as well as a Lip Balm, a pressed wax accessories, and a Bath Bomb for a relaxing bath. Who would’ve guessed that honey can relax people in a bath. The bees that the students work with are kept in fourteen hives located at the University’s Ag farm located in Pana‘ewa. The bees are mostly fed on wildflowers and the quality of the honey changes by season to season. Out of the honey tasting the people were buzzing with the best presentation of all; the food. One of the students was making honey candy and by the looks of it, it requires time and patience. The honey candy was deliciously sweet. There was a sample of goat and pua’a (pig) baked in an imu was served, a honey lemonade drink, salad of cucumbers and lettuce with a honeyed dressing, the vegetables provided by the 2011 Hydroponics 263 class, a pulled pork sandwiches with a homemade honey bbq sauce and hotdogs with a choice of homemade honey mustard or honey chili. The grill was fueled by local waiwai charcoal made by a CAFNRM student, which a sample of sturgeon was grilled on and served to the public.

If you like share knowledge as these students did, you would have to take Entomology 262: a General Beekeeping class and advanced on to Entomology 350: Advanced Bee Keeping. It is a best way to learn your way around bees and raise bees of your own or in other words make your own honey.
UH-Hilo’s College of Agriculture, Forestry and Natural Resource Management and collaboration with UHM College of Tropica l Agriculture and Human Resources and USDA WSARE R&E Program sponsored a one-day workshop on the latest research and innovative uses of compost, vermicom post and compost water extracts (teas) last Friday May 6, 2011 at the UH-Hilo Farm in Pana’ewa.

Dr. William Steiner, Dean of CAFNRM, opened the workshop with a welcome address followed by presentations by Dr. Norman Arancon (Sustainable Agriculture Program, CAFNRM), Dr. Ted Radovich (Sustainable Farming Systems Laboratory, UH-CTAHR), and Michael Alms (Founder and President of Growing Solutions Inc.) A Field trip to Island Harvest Organics, Pa hoa. Compost and compost tea demonstration in commercial vegetable operation followed shortly after lunch.

A presentation of the latest research on the properties of compost teas and their utilization was presented by Archana Pant, a Ph.D. student at UH-Manoa and currently being advised by Dr. Radovich and Dr. Arancon. A scientific poster authored by Jesse Potter and Dr. Norman Arancon entitled “Vermicompost Water Extracts as Seed Germination Stimulant” was presented with displays of vermiculture prototypes that are currently housed in CAFNRM. Other educational displays such as brochures, article reprints and posters were mounted by CTAHR staff. One the main attraction of the displays was a vortex compost tea brewer constructed by Bobby Grimes.

The workshop gathered 100 participants from all over Big Island. “I learned some new things and met some great people,” said attendee Thomas King. Attendee Brian Dubois said, "I’m so inspired to start composting and raising (earth) worms and brewing teas at a commercial level"
Faculty Highlight: Armando Garcia-Ortega  
Reported by Aleysia Kaha

Armando Garcia-Ortega, a biologist and assistant professor of Fisheries & Aquaculture at the University of Hawaii-Hilo graduated from the National Autonomous University of Mexico with a Master of Science in Aquaculture from the University of Ghent, Belgium, and Ph.D. from Wageningen University & Research Centre, the Netherlands. Currently, his research interests include marine fish culture and the feeding and nutrition of fish, in particular the use of plant-derived ingredients in feeds for the culture of carnivorous marine fish.

From 2000 to 2011 Garcia-Ortega was Senior Researcher and Head of the Laboratory of Aquatic Nutrition and Larviculture of CIAD Mazatlan, Mexico. He has authored and co-authored 40 scientific publications in the fields of aquaculture, fish nutrition and marine fish culture. He has taught 24 undergraduate and graduate courses at universities and higher education centers in Mexico, The Netherlands, Canada and the USA. According to Dr. Garcia, “living in many places is enriching, you get to know many different perspectives” allowing him to grow and evolve, shaping into the person he is today. He’s supervised, and co-supervised 30 theses from B.Sc., M.Sc. and Ph.D students.

During 2003-2010 he taught 50 training courses in fish farming in Mexico with more than 2284 participants in total. All of his work is because of his students and Ortega-Garcia believes that without them he would not be the teacher that he is today. “I’m not here to make money for myself, I’m here to teach students, people and to try to get something from my knowledge in favor for the community.” In 2010, two institutional awards for the highest productivity in teaching and outreach were given in his honor. Since 1998, Ortega-Garcia regularly presents the results of his research at national and international conferences. He has directed or collaborated in scientific research projects with universities, centers and companies in Mexico, Belgium, Germany, Australia and Spain. He has significantly contributed to the development of technologies for the culture of three new species of marine fish for aquaculture in the Pacific. He has recently joining the Aquaculture Collaborative Research Support Program (CRSP) from the United States Agency for International Development as participant investigator. At the Pacific Aquaculture & Coastal Resources Center (PAC-RAC), he has found great interest in the local species of Opakapaka (pink snapper) and the ahi (big eye tuna) and will continue to carry out research on aquaculture of the local species with Hawaii’s local and native plants as feed. Professor Garcia is teaching Aqua 425, 352, 466, and AGEN 400. He hopes that the students will like what he teaches, “Because I was also a student I know what it’s like... I wish I knew then what I know now,” he wants his students to think out of the box and become more involved with their projects. “Don’t believe everything a teacher tells you,” be a skeptic and try to be your own teacher.

Faculty Column: Michael Shintaku

I still enjoy teaching the plant pathology, applied microbiology and genetics courses in CAFNRM, as well as the molecular methods course in Tropical Conservation Biology and Environmental Sciences (TCBES).

In addition to teaching, my research program is moving forward thanks to Sharon Motomura, Kiersten Aka- hoshi, Ashley Brown and Matthew Sueda, who are currently working in my lab. Sharon is earning the Master of Science degree in the TCBES program, conducting research on the pathogen that causes bacterial wilt in ginger. She is looking for soil treatments that may reduce pathogen populations in field soil. Kiersten is working on developing lettuce with resistance to tomato spotted wilt virus, and orchids with resistance to cymbidium mosaic virus. She is also diagnosing local growers’ plants for the presence of viruses. Ashley Brown is identifying DNA markers to aid in the identification of the Hawaiian taro varieties and taro hybrids, and is screening taro varieties for resistance to taro leaf blight. Matthew is a Waiakea High School student who conducted his science fair project in my lab. He isolated the taro leaf blight pathogen in pure culture for us, and initiated our evaluation system for leaf blight resistance.

Sharon, Kiersten and Ashley will each be presenting their work at two large national meetings this summer: the American Phytopathological Society national meeting and the American Society for Horticultural Science national meeting. Ashley is in fact an invited guest speaker at the ASHS meeting.

Bruce Mathews: New Faculty Congress Chair

Friday May 6, Bruce Mathews of CAFNRM became UH Hilo Faculty Congress Chairman by acclamation. Bruce Mathews and Norman Arancon are CAFNRM members of the Faculty Congress for 2011-2012.

“The University of Hawaii at Hilo Faculty Congress is the policy making body of UH Hilo for all academic matters of concern to more than one unit. On UH system-wide issues, the Congress conveys the views of the UH Hilo faculty to the UH President through the UH Hilo Chancellor.” - UH Hilo Website

“As stated previously by the Board, the faculty has primary responsibility for such fundamental academic areas as curriculum content, subject matter, and methods of instruction and research.” - Section 1-10 Regents Policy on Faculty Involvement in Academic Decision Making and Academic Policy Development

Congratulations Bruce!
The Facebook has Ag Club!
AgriCULTURE Club Facebook Page
• Many more photos from Ag Club Service Day, Taste of Honey, Earth Day, and other CAFNRM/Ag Club events and classes.
• Updates on Ag Club activities
• Check it out @ http://www.facebook.com/uhhiloagriclub

2011-2012 AgriCULTURE Club Officers
• President: Kaipo Dye
• Vice President: Brittany Rocha
• Treasurer: Chayanne Keliho‘omalu
• Secretary: Marie Faatuala
• Advisor: Dr. Norman Arancon

Congratulations!

Looking for a job? Check out this opportunity!
Provided by Amy Shimabukuro-Madden

POSITION:
Two Outplanting Field Technician positions (Research Associate I Special) available with the Center for Environmental Management of Military Lands, (CEMML), to be assigned at Pohakuloa Training Area, (PTA), Hawaii.

MINIMUM QUALIFICATIONS:
BS/BA in horticulture, botany, natural resource management, environmental science, or related natural science. Four years of work experience in these areas can be substituted for the educational requirement. Demonstrated knowledge of plant taxonomy and identification, especially species found in Hawai‘i, including common native, rare, and invasive species. Knowledge of common horticultural practices in the propagation and maintenance of plants in a greenhouse environment. Demonstrated ability to perform tedious tasks, for long periods, with excellent attention to detail. Experience preparing planting sites, conducting outplanting, and maintenance of site and plants. Skills in field navigation with maps and the Global Positioning System (GPS). Experience with chemical and mechanical control techniques for invasive plant and animal species. Demonstrated ability to conduct strenuous field work on extremely rugged terrain in adverse weather conditions. Experience with computers and software including the Microsoft Office Suite. Must have or be able to obtain a valid driver’s license. CSU conducts a background check on all final candidates.

DESIRABLE QUALIFICATIONS IN ONE OR MORE OF THE FOLLOWING CRITERIA:
Experience with surveying and monitoring of vegetation and rare plants. Good oral and written communication skills. Knowledge of databases to enter and maintain records. Related work experience on military installations.

SALARY: Commensurate with experience and qualifications. Range $35,000-$40,000

APPLY: Detailed job descriptions and application instructions can be found at http://www.cemml.colostate.edu/Jobs/cemmljob.htm. Apply no later than May 10, 2011, for full consideration. A complete application consists of:
1) LETTER OF INTENT- a letter stating your interest in the position;
2) CV- resume;
3) TRANSCRIPTS-transcripts for each degree earned listed in the qualifications, (Bachelors);
4) DEGREE CONFERRAL- if transcripts do not include confirmation that degree was awarded, include a copy of diploma;
5) REFERENCES- contact information for professional references, including at least one supervisor; and
6) STATEMENT OF QUALIFICATIONS- a letter responding to the minimum and desirable criteria in the announcement.

CSU is an EO/AA employer.

POSITION #: PTA/Outplanting/5/10/11
Avocado plantings behind Hale ‘Ikena Dorms. ‘Ulu located in front of Albezia in background. Jesse Potter and Patrick Williams

Left: Ron Bento and Cory Mullen planting avocados behind dorms. Right: Numerous volunteers work to remove wedelia and ‘uluhe.