Resource Kona

RESOURCE KONA **December 2008**

KONA SOIL AND WATER CONSERVATION DISTRICT

County and State Conservation Awareness Contests

Each year as part of the state's Conservation Awareness Program all the counties in Hawaii have a Conservation Awareness contest for high school aged students. The program is sponsored by the Hawaii Association of Conservation Districts, U.H. Cooperative Extension Services and the USDA's Natural Resources Conservation Program. The program is designed to provide interested youths with an opportunity to learn about, appreciate and understand Hawaiian soil and water resources. The program teaches skills that will be useful for future farmers, homeowners, planners, engineers and consumers.

This year the Hawaii County contest was hosted by the Hamakua Soil and Water Conservation District at Leonard Cardoza's farm. The students are tested on their interpretation of the physical features of the soil, major factors affecting land use, land capability classification, and recommended conservation practices.

The Hawaii County Conservation Awareness Contest had students participating from Pahoa High School and Kamehameha High School. More schools were scheduled to participate but due to current and future financial concerns they bowed out. The winner of this year's contest was Pahoa High School. They advanced to the state tournament which was held in Waikapu, Maui and was hosted by the three Maui Soil and Water Conservation Districts. Winning the state contest was Kauai High School and they now move on the western regional contest being held in May in Oklahoma.

There will surely be financial challenges for the students to raise the funds necessary for the trip. If you want to help these deserving students please contact Marjorie Stanphill at 808-254-9014 ext 107. Please join us in congratulating Kauai High School. (cont. on pg 2)

USDA's Kealakekua Field Office Installs 219 Practices in FY 08

For the federal fiscal year that ended on September 30th the Kealakekua Field Office had the second highest number of conservation practices installed in the state with 219 applied practices.The Hilo Field Office came in first with 296.

For the Kona District this represents a payment amount of $943,342.85 in cost share reimbursements to local farmers. This work has helped not only the farmers but the entire community since we all benefit from applied conservation practices.

We all benefit because the practices work toward protecting the entire watershed, not just the farmer's land. A farmer who installs conservation cover between his rows of coffee is minimizing the potential (cont. on page 5)

Inside this issue:

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

Special points of interest:

- Did you know 1" of rain on 1 acre = 6,272,640 cubic inches of rain = 27,154 gallons of water = 226,464 lbs
- Soil organic matter has a direct bearing on the availability of nutrients to plants
- If you want to become active in the Kona Soil and Water Conservation District please give us a call at 322-2484 ext 100

County and State Conservation Awareness Contests (cont. from page 1)

To the left, the winners of the Hawaii County Conservation Awareness Contest, Pahoa High School show off their plaque. Above students make determinations about the soil.

Farm Service Agency's New Office Hours at Kealakekua Field Office

The Farm Service Agency (FSA) administers and manages farm commodity, credit, conservation, disaster and loan programs as laid out by Congress through a network of federal, state and county offices. FSA offices are located in Hilo and Kona on the Big Island, Honolulu, Maui, and Kauai. FSA offices are supervised by a farmer-elected County Committee. The farmer county committee oversees implementation of federal programs in their county.

FSA programs are designed to improve the economic stability of the agricultural industry and to help farmers adjust production to meet demand. Economically, the desired result of these programs is a steady price range for agricultural commodities for both farmers and consumers.

FSA's newest staff member, Jen Withrow. Office hours are now Monday, Tuesday, Thursday and Friday from 8:30 –2 with a lunch break from 11-11:30.

State and county offices directly administer FSA programs. These offices certify farmers for farm programs and pay out farm subsidies and disaster payments. The Emergency Conservation Program (ECP) and NonInsured Crop Disaster Assistance Program (NAP) are examples of disaster assistance programs farmers and ranchers currently participate in, and are administered by the Farm Service Agency. NAP is a federally funded program that provides financial assistance to producers of noninsurable crops when low yields, loss of inventory, or prevented planting occurs as the result of natural disasters. NAP is important because only producers insured with NAP will receive financial assistance in the event of a natural disaster. The enrollment period for NAP coverage in 2009 is ongoing until December 1, 2008.

FSA Farm Loan Programs makes and guarantees a variety of loans for youth, new and experienced farmers, and producers undergoing emergency situations. FSA also provides credit counseling and supervision to farmers and ranchers who are temporarily unable to obtain private,

Soils of the Kona District

By Michael Kolman, Soil Scientist, USDA-NRCS

Soil is a natural, three-dimensional body of the Earth's surface that supports plants. It is formed through the interaction of five soil forming factors, climate, biota, time, topography and parent material. The factors that influence soil formation the most on this island are climate, parent material and time. They influence soils formation and distribution by controlling the amount and type of vegetation, the duration and intensity of weathering processes, the age and type of geomorphic surface and the amount of time to accumulate volcanic ash.

Climate has a strong influence on soil formation. Temperature and rainfall greatly influence the type of vegetation that grows and the speed of organic matter decomposition. Soil temperature and moisture also influence the degree or intensity of mineral weathering and the rates of removal and accumulation of material in soil horizons.

Soils in the Kona District are characterized by the active and recent volcanism of the island. The majority of South Kona is covered by lava flows deposited between 1500 and 4,000 years ago from Mauna Loa (Lockwood et al, 1988). The majority of North Kona is covered by lava flows from Hualalai with 55 percent of the flows being less than 3,000 years old and 45 percent being older than 3,000 years old (Moore and Clague, 1991).

On lower and upper elevations, areas with relatively low rainfall and with lava flows of less than 3,000 years old shallow rocky organic sols with minor amounts of volcanic ash can form in depression in the lava. On middle elevation slopes with higher rainfall, soils are formed from large amounts of organic matter with minor amounts of volcanic ash to produce shallow rocky organic soils.

On lava flows that are greater than 3,000 years old, time has allowed more volcanic ash to accumulate on the landform. On Lower and upper elevations in Kona soils are shallow to moderately deep mineral soils. On middle elevations, with generally higher rainfall amounts, slight weathering of the primary minerals has occurred.

The oldest landforms in Kona are the cinder cone at Puu Waawaa and the associated trachyte lava flow at Puu Anahulu, they are over 100,000 years old. Here you will find soils that are deep volcanic ash soils.

Farm Service Agency (cont. from previous page)

commercial credit.

Currently, there are 2,346 FSA county offices in the continental states. FSA also has offices in Hawaii, and a few American territories.

More than 8,000 farmer county committee members serve in FSA county offices nationwide. Committee members are the local authorities responsible for fairly and equitably resolving local issues while remaining dually and directly accountable to the Secretary of Agriculture and local producers though the elective process. They operate within official regulations designed to carry out Federal laws and provide a necessary and important voice in Federal decisions affecting their counties and communities.

Committee members make decisions affecting which FSA programs are implemented county-wide, the establishment of allotment and yields, commodity price support loans and payments, conservation programs, incentive, indemnity, and disaster payments for commodities, and other farm disaster assistance.

For more information visit Jennifer Withrow at our Kona Office or call her at 322-2484, ext 111. Watch out for our Newsletters.

Perennial Peanut is great choice for conservation cover. Not only will you lower your fertilizer costs but you can also minimize storm water runoff and soil erosion.

Sun hemp is another nitrogen fixing plant. This one is used more often as a plant that can be incorporated, or plowed, into the soil instead left as conservation cover.

Left, a picture of the perennial peanut flower,

Right , a picture of the sun hemp flower.

Koa trees are nitrogen fixers too.

What Is The Big Deal With Nitrogen Fixers?

There are some plant species that can actually fertilize themselves and other plants species near them. These are referred to as nitrogen fixers (not because nitrogen is broken). What these "nitrogen fixing" plants do is take nitrogen from the air and "affix" it to themselves. This whole process can be described in very scientific terms but since I do not know many "scientific terms" I'll try it another way.

Nitrogen fixing plants, generally legumes, use a **Rhizobium** bacteria to remove atmospheric nitrogen (N_2) from the atmosphere. From there it changes the N_2 to NO_2 which is known as nitrite. So far the plant itself can not use any of this nitrogen because it is not in a water soluble form. When the nitrogen fixing plant converts the N_2 to NO_2 it creates as a by-product NO_3, a nitrate and this is what plants use, the bacteria use the N_2 and the NO_2.

Perennial peanut is a nitrogen fixer that can also be used as conservation cover. What a versatile plant. It will fertilize for you, prevent runoff and prevent soil erosion. What will Mother Nature think of next? If you were to pull some perennial peanut up out of the ground you would find little bumps on its root system. This is where the whole process takes place.

USDA's Kealakekua Field Office (cont. from page 1)

for soil erosion and storm water runoff. Other common conservation practices that have been installed on our farms include mulching, nutrient management, pest management, tree and shrub establishment and irrigation water management just to name a few. Mulching will improve a farm's soil quality. Nutrient management can lower fertilizer costs and reduce the risk of nutrient pollution to our groundwater and our near shore water. Pest management can help reduce the number of invasive and weedy species in an area. Tree and shrub establishment and increase the numbers of native plants and irrigation water management helps a farmer manage his water resources better.

For further information on these and other conservation practices please contact the Kealakekua Service Center at 322-2484. The staff and their extensions are listed below.

District Conservationist: Jeff Knowles x 109

Soil Conservationist: Denise Light x 101

Soil Conservationist Patra Vidondo x 113

Soil Scientist: Mike Kolman x 107

Cultural Resource Specialist: Carol Kawachi x 105

FSA Program Technician: Jen Withrow x 111

Holualoa Elementary School's Garden Club

One of our newest cooperators is the Holualoa Elementary School. The club is made up of 4th, 5th and 6th graders with Mrs. Hale as their adviser. Each Monday afternoon they are busy planting, maintaining or harvesting their garden.

For vegetables they have planted taro, green beans, sweet potato, broccoli and egg plant. They have worked on campus beautification projects. They even have a fundraising project where they created herb pots and will begin to learn about the challenges of selling their product at a price that covers their cost.

The students have assisted in the implementation of a small soil erosion control project. Directors Fred and Skip Cowell have each provided Tropic Lalo sprigs for planting at the project site. Conservation cover is being installed along the northern edge of the road that runs through the middle of their campus.

The school's club runs on a semester basis and the fall's Garden Club is coming to an end. In the spring a new Garden Club will be created. The students can choose to remain in this club or participate in another. No matter what each individual student chooses to do we hope their experience with gardening has instilled a sense of wonder about plants, gardening, and maybe even a curiosity in the science behind how it all works.

81-948 Waena'Oihana Loop
Kealakekua, HI 96750
322-2484 ext. 100
Fax: 322-3735

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 generally held on the 2nd Tuesday of the month from 7am-9am at the USDA Kealakekua 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 land users within, and the communities of 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

It is almost Kona Storm season, time to make sure your Watercourse is debris free

Last November South Kona experienced what some refer to as a 100 year rain event. Parts of South Kona received approximately 7 inches of rain in just a few hours. One of the problems that was realized because of that rain event is that people throw a lot of things in waterways. Some people have treated watercourses as private landfill believing that since water has not passed down the waterway "in all the years I lived here" it never will. Many people suffered terribly as a result. We saw automobiles, water heaters and tires, just to name some of the items that were frequently mentioned as items that came down the mountain.

Please do not use our watercourses as a place to throw anything. Do not throw your yard waste into them, do not throw hazardous waste into them, do not throw old appliances in them, do not throw old tires and bikes into them. To do otherwise could be setting your downstream neighbor up for a disaster they can't recover from.

West Hawaii's dry season is upon us. With the dry season comes the occasionally Kona Storm such as the type of storm we had on November 28, 2007. Help your neighbor out, check your waterway for debris and remove it. Allow the water to flow down the mountain. It is something your can do for your community and actually help your neighbor financially. A disaster averted is a lot of money saved.

If you know of a blocked culvert please call the Kona SWCD at 322-2484 ext 100. We will notify the county and state.

The Kona Soil and Water Conservation District wants to which you all a happy and safe holiday season and great prosperity in all your farming and conservation endeavors for the upcoming year.