Resource Kona

RESOURCE KONA Summer/Fall 2017

KONA SOIL AND WATER CONSERVATION DISTRICT

Natural Resource Conservation Service EQIP DEADLINE 10/20/17

The Natural Resource Conservation Service (NRCS) provides technical and financial assistance to private land owners who have natural resource challenges to help them overcome those challenges. The program most often used is called the Environmental Quality Incentives Program (EQIP). The program will provide participating land owners with a conservation plan for their land and financial assistance to implement it. The plan will indicate which conservation practices are to be done where and the time frame for doing them. The plan will also provide guidance on how the practices need to be installed.

In Kona it is not uncommon to see coffee trees growing out of rocks as the photo to the right shows. The resource concern here is the lack of organic matter which in Kona creates an absence of soil. How do we build soil in Kona? With organic matter, like county green waste. This landowner and farmer would benefit greatly from mulching then possibly some cover crop. Cover crop (a temporary vegetative cover) will also provide additional organic matter both above and below the soil surface. Conservation cover (a permanent vegetative cover) is another practice that would benefit this land, after the soil development. The conservation cover will help to keep all the new soil created on site and will be a continuous source of organic matter.

Part of the infrastructure you need to develop for a successful rotational grazing system is a stock water system. Above is a water storage tank with a roof structure over it. The roof structure is the catchment area so this is a catchment tank. (If it was being filled with county water it would be called an irrigation regulating reservoir.) The water from this catchment tank will be pumped to water troughs throughout the ranch for the livestock to drink.

In past years NRCS has had multiple sign up dates but not this year. This year there is one ***DEADLINE FOR APPLICATIONS: October 20th***. We have been advised there will not be a second round as there has been in the past. Anyone who controls private land can stop in and set up a site visit. If there is no crop in the ground and you do not want to farm how about establishing a small native forest? If you have crops in the ground how is your soil? If you are in Kona we know the answer, 'what soil?' If you have livestock, and a perimeter fence you can (continue on page 2)

Inside this issue:

Special points of interest:

- Kona SWCD meetings take place the second Thursday of the month from 8am-10am and you are invited.
- Special thanks to Laura Nelson, NRCS Soil Conservationist, for editing services.
- This newsletter is produced with funding from the Hawaii County Department of Research and Development

What does a rotational grazing system do for you?

Rotational Grazing, or Prescribed Grazing, is the use of livestock to manage grasses. A prescribed grazing system will take livestock forage land and break it up into smaller paddocks and pastures which would be separated by a fence, this is known as *cross fencing.*

Livestock start in one paddock and graze there for predetermined length of time then are moved to another paddock where they are allowed to graze for another specified amount of time then moved again, and again. The livestock will rotate through all the available paddocks according to a schedule. The schedule and timing of the moves is based on the "stubble height" of the grass.

Stubble height of grass is what is left after the livestock have foraged or eaten. Different grasses have different growth points. Stubble height is related to growth points. A rancher does not want the stubble height of the remaining grasses to be lower than the growth point for that grass.

The movement of the livestock from one paddock to another allows each paddock to "rest". This resting period is very important for the forage species and the soil. When the paddock is resting the forage or grasses the livestock eat get to grow back or recover. Prescribed grazing will help ensure a more even consumption of the grasses. Ranches that work with a prescribed grazing program will have healthier grasses, minimal soil erosion and fewer invasive species on their land.

A prescribed grazing system will also include a plan for dealing with drought. Two common methods include destocking the herd and having an emergency paddock that is only used in drought or other emergencies such as a brush fire.

Stop in to your local NRCS office for more information on prescribed grazing systems and the infrastructure that supports it and how applying for EQIP dollars can help pay for it. There are two important rules for prescribed grazing assistance, you must have animals on the land and have a perimeter fence in place.

Natural Resource Conservation Service Sign-ups *(cont. from page 1)*

install cross fencing and a stock water system. There are lots of options but the ***deadline to apply for them is October 20th***. Don't wait until then if you can come in early. The earlier you get started the less pressure there is to "make the deadline". So come on in, relax, have a cup of coffee with us and learn about EQIP and the other cool things we can share with you. See below for the contact information for the NRCS office nearest to you.

Hilo Field Office:
NRCS Contact: Kori Hisashima at 933-8359, SWCD contact Jennifer Lopez at 933-8255

*Waimea Field Office:
NRCS Contact: Jessica Schmelz at 322-2484 ext. 109, SWCD Contact Alyssa Fujii at 885-6602 ext. 100

*Kealakekua Field Office:
NRCS Contact: Jessica Schmelz at 322-2484 ext. 109, SWCD Contact Mary Robblee at 322-2484 ext. 100.

*Due to NRCS staffing shortages, Jessica Schmelz is the District Conservationist for both the Waimea and Kealakekua Field Offices.

How Much Help Does NRCS Provide Our Community?

The Kona SWCD staff was recently tasked by the Board of Directors with putting some information together regarding funding and budgets. The data organized in the box below comes from the Resource Economics Analysis Policy Division (REAP) which is part of NRCS.

Over the past few years, with assistance from your local SWCD, the farming community in Hawaii County received millions of dollars in financial assistance from NRCS because they agreed to put conservation practices to work on their land. Conservation practices like cover cropping, mulching, irrigation, tree and shrub establishment, conservation cover , etc. Those practices not only help the individual farm but they make our community and environment a better place.

Federal Fiscal Year	Number of contracts	Acres Affected	Obligated Funds	Funds Paid to Date
2014	54	15,133.20	4,026,233	2,150,876
2015	53	10068.3	2,694,523	1,682,726
2016	75	10,307.9	5,410,262	2,202,754
2017	46	4,447.6	2,440,774	63,529
Totals	228	39,957.00	14,571,792.10	6,099,885.10

This data was provided by the Resource Economics Analysis Policy Division (REAP), which is part of NRCS.

SWCD staffers across the island are happy to be involved in helping so many people improve their farms and our local communities. Each district receives $50,000 from the county to work with our local farmers and NRCS. We think we provide a great return on the county's (your) investment.
(continued on page 5.)

These water tanks store the rain caught on the roof structure right above them. This is part of a stock water system ensuring all the livestock on the ranch have adequate water.

A stock water system is required if a livestock operator wants to incorporate a rotational grazing system with NRCS assistance. NRCS requires all paddocks created with their funding have a water trough or water supply.

Other components of a prescribed grazing system include cross fencing and a plan for drought months. Frequently those plans include destocking the herd.

Did you know?

It is estimated that 1 in 3 bites of food relies on honey bee pollination. Having healthy honey bees in Hawai'i has great value at home and impacts agriculture worldwide. In addition to the variety of special products Hawai'i's honey bees produce including honey, wax, and pollen, the state is a key provider of queen bees to the mainland US and Canada. Hawai'i's year round queen rearing capacity is a critical resource to North American agriculture which relies heavily on honey bee pollination.

Honey Production in Hawai`i: $3.1 million/ year

Hawai'i ranks 2nd in the US for pounds of honey per hive at 93lbs!

Abundant diverse plants and year-round forage conditions make this a great place to produce honey

Honey from Hawai'i is prized on the market, with special flavors and textures, some sell for $40/lb!

Queen Bee Production in Hawai`i: $10 million/ year

Hawai'i is home to the largest queen bee producers in the world, providing 25% of queen bees shipped to the mainland US and 75% of the queens shipped to Canada.

Demand exceeds supply, and beekeepers and growers depend on Hawai'i's exported queens. This is a growth industry with very high potential.

Biosecurity is key to keeping export markets strong, so we must prevent the introduction of Africanized bees and other invasive bee pests!

Agriculture Pollination value in Hawai'i: $212 million/ year

Hawai'i agriculture relies heavily on honey bees for pollination. Many of our crops would not have pollinators without honeybees.

With the arrival of Varroa on 'Oahu and Big Island, the feral bees have been largely lost. Managed pollinators play an important role to provide adequate pollination for farmers.

Mac nuts, avocado, coffee, citrus, and lychee are just a few of the crops that require honeybee pollination for fruit yield. If you like to eat you need bees.

This information was brought to you by the Hawaii's State Department of Agriculture's Apiary Program. They support the bee industry from honey to queens.

If you have bee questions call or email the Apiary Program Staff, they are located in Hilo.

Noelani Waters, (808) 339-1977 or noelani.waters@hawaii.gov

Mitra Heffron, (808) 225-6334 or mitra.heffron@hawaii.gov

Did you know honey bees are not native to Hawaii? Did you know there is a native bee, the yellow face bee, but is endangered and it does not pollinate agricultural crops.

How Much Help Does NRCS Provide Our Community? (Cont. from pg. 3)

On the left: NRCS will help cover the cost of applying mulch to your land to improve your soil. The resource concern this addresses is the lack of organic matter in soil. To the community, our farmers use the green waste so the cycle of vegetation coming from and going back to the soil is complete.

Below: Conservation Cover virtually throughout the coffee orchards. This particular farm was able to get Perennial Peanut established which is not easy. Conservation cover does many good things for a farm and the environment in general. With its roots it prevents soil erosion. Its roots also provide organic matter under the surface. By blocking the sun's beating rays it helps the soil maintain moisture, really it does. Because Perennial Peanut is a legume there is some nitrogen production.

Above: that pile of debris used to be a Christmas berry tree. In its place will go lots of native plants and a forest will be born. For the purpose of planting a forest NRCS will help fund the removal of non-native with the replacement of natives.

Above is a lined catchment area to collect stock water. A rancher, through a series of pumps and pipes (installed with NRCS financial assistance) transfers the water to troughs throughout the ranch. A catchment is not very deep, possibly as deep as a foot.

To the left and below: a sampling of water troughs used for livestock. Water is pumped to these from a storage tank. A rotational grazing system plan must have a trough in every paddock to receive financial assistance from NRCS otherwise the animals could die.

Soil Facts...What is New in Soil

What is new in soil? Actually, our soil itself is what's new!

There are five factors involved in the building of soil, parent material (for us usually lava and volcanic ash), organisms, climate, slope, and time. This article will focus on time.

It takes 100-500 years to build one inch of soil, and yes, that first inch generally takes the longest. Drive down south toward Miloli'i and you will pass a lava field with a lot of Ohia trees scattered around. Ohia is known as a pioneer species. Pioneer species are the first species to inhabit a lava field. Other Hawaiian pioneer species include lichens like the *Stereocaulon vulcani* and ferns such as the Kupukupu fern (*Nephrolepis exaltata*) and the `Ama`uma`u fern (*Sadleria cyatheoides)*

The Kona landscape is between 3,000 and 5,000 years old. In doing the math we should have between 6 and 50 inches of soil throughout our landscape but we do not. What happened to our soil? It eroded or volatized away generally due to poor land use and poor land management decisions.

This photo shows what is left for soil when *clean culture farming* methods are used. There is none. Kona soils need organic matter, i.e. leaf litter, grass clipping, weeds, mulch, etc., or it will disappear.

One management decision that has lead to very thin soils is the practice of applying herbicide to all the weeds in an orchard. It is sometimes called "clean culture farming" Herbicides are a tool in the farmer's tool box and useful in some situations, but killing all the weeds with poisons can have a detrimental effect on your crop and your soil's micro-organisms. Remember, organisms are a soil forming factor. They turn mulch into soil. Spraying herbicide can kill the organisms in your soil. That is what one local coffee farmer found out when he was testing for glyphosate (active ingredient in Round-up) build up in his soil.

He did not find any high levels of the herbicide, instead he found a very low populations of soil micro-organisms when compared with areas that were not treated.

Aside from the harm glyphosate has on your soil it also has a negative impact on coffee trees too.

All of the above photos show the detrimental effects, yellowing and narrow leaves as well as *witches broom*, of coffee exposed to glyphosate, the active ingredient in Round-up. Do your soil and your coffee a favor by limiting the use of glyphosate. (Photo credit: CTAHR ***Glyphosate Injury to Coffee,*** Scot Nelson, November 2008)

FARM SERVICE AGENCY

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 Hilo can be reached at 933-8381 ext 1.

FSA Dates to Remember

November 3, 2017: RTCP (Reimbursement for Transportation Costs Program for Geographically Displaced Farmers and Ranchers) Deadline for submitting transportation and input expenses.

December 1, 2017: NAP 2018 (Noninsured Crop Disaster Assistance Program) Sign up deadline.

March 31, 2018: Acreage Report for 2018

Reporting NAP production losses:

- Within 15 calendars after the disaster occurrence or date of loss or damage first becomes apparent.
- Within 15 days after the normal harvest date
- For hand harvested crops: within 72 hours of the date damage or loss first become apparent.

NAP Coverage

NAP Basic Policy:	50% of loss and pays 55% of the NAP price.
NAP Buy Up:	65% of loss and pays 100% of the NAP price.
Why you need protection?	Clean Up, Replanting, Income

Beginning, limited resource and targeted underserved farmers or Ranchers are eligible for a waiver of the service fee and a 50 percent Premium reduction when they file form CCC-860, "Socially Disadvantaged, Limited Resource and Beginning Farmer or Rancher Certification."

For all coverage levels, the NAP 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.

If you have any questions pertaining to these or any other Farm Service Agency programs please feel free to contact Lester Ueda at 933-8341 or via email at Lester.Ueda@hi.usda.gov

Don't forget FSA's low interest loans. Contact Linda Kow at 933-8343 or via email at linda.kow@hi.usda.gov

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

Board of Directors:
Chairman: Greg Hendrickson
Vice Chairman: Jeff Knowles
Treasurer: Pepe Miranda
Director: Tom Greenwell
Director: Rick Robinson,

Staff: Mary Robblee, Conservation Assistant

Monthly meetings are held on the 2nd Thursday of the month from 8am-10am at the USDA Kealakekua 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.

We are on the web at

www.kswcd.org

Kona's Invasive Species

In September, the Hawaii Association of Conservation Districts (HACD) contacted the folks at each SWCD office throughout the state and asked what our top five invasive species were. I put the question out there to our cooperator community and the following chart shows the results.

The Kona SWCD would like to thank the cooperators who helped us collect this data.

The National Association of Conservation District (NACD) will be the organization that uses this data to lobby Congress on your behalf to help you with pest control measures. Those measures could mean money, research, education, maybe even compensation for losses related to invasive species.

The Kona SWCD is confident NACD will be representing our interests, and the interests of cooperators across the country, to help improve programs that provide producers with direct, as well as indirect, benefits.

Invasive Animals	
Species	Totals
Pigs	7
Little Fire Ant	5
Rats	5
Coqui Frogs	4
CBB	3
Mongoose	3
Fruit Flies	2
African Snails	2
Mac Nut Beetle	1
Feral Cats	1
Rat Lung	1

Invasive Plants	
Species	Totals
Christmas Berry	8
Kosters Curse	5
Strawberry Guava	5
African Tulip Tree	5
Lantana	2
Elephant Grass	4
Guinea Grass	2
Vines of all kinds	4
Running Bamboo	2
Cat's Claw	2
Madagascar ragwort	1
Opiuma	1
Molasses Grass	1
Guava	1
Running Mountain Grass	1
Desmodium	1
Autograph Tree	1
Bitter Melon	1
Jo'i weed	1
Kolomona (non indigenious one)	1
Sensitive Plant	1
Honuhonu Grass	1
Spanish Needle	1
Fountain Grass	1

Animal and plant invasive species information as provided to us by our cooperators.