

Resource Kona

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July 2009

KONA SOIL AND WATER CONSERVATION DISTRICT

Earth and Ocean Fair at Keauhou

For the past few years the Kona Soil and Water Conservation District has participated in the Kona Earth Festival by donating funds, providing a festival activity, our 4x4 tour, and by sponsoring a booth at the Earth Day Fair, now known as the Earth and Ocean Fair at Keauhou. This year, for the first time, we brought our water model out for demonstrations.

By using simple food coloring we were able to demonstrate the role ground water and aquifers have in the water cycle that includes how rain reaches the ocean through more avenues than just run off. It is our hope that after seeing our demonstration people will think more about the effects of improperly disposed of materials, such as motor oil, compact fluorescent light bulbs (CFLs), and batteries. We also



Above: Demonstrating how water moves through the ground.

hope they think more about their fertilizer use prior to application.

Proper disposal of motor oil and other automotive fluids can be done by bringing them to the Hazardous Household Waste Collections. They are held on the second Saturday of June and December at the Kealekehe Transfer Station.

Properly disposing of household batteries and compact fluorescent light bulbs can be done by bringing them to Home Depot. Daleco Battery and Radiator Specialists, in the Old Industrial area, will take old car batteries

Proper fertilizer use includes obtaining a soil test to determine just how much fertilizer is required and in what ratios. If you do not need to add nitrogen but use a fertilizer rich in the product your are wasting money and potentially causing a pollution problem.

We also had a demonstration on why landfills should be lined. Rainfall percolating through a landfill forms a liquid known as leachate. Leachate can percolate to the ground water found in our aquifers. (cont on page 3)

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Do you have an idea for an article?
Contact us at 322-2484 ext. 100

Kona Farm Bureau, Chew and Chat Session

A recent Kona Farm Bureau meeting was a potluck “Chew-n-Chat” session. The discussion topic was the Little Fire Ant (LFA) and there was a presentation by Dr. Cas Vanderwoude, State Ant Specialist who is working under a grant for the State Department of Agriculture. One of his tasks is to keep the LFA from becoming established in West Hawaii.

Dr. Vanderwoude told the group the LFA is firmly established in East Hawaii and can make its way to West Hawaii but will need the help of people to do so. If you obtain soil, mulch or plant material from East Hawaii he recommends letting it sit in quarantine on a plastic tarp and testing it for the LFA prior to using it.

Testing is done by smearing a **thin** layer of peanut butter on a popsicle stick or chop stick and laying it next to the item you want to test. In the case of a potted plant, put the stick on the top of the soil in the pot. If the material that is being tested does have ants you should see some on the peanut butter in about an hour. The little fire ant is very small, no longer than a 1/16th of an inch (about the width of a penny) are orange in color and are slow movers. The reason LFAs seem to move so fast over such a large area is because people helped them and planting materials were not tested or quarantined prior to being used and therefore were not treated. Dr. Vanderwoude advised should the LFA arrive in West Hawaii we could see a reduction in coffee production.

Some people believe the equipment used to break up the green waste at the Kealakehe Transfer Station bring pests such as the LFA as well as coqui frogs. Dr. Vanderwoude gave us some insight on that as well. He told us equipment is thoroughly washed down prior to shipping to the west side to avoid any liability problems with anything flying off the equipment and damaging other vehicles on the road during transit.

In short, if the LFA gets into our mulch, we put it there. The likely scenario, it arrived in soil, mulch or a plant delivery. The receiver of the material did not test for it and did not know they had a problem until it was too late, they had an infestation. If the LFA gets anywhere in West Hawaii we have had a direct role in its arrival.

There are ways to combat the little fire ant though none of them are organic farming friendly. The methods include baiting, contact pesticides and barrier treatments. When he learns of an infestation Dr. Vanderwoude works with the farmer on a plan to eradicate them.

There is hope, deal with mealy bug and scale problems on your farm and you remove a food source for the LFA. He also told the group that it is possible to have a farm that is free of LFAs while your neighboring farms are not. It requires diligence on the part of the farmer and knowing where soil, mulch and planting material come from, testing it for the LFA and taking appropriate steps if it is found.

If you suspect the ant is an LFA please contact the Department of Agriculture ASAP. The number for the Dept. of Ag’s Captain Cook office is 323-7594. If you do suspect having the little fire do not try to eradicate them on your own with pesticides or the extent of any newly discovered infestation will not be known.

Earth Day Fair (cont)

Most of Hawaii's drinking water comes from our aquifers. Leachate from landfills is not something we want in our drinking water.

To the right the demonstration project called: "Leaking Landfills". Cut a 2-liter soda bottle in half. Stuff the neck of the bottle with paper towels, cotton balls or tissues, then place the top half neck down into the bottom half. You now have a model of an unlined landfill about to have garbage added to it. Start with a layer of soil, about 1 in. Add a layer of inorganic matter, (bits of aluminum foil, styrofoam or plastic). Add another layer of soil. Add a layer of organic matter, (chopped up fruits and vegetables, coffee grounds, egg shells etc), then another layer of soil then some vegetable oil (1-2 tablespoons should do it), then one more layer of soil. Each layer should be 1/2 to 1 inch thick. For the next ten days all you have to do is water it a little, watch it and imagine if there were car batteries, computer pieces, old asbestos tiles or any number of items that you would not want in your landfill. To obtain a full set of directions go to http://www.awma.org/files/education/leaky_landfills.pdf



From left to right bin 1 has bare soil, bin 2 has soil with mulch covering it, bin 3 has soil with grass cover. Each were sprayed with the same amount of water (rain). As expected the bin with bare soil had more and muddier "runoff" at the end of the day.

With our final demonstration project we were able to show how to protect your soil from erosion by putting something on it. There are three steps to erosion, availability, detachment and transport. Remove one and you have mitigated the risk of erosion significantly. By covering your soil with mulch or grass it becomes less available for detachment. The impact of a raindrop on bare soil is a major factor in the detachment of soil. Grasses or other vegetation prevent raindrops from reaching soil directly. A lot of rain will hit a plant and then trail down into the soil. If the raindrop can't land on the soil, opportunities for detachment are reduced significantly. Vegetation also interrupts the transport of sediment which, again, has mitigated the erosion process. This is not to say all erosion will be prevented this way, but a large percentage of it will be. A 100-year storm occurring when soil is already saturated is likely to cause erosion problems.

It is our hope that the people who stopped at our booth will look at their land with an eye toward conservation opportunities knowing the benefits they and their community will derive from conservation practices put on the ground.

Hawaii Association of Conservation Districts Annual Conference

This year's Hawaii Association of Conservation Districts' Annual Conference was hosted by the Ka'u SWCD and held in Pahala. The three day conference brings the state's 16 conservation districts and the USDA's Natural Resource Conservation Service (NRCS) together to share in each other success and to work toward solving our mutual problems and concerns.

This year one of the guest speakers was Mike DuPonte of the University of Hawaii. He discussed the Jagong Natural Farming method used in Korea for piggeries. He boasts he can develop a no odor, no fly piggery. One of the essential elements is the cultivation of indigenous microorganisms. In using the microorganisms a piggery is able to reduce animal waste, create a clean living environment for the animals, a clean working environment for the piggery's staff and with the use of a composting machine can create high quality compost in three hours as opposed to six months. There is a plan for a demonstration piggery in Puna to be opened later this year..

Other presenters at the meeting were HACD's Conservation Planners Sara Bowen from East/West Kauai SWCD, John Astilla from the Maui SWCDs and John Pipan from the Mauna Kea SWCD. Sara spoke of the Ecosystem Restoration Project she has been working on as well as the local outreach she has participated in. John Astilla discussed the Lanaiha ongoing flood control project and John Pipan discussed the progress of the Waiulaula watershed project the Mauna Kea SWCD has spearheaded.

Day two of the conference took us on a tour of local agriculture and natural resource projects. We visited Kahuku Ranch which is now under the control of the National Park Service. It is hoped that some areas of the ranch can be opened to public on a limited basis as a place for nature hikes. There are still some ranching operations taking place but they are scheduled to be concluded some time within the next year. There are fragmented native forests on the ranch and trials are taking place on how to best restore the forest where heavy grazing has taken place over the years. It is hoped that with the natural spread of the existing forest along with forest restoration large tracks of native forest can once again become the main focus of this land.

We also visited two local coffee farms. One is being used as a demonstration farm for the conservation practice of cover crops. Between rows of coffee buckwheat, perennial rye, sun hemp, perennial peanut and birdsfoot trefoil were planted. All of the cover crop were installed by seeding. All but the perennial peanut and birdsfoot trefoil came in very strong and healthy. The perennial peanut and the birdsfoot trefoil have a longer germination period for its seed allowing weedy species the opportunity to become established.

We also visited Kailiawa Coffee Farm operated by Thomas "Bull" and Jaime Kailiawa. Their coffee won 7th place in the prestigious Specialty Coffee Association of America. The Kailiawa Farm is a beautiful place nestled in the back of canyon near Wood Valley. It is an area with a number of coffee farms but also has the potential to see vegetable and fruit farms as well.

HACD Annual Conference (cont).



To the left is showing the Buckwheat as a cover crop. The farmer will turn this into the soil allowing the coffee trees to reap the nutritional benefit of what is called green manure.

Below is showing oats as the cover crop. Another row of oats was mowed allowing the clipping to act as a mulch material to improve the soil quality.



Below is a view of the native forest found at Kahuku Ranch



Sun hemp, a nitrogen fixer is shown below and is also being tested for its usefulness. These plantings are 30 days old and the sun hemp already has nitrogen fixing nodules on its root system.



So You Want To Learn About Your Soil

By Mike Kolman, NRCS Soil Scientist

Now you can. The Web Soil Survey is on-line at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties, including Hawaii County; and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

Soil surveys can be used for general farm, local, and area wide planning. Onsite investigations are needed in some cases, such as for soil quality assessments and certain conservation and engineering applications. For more detailed information, contact Mike Kolman, Soil Scientist, at the Kealahoukua USDA Service Center, 322-248 ext. 105

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed [6/29/2009].

FSA News: Noninsured Crop Disaster Assistance Program

USDA's Farm Service Agency's (FSA) Noninsured Crop Disaster Assistance Program (NAP) provides financial assistance to producers of noninsurable crops when low yields, loss of inventory or prevented planting occur due to natural disasters.

An eligible natural disaster is any of the following:

- damaging weather, such as drought, freeze, hail, excessive moisture, excessive wind or hurricanes;
- an adverse natural occurrence, such as earthquake or flood; or
- a condition related to damaging weather or an adverse natural occurrence, such as excessive heat, disease or insect infestation.

The natural disaster must occur before or during harvest and must directly affect the eligible crop.

Requirements to determine producer and crop eligibility may apply. Interested producers should contact their local FSA service center for specific information regarding their eligibility for NAP.

Eligible producers must apply for coverage of noninsurable crops and pay the applicable service fees at their local FSA office by the application closing date as established by the FSA state committee. The service fee is the lesser of \$250 per crop or \$750 per producer per administrative county, not to exceed a total of \$1,875 for a producer with farming interests in multiple counties. Limited resource producers may request a waiver of (cont. on next page)

Noninsured Crop Disaster Assistance Program (Cont.)

service fees. Limited resource producer status can be determined using the USDA Limited Resource Farmer and Rancher Online Self Determination Tool at <http://www.lrftool.sc.egov.usda.gov/tool.asp>.

For coverage in 2010, for value loss crops or controlled environment crops, which includes ornamental nursery, aquaculture, Christmas trees, ginseng, floriculture, mushrooms and turfgrass sod the application closing date is **September 1, 2009**. Interested producers may contact Jen Withrow in the Kealahou USDA Service Center at 322-2484, ext. 111.

More FSA News: The CREP Program



The Conservation Reserve Enhancement Program (CREP) is a partnership between landowners, the State of Hawaii, and the U.S. Department of Agriculture. CREP is a federal-state natural resources conservation program that addresses state and nationally significant agricultural related environmental concerns. Through CREP, program participants receive financial incentives from USDA and the State to voluntarily enroll in the Conservation Reserve Program (CRP) in contracts Sent of 15 years. Participants remove cropland and marginal pastureland from agricultural production and convert the land to native grasses, tress and other vegetation. The primary goals of the project are to enhance wildlife habitat and control invasive species, as well as improve water quality and quantity, increase groundwater recharge, improve near shore coral reef health and diversity by filtering agricultural runoff and increasing water condensation in the uplands. Landowners or lessees with land that are physically and legally capable of being agriculturally productive are eligible for the program. Land must be owned or leased for at least 1-year prior to enrollment to be eligible. Participants will need to have control of the land for the entire 15 year contract. Other requirements may also apply.

Hawaii CREP participants will be eligible for the following types of payments (subject to contract terms and limitations): Annual per acre Rental Payment, Cost-Share Payments, Signing Incentive Payment, Practice Incentive Payment, and Mid-Contract Management Payment.

Interested producers should contact their local FSA service center for specific information regarding their eligibility for CREP. Jen Withrow in the Kealahou USDA Service Center can be reached by calling 322-2484 ext. 111 or e-mailing Jennifer.withrow@hi.usda.gov.

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Board of Directors:
Chairman: Rick Robinson
Vice Chairman: Greg Hendrickson
Treasurer: Fred Cowell
Secretary: Virginia Isbell
Director: William "Skip" Cowell

Staff: Mary Robblee, Conservation Assistant
Monthly meetings are held on the 2nd Tuesday of the month from 7am-9am at the USDA Kealahou Service Center where our office is located. All are welcome and the facility is handicap accessible.

Organization: The Kona Soil and Water Conservation District (KSWCD) is a government subdivision of the State of Hawaii organized under Hawaii State Law, Chapter HRS 180

Function: To utilize available technical, financial and educational resources to focus or coordinate them so that they meet the needs of the local land users with regards to conservation of soil, water, and natural resources.

Service: The District serves the communities and land users within North and South Kona

Why: The District is committed to the promotion of wise land use and resource stewardship.

**Were on the web at
www.kswcd.org**

Our Board of Directors



Back Row, left to right:
Fred Cowell, Treasurer, William "Skip" Cowell, Greg Hendrickson, Vice Chairperson
Front row, left to right
Rick Robinson, Chairperson and Virginia Isbell, Secretary.



The Kona SWCD Staff

To the left is a picture of the Kona SWCD staff:
Mary Robblee, Conservation Assistant