

Resource Kona

RESOURCE KONA

Fall 2010

KONA SOIL AND WATER CONSERVATION DISTRICT

EQIP Deadline Approaching

The Natural Resource Conservation Service (NRCS), an agency of the USDA, offers a program to private land users who are also agricultural producers called the Environmental Quality Incentives Program (EQIP). Ag producers who participate in this program receive reimbursements for putting agreed to conservation practices on the ground in an agreed to time frame. The deadline for applying for the 2011 ranking period for this great program has not been released yet but last year's deadline was in December so this year's deadline will soon be upon us.

Some of the practices that are most often recommended are conservation cover, cover crop, mulching, nutrient management, brush management, prescribed grazing, integrated pest management, tree and shrub establishment, multi-story cropping, irrigation and windbreaks just to name a few. Each practice



is put in place to address a natural resource concern such as erosion due to wind or water, poor soil quality, native wildlife habitat fragmentation, poor plant condition and invasive species among others.

Conservation cover, a permanent vegetative cover, will help reduce soil erosion and sedimentation; it can crowd out weedy species, and improve soil quality. Conservation cover can even enhance wildlife habitat.

Cover crop, a temporary vegetative cover, can improve soil, reduce soil erosion, and reduce weedy species.

Mulching can reduce soil erosion, improve soil quality, moderate soil temperature and reduce soil moisture loss.

Nutrient management can help in protecting our ground water and near shore waters. It will ensure your crops have adequate nutrients without the over application of nutrients which can save you money. (cont. on pg. 2)

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Special points of interest:

- Do you want to learn more about protecting your natural resources, call us.
- If you want to become active in the Kona Soil and Water Conservation District please give us a call at 322-2484 ext 100

EQIP Deadline Approaching *(cont. from pg. 1)*

Multi-story cropping can improve crop diversity by growing compatible crops which have different heights. It can improve soil quality by increasing utilization and cycling of nutrients as well as maintain or improve soil organic matter. It can also increase net carbon storage.

If you have been irrigating your crops for two of the past five years there are opportunities to have your system analyzed for its efficiency and recommendations and designs for improving it.

The practices that are chosen for your farm have to resolve a natural resource concern on your land and are determined by you and an NRCS Soil Conservationist. You and your Soil Con will work together to create a conservation plan based on your needs and abilities with the goal to make your land the best it can be. Because NRCS wants their clients to succeed they promote shorter time frame contracts with few practices. This can help prevent a client from feeling overwhelmed and once the contract is complete the producer can apply to enter into another contract to address the resource concerns that remain.

The reimbursement aspect of the program requires producers install a given practice at their own expense and then have that installation certified as meeting NRCS specs and standards. Once certified a reimbursement payment is processed. The payment rates are generally based on a per acre or per linear foot formula and may or may not cover all your costs. See page 7 for information on a new FSA loan program to assist with the initial costs of installing conservation practices.

An important thing to remember about EQIP, should you apply and are approved for funding, is that you do enter into a contract requiring you to install agreed upon conservation practices within an agreed upon time frame.

If you are interested in learning more about this program contact your local NRCS Field Office. On the Big Island there are offices in Hilo, Waimea and Kealahou. On Maui there is an office in Kahului, on Oahu the office is in Aiea, on Kauai the office is in Lihue and on Molokai there is an office located in Hoolehua.

All 16 of the state's Soil and Water Conservation Districts support this program because of the protection to our natural resources that it provides and the assistance it provides one our states greatest resources, our agricultural producers.



Cross fencing on ranches to create individual pastures is part of the infrastructure required for prescribed grazing, managing the harvest of vegetation with grazing and/or browsing animals.



A field that has had 3-5 inches of mulch applied. When applied at this rate weeds are suppressed and soil moisture is retained. Sometimes it is recommended to let mulch sit to "cook out" any weed seeds that may exist in it.

A New Soil Conservationist Joins the NRCS Team



Above: Nick Gallo, the newest member of the USDA Kealakekua NRCS staff. If you see him in your travels say 'hello' and maybe offer him a cup of coffee.

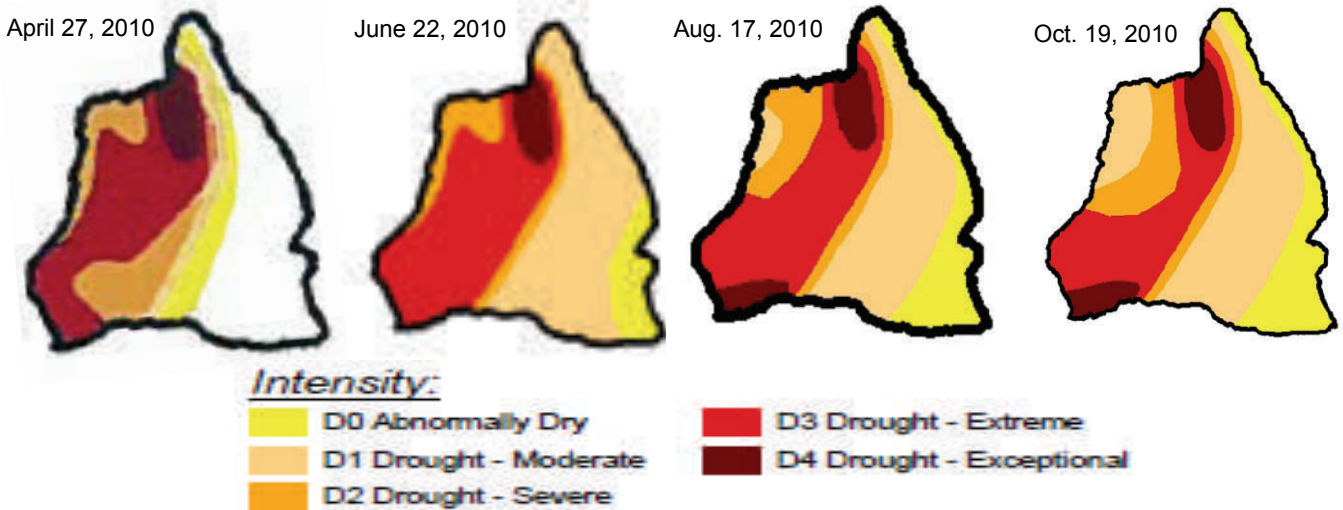
With the addition of Nick Gallo the USDA Kealakekua NRCS team is once again complete. Nick joins the Kealakekua office from California where he recently completed the UC Davis master's degree program in Biological and Agricultural Engineering.

Nick did his undergraduate work at Rutgers University in New Jersey, the state he grew up in. After graduating from Rutgers with a chemical engineering degree Nick spent a number of years as a Peace Corp. volunteer in Africa. After leaving the Peace Corp., Nick worked for the United Nations in their World Food Programme in Guinea, West Africa. He also spent time with the UN Peacekeeping Mission in Congo, Africa.

Nick is hoping to be able to increase agricultural efficiencies in West Hawaii and thereby increase profitability for our local producers. Please join us in offering Nick a warm aloha and great success in his career with the USDA.

Request for Assistance with Water Hauling Update

Earlier this year the Kona SWCD submitted a request to the Bureau of Reclamation, along with three other requests from throughout the state, for assistance to mitigate the affects of the drought. Our request was for assistance to be provided to individuals who do not have access to county water and were living in an area noted as being in a drought by the US Drought Monitor. To date there has been no response provided by the Bureau. In June Laura Thielen, Chairperson for the Department of Land and Natural Resources, sent the Bureau a letter reiterating the need for this assistance.



Above: Previous US Drought Monitor maps for Hawaii Island US ough Monitor (<http://www.drought.unl.edu/dm/monitor.html>)

NACD Regional Conference

The Kona SWCD recently hosted the National Association of Conservation Districts' Southwest and Pacific Regions' Annual Conference. The event was held at the Sheraton Keauhou Bay Resort and Spa. Representatives from soil and water conservation districts from Alaska, Washington, Oregon, Idaho, California, Arizona, New Mexico, Colorado, Wyoming, Nevada, Utah, Hawaii and the Pacific Island Territories were in attendance.

Dr. Kaeo Duarte of Kamehameha Schools Land Asset Division spoke about native Hawaiian agricultural practices and natural resource management techniques. Jim Cain, taro farmer, introduced the group to the processes involved in farming taro and the challenges small farmers face. A common comment to his presentation, "It seems us small farmers face the same obstacles regardless of where we live".

Dr. Hoon Park spoke about indigenous micro-organisms, their benefit and how to grow them. He provided a startling statistic, if you want the nutritional value an apple available in the early 1900s today, you have to eat 41 apples. Dr. Park attributed most of this nutritional loss to damage done to soils over many years of chemical based fertilizers and pesticides which do not have a lot of benefit for micro-organisms. Another theory might be that mass produced fruits and vegetables are generally harvested prior to being ripe and this could impact their nutritional value.

Craig Elevitch spoke about agroforestry and the benefits of incorporating agroforestry techniques on farms. He even provided information to the group regarding which NRCS conservation practices are applicable to agroforestry. Giulio Ferruzzi spoke about the changes within NRCS' pest management practice which includes implementing an integrated pest management practice.

Ron Baird the CEO of the Natural Energy Lab of Hawaii Authority (NELHA) spoke about the research and cutting edge businesses being developed at NELHA. Gene Kelley, President, CEO and Technology Officer of W2 Energy Development Corp. spoke about cutting edge energy technology being developed by his company. The home office of Gene's company is located in California but he does have a research facility at NELHA.

Greenwell Coffee Farm hosted us for a farm tour and a coffee picking contest.



Left and center: The WindWing developed by the W2 Energy Development Corp. It requires less wind than a turbine and can do much more than create electricity. Wind and basic laws of physics cause the wings to go up and down in an oscillating motion that can be used to run a pump, a refrigeration system or create electricity. The WindWing can be modified to become a WaterWing and then used wherever there is flowing water. The only requirement, the wing must be totally submerged. Many WaterWings could be installed in irrigation canals, like the ones in California, using the flow of the water over and over again.

On the right is a conference attendee getting lost in a coffee tree during the coffee picking contest.

Cover Crop, what is it and why do you want to plant it?

Reviewed By Bob Joy, Plant Material Specialist, USDA/NRCS Hoolehua Plant Material Center

If you need to improve your soil there are ways to do it. Our local producers apply hundreds of cubic yards of mulch that will break down and improve soil. Conservation cover, a permanent vegetative cover, between rows of coffee will also go a long way to improving soil. Another way to improve your soil is grow a cover crop, a temporary vegetative cover.

Cover crops include grasses, legumes and forbs (e.g. sunflower, clover) that are planted for seasonal cover and other conservation purposes. Cover crops can reduce wind and water erosion, increase soil organic matter content, capture and recycle or redistribute soil nutrients, promote nitrogen fixation, suppress weeds, and minimize soil compaction to name just a few of its benefits.

Areas of your land where you may consider cover cropping would be anywhere that requires vegetative cover for natural resource protection and or improvement. Do you have an area that is subject to wind or water erosion? Plant a cover crop. Do you have soil that due to years of pesticide use is very poor quality? Plant a cover crop. Does your soil test indicate poor nutrient supply for a cash crop? Plant a cover crop.

Things to think about when considering a cover crop include species selection, seedbed preparation, seeding rates, depths, and dates, fertility requirements and planting methods. Keep in mind, the species selected need to be compatible with other components of your cropping system. You do not want a plant that grows too tall and shades out the cash crop. You do not want a plant that will twine or wrap around trees. You want a plant that crowds out weeds and can handle light foot traffic from animals or machinery.

Tropic Sun, a cultivar of sunn hemp, is a recommended cover crop due to its nitrogen fixing abilities, as a control for root-knot nematodes, and because it is non-toxic to animals. The challenges associated with sunn hemp are the ability to acquire seeds and having to cut it back after about 60 days.

Sunn hemp seeds can be obtained through Koolau Seed and Supply, Inc., Fukuda Seed Store, Inc. and Crotalaria Seed Specialists, LLC and Hana Hou Seed Harvest, LLC. The price (cont. on pg. 8)



Above: Sun hemp grown as a cover crop. In just a few short weeks the sun hemp will be cut back and left to break down and return its nutrients to the soil. Sun hemp is excellent for supplying organic nitrogen, increasing soil organic matter, for controlling root-knot nematodes and loosening subsoil.



Above: Buckwheat being used a cover crop. Buckwheat is excellent for attracting beneficial insects, such as honey bees, to your farm. It is excellent for suppressing weeds due to its quick growth and establishment. It is good for increasing soil organic matter and is useful at increasing phosphorous availability in the root zone.

Soils of the Kona District *By Mike Kolman, Soil Scientist, Soil Survey Office Leader, USDA-NRCS*

Editor's Note: "The Soils of the Kona District" is a reoccurring column which will highlight the many different soil types within North and South Kona their use and management.. In this, the fourth column of our series, we learn about the Honaunau Soil Series.

The Honaunau soil series consists of moderately deep, moderately well drained soils that formed in basic volcanic ash over pahoehoe lava (see photo 1). These soils occur on 5,000 to 10,000 year old pahoehoe lava flows from Hualalai and Mauna Loa volcanoes at elevations from 1,000 to 3,500 feet. The land that these soils occur on is gently sloping to moderately steep. The average annual rainfall ranges from 50 to 80 inches with most of the rainfall occurring during the months of April to October. The average annual air temperature ranges from 63 to 68 degrees Fahrenheit.



Photo 1, The Honunau soil series: the surface layer is very dark brown silt loam about 6 inches thick. The subsoil is dark brown or dark reddish brown over pahoehoe lava. Note water table at about 1 meter above the pahoehoe lava bedrock.



Photo 2. Honaunau soils used for coffee orchard.

The Honaunau soils are used primarily for pasture. Some developed areas are used for orchard crops such as coffee and macadamia nut (see photo 2). Phosphorous retention is very high and available levels are likely to be low. Frequent, light applications of phosphorous fertilizer will help compensate for high phosphorous retention. Natural potassium supplying capacity is low. It is recommended that a soil test be performed to evaluate nutrient levels of the soil in orchards. For more information on soils tests, visit the University of Hawaii, Cooperative Extension Service in Kainaliu.

Honaunau soils may flood occasionally during high intensity rain storms. The soils may have a water table between 20 and 40 inches during the rainy season and may be very slippery to wheeled machinery.

In developed areas, land clearing can cause the surface layer to air dry and may cause the soil to transform into semi permanent, pea sized aggregates, which have inferior agronomic properties. This soil is highly erodible if cleared of vegetation and slopes exceed 12 percent. In orchards, it is recommended to apply conservation mulching practices that will increase the organic matter content and reduce soil erosion. For more information on conservation mulching practices, visit the USDA-NRCS Service Center in Kealakekua.



For more information, or to apply for any USDA Farm Service Agency program, please call your local USDA Service Center. NOTE: Fees, eligibility requirements, income and payment limitations may apply with any of the programs listed below. Please check with the nearest FSA office for specific rules. The FSA office in Kealahou can be reached at 322-2484 ext 111.

NAP: Non-Insured Crop Disaster Assistance Program (NAP) sign-ups for coverage in 2011 are ongoing. The deadline to apply is December 1, 2010.

LFP: FSA is now accepting applications for the 2010 calendar year, for the Livestock Forage Disaster Program. The deadline to apply is January 31, 2011. Please call the FSA office for producer eligibility requirements and all questions regarding this program.

TAP: The Tree Assistance Program (TAP) provides financial assistance to qualifying orchardists and nursery tree growers to replant or rehabilitate eligible trees, bushes, and vines damaged by natural disasters occurring thru October 1, 2011. Please see your nearest FSA office for eligible tree types and all producer eligibility requirements.

CREP: FSA continues to accept applications for the Hawaii Conservation Reserve Enhancement Program (CREP). Through CREP, program participants receive financial incentives from USDA and the State to voluntarily remove land from agricultural production and convert the land to native grasses, trees and other vegetation.

LIP: The Livestock Indemnity Program (LIP) provides financial assistance to producers for livestock deaths that result from natural disaster. LIP compensates livestock owners and contract growers for livestock death losses in excess of normal mortality due to adverse weather, including losses due to hurricanes, floods, certain diseases, wildfires, extreme heat and cold. Eligible losses must be documented with FSA within 30 days of the death being apparent. Note that VOG has been approved as a qualifying event; but drought is not a qualifying event.

Conservation Loans, a New FSA Program

FSA has developed a new loan program, the Conservation Loan (CL). This program will provide farm owners and farm related business operators access to credit to implement conservation techniques that will conserve natural resources. The program provides assistance with the upfront costs of installing conservation practices and can be used implementing practices approved by NRCS. This loan program can help reduce soil erosion, improve water quality and promote sustainable and organic agricultural practices.

Direct CLs can be obtained through the FSA with a loan limit of \$300,000. Loan can also be obtained from lenders working with FSA for up to \$1,112,000. This is a great opportunity for our producers who have not been able to put conservation on the ground because they lack the funds for the initial investment.

For more information on this program and other loan programs offered through FSA contact John Tamashiro at 933-8342 or Miki Miyasato at 933-8344 in the Hilo FSA office."

USDA is an equal opportunity provider, employer and lender. To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights, 1400 Independence Ave., SW, Washington, D.C. 20250-9410 or call (800) 795-3272 (voice), or (202) 720-6382 (TDD).

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Board of Directors:
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Monthly meetings are held on the 2nd Tuesday of the month from 7am-9am at the USDA Kealahou Service Center below the post office. All are welcome and the facility is ADA accessible.

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

DLNR's Arbor Day Plant Sale

The Department of Land and Natural Resources' Division of Forestry and Wildlife (DOFAW) nurseries in Kamuela and Hilo will be celebrating Arbor Day with a plant sale, both natives and non-natives, which they have raised and are popular with gardeners and landscapers will be available. Money raised will be used to support nursery operations and forest management.

The sale takes place on November 5th from 8am to noon. The Kamuela location is 66-1220A Lalamilo Rd. (887-6061) and in Hilo at 19 E. Kawili St. (974-4221). At this time, confirmation of a plant sale at the Oahu nursery was not possible but they can be reached at 973-9784.

Last year's prices were \$1 each for dibble tube seedlings and \$15 each for 3-gallon pots and is likely to remain at those prices this year. All sales are on a cash only basis. For more information on available species and costs please give them a call. Support DOFAW's effort to protect and restore our forests, the service they provide the citizens of Hawaii is invaluable.

Cover Crop, what is it and why do you want to plant it? (cont. from pg 5)

per pound of sunn hemp is reasonable; last check it was \$2.50/pound plus shipping. All the companies listed are on Oahu. Unfortunately, seeds aren't available at the present time. Koolau Seed expects to have sunn hemp seeds available in December from their supplier in South Africa. Crotalaria Seed Specialists and Hana Hou Seed Harvest, producers of the Tropic Sun cultivar on Oahu, had a crop failure this year because of the dry weather. They will plant again this winter and should have Tropic Sun seeds available for sale by next May or June.

Sunn hemp grows very quickly and can reach heights of six feet or more. If allowed to do that the stems become very fibrous and difficult to cut through. If sunn hemp is cut back at around 60 days, right around flowering time, it is much easier to cut and you can just leave it where it lands or work it into your soil. By using sunn hemp as a cover crop you have increased the level of nitrogen in your soil, crowded out weeds, provided organic matter back into the soil and provided a deterrent to the root - knot nematode.