Resource Kona

RESOURCE KONA **Spring 2019**

KONA SOIL AND WATER CONSERVATION DISTRICT

Two Line Spittlebug Creates Serious Problems

Adult Two-lined spittlebug (TLSB) (Prosapia bicincta) on Kikuyugrass.

Photo credit: CTAHR Publication
Nov. 2018 Update : Two-lined Spittlebug (Prosapia bicincta (Say)) in Hawaii

The Two-lined spittlebug (TLSB) is a serious threat to the state's ranching industry and it is starting in Kona.

In 2016, the TLSB was first identified on North Kona ranches. It was destroying the forages that had been established over many years. That year, 2016, 2,000 acres were impacted. In 2018 that figure rose substantially, to 125,000 and represents more than 20% of Hawaii Island's pasture land.

Kikuyu and pangola grasses are sod forming grasses and the pest seems to have a preference for them. Here in Hawaii, those grass species are the ranching industry's predominant forage grasses. Where the infestations of this pest are heavy there is 100% die back of the grasses, and that includes their root systems. Without a root system there is nothing to hold the soil to the island.

What happens after the TSLB comes through? Check out the photo below. Long term changes could be unimaginable. Are there replacement grasses? Other grasses are being studied CTHAR and NRCS have been studying this and they believe a change in rotational grazing systems will help. The pest likes a cool moist environment and just above the soil surface and under 12-24" grass work well for them. With more frequent and short time rotation schedules the surface will be exposed to more sunlight and therefore more heat.

Photo credit: Big Island Invasive Species Council web site: https://www.biisc.org/2linespittlebug/

It is believed this change will be significant enough to make the spittlebug a pest that has tolerable levels. There is also research being done on other grasses that might work and have a reasonable cost associated with them.

Kikuyu grass seed is expensive and pangola grass has to be sprigged which makes it labor intensive therefore expensive. To understand ranching is to understand the value of the resources required to develop and maintain a good pasture for years. Ranchers do this through all kinds of environmental and economic challenges. Loosing good pasture is the

Inside this issue:

Special points of interest:

- Kona SWCD meetings take place the Third Thursday of the month from 8am-10am and you are invited.
- This newsletter is produced with funding from the Hawaii County Department of Research and Development

Duplachionaspis divergens, a plant scale pest

Duplachionaspis divergens, is a plant scale pest that was recently identified in Captain Cook. At first it was thought to be the first time identified in the state but it is a pest in Hilo as well. There are three general ways to classify scale, armored scale, soft scale and mealy bug. Between the three, there are about 8,000 different species of scale known to exist. The one that was identified is an armored scale and that makes it tougher to manage because the armor protects it, see the photos below.

This pest was discovered on a coffee farm that had been using Tropic lalo (*Paspalum hieronymi)* for its ground cover. Scale prefers hot dry environments and the affected farm received very little rain last summer and fall. It can be a difficult pest species to address because the adult females live under a coating of armor. The offspring are called crawlers (the yellow things in the photo on the left) because once born they start crawling around and are not protected by armor yet, and that is the time to get them. The farm that had this problem used a weed torch to quickly eliminate it.

The Kona SWCD's patch of Tropic lalo has not been impacted by this.

These photos show Tropic lalo *(Paspalum hieronymii)* infected with *Duplachionaspis divergens, one of approximately 8,000 scale species known to exist. This is an armored scale, soft scale pests and mealybugs belong to this family of pests too.*

Two Lined Spittlebug (cont. from previous page)

equivalent of loosing years of hard work. (cont. on page 2)

To date it has been known to impact kikuyu and pangola grass. Some folks have pangola grass in their orchard, some have kikuyu, if you are one of them please keep an eye out for this pest. In the Southeastern US it damages Bermuda grass and St. Augustine grass so if you have that species you too, should keep an eye out for the TLSB.

If you have seen the Two-lined Spittlebug or know it has damaged your grass cover please contact, Mark S. Thorne, Range and Livestock Management Specialist at 808-887-6183 or via email at thornem@hawaii.edu

The Big Island Invasive Species Council will also like to hear from you. You can call them at the office: 933-3340. You can contact the Pest Reporting System at 643-pest (643-7378) or you can email the office at biisc@hawaii.edu

Rapid Ohia Death

The Kona SWCD was recently working with a land owner who wants to install a new coffee orchard. The landowner's plan was to use a flailing mower, like the one the county uses for roadside maintenance, to remove the woody brush like Christmas berry, Strawberry guava and African tulip. By using the flailing mower there is little soil disturbance and soil health is improved due the vast amount of organic matter added to it.

The landowner wanted to leave the tall native trees but was concerned about the dead and dying Ohia, so he asked us what would be the best thing to do. He was advised to leave all of the Ohia standing and to not bring equipment too close to them. The recommendation is to stay as far away from the base of the tree as the tree is tall. For instance, if the tree is 40' tall, stay 40' away from the trunk of the tree, otherwise, the roots could get squished or the tree could inadvertently be injured making it susceptible to ROD. Once the woody weedy species are removed you can safely fall the ROD affected trees in a traditional manner then cut the logs to workable lengths to stack and cover with a tarp. The goal is to minimize ohia sawdust. The fungus spores can become airborne and then be able to infect another tree.

Help prevent spreading Rapid ʻŌhiʻa Death by practicing these six things:

1. If clearing land, do not grind, chip, or flail ʻōhiʻa trees. Use traditional tree falling methods to remove ʻōhiʻa.

2. Avoid injuring ʻōhiʻa.

3. Do not move ʻōhiʻa wood or ʻōhiʻa parts.

4. Do not transport ʻōhiʻa inter-island.

5. Clean gear and tools, including shoes and clothes, before and after entering forests.

6. Wash the tires and undercarriage of your vehicle to remove all soil or mud.

It's their Birthday! NRCS Turns 84!

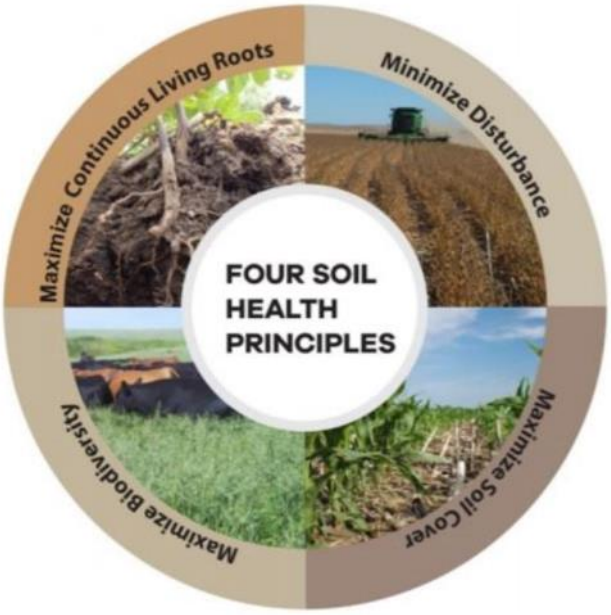
It was on April 27, 1935 and the Soil Conservation Service (SCS) was born. This was done when Congress passed Public Law 74-76, also known as the ***Soil Conservation and Domestic Allotment Act***. It recognized that "the wastage of soil and moisture resources on farm, grazing, and forest lands . . . is a menace to the national welfare"

Prior to the SCS the Soil Erosion Service was created after Hugh Hammond Bennet, author of a 1928 publication titled "Soil Erosion: A National Menance" which influenced Congress to create the first federal soil erosion experiment stations putting Mr. Bennet in charge of them. This was in 1929.

Mr. Bennett continued advocating for erosion control while the Dust Bowl was creating large dust storms that were affecting large areas of the country with regularity. During the winter between 1934 and 1935, snow, colored by red dust, fell in New England. These dust storms blew through Washington, DC and helped Mr. Bennett convince Congress more was needed and the SCS was born.

It was 1994 when the USDA changed the name of the SCS to the Natural Resources Conservation Service (NRCS) which better reflects what they address, soil, air, water, plant and animal resources. The NRCS has lots of programs to help private landowners improve their natural resources. Stop by the office and find out how.

Four Principles of Soil Health



These four soil health principles apply to anyone looking to build healthy soils. Image Credit: USDA-NRCS

During February NRCS and SWCD staffers had the opportunity to participate in soils training. This training included 15 hours of class lecture and 8 hours of field work. Through it all the focus was on soil health and how to improve it.

There are four principles to follow for healthy soil.

1. ***Keep your soil covered.*** Covered soil retains moisture longer, and the temperature does not fluctuate like it does on bare soil. In the winter, where it gets cold (northern climes) soil temperature is higher under covered soil, the cover acts as a level of insulation and in the summer the covered soil is cooler than uncovered soil. The critters in your soil love this feature.

2. ***Disturb the soil as little as possible.*** Disturbed soils start to loose organic matter right away. We may not see it with the naked eye but changes, and not for the better, are taking place. Organic matter helps soil hold moisture, cycle crop nutrients, sequester carbon more efficiently, and reduces soil erosion

3. ***Keeping plants growing throughout the year*** . This principle refers to having living roots in the soil throughout the year. In Hawaii keeping plants growing throughout the year causes some folks to think of the maintenance required for their upkeep. It is better for your land if you do the maintenance with weed whacking than with herbicide.

Even where the soil freezes you can have living root systems, they are simply hibernating. Think of all the trees, shrubs and grasses that come up in the spring time, they aren't dead during the winter, just dormant.

4. ***Diversify as much as possible using crop rotations and cover crops.*** Diversification is second nature to many of our farmers, the variety of orchard crops that come from any one farm is astounding. The challenge is what is between the orchard trees. For many producers it is "weeds" and there are some weeds that are a pain in the neck, like *Drymaria Cordata,* also known as tropical chickweed. It is the plant that leaves all the little green sticky seeds on you when you walk through it, but even that is better than bare soil.

By following these four principles you can improve your soil's health and healthy soil improves crop yield and crop health.

The Kona SWCD has a patch of *Paspalum hieronymi,* tropic lalo, a grass species that is very good at erosion control is low maintenance and can help control your weeds too. We are also going to establish a patch if Smother grass (Durban grass). The smother grass is very shade tolerant and needs only 2-3 hours of direct sun each day. We can harvest from the Tropic lalo patch and will soon be able to harvest from the Smother grass patch and give it to you at no cost.

The Kona SWCD wants you to cover your soil, because it makes the soil healthier and we want it to stay on your farm. Both of these grasses can help with that.

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 shares a phone line with Rural Development (RD). Both are in Hilo and can be reached at 933-8381, FSA is ext 2.

Sign Up for eAuthentication Level 2 Access

The information below is from the FSA Newsletter, March 2019 edition.

Aloha, Talofa, Hafadai,

Because of upcoming software enhancements that will allow producers to have real-time access to Farm Program and Farm Loan information, I'd like to strongly encourage all FSA customers to establish on-line Level 2 access accounts with USDA to facilitate easier application submissions and verification of information and program requirements. The time producers take now to establish access to our on-line systems will save everyone time and eliminate confusion when applying for current and future programs. Signing up now will help streamline applications, save time later and allow us to pay claims quicker. Enrolling is easy! To sign up for eAuthentication Level 2 Access producers need to:

- Step 1: Create an online account at www.eauth.usda.gov, select "Create an Account".
- Step 2: Select either "Register for a Level 2 Account" or "Log into Your Profile" to change from Level 1 Access to Level 2 Access.
- Step 3: Complete identity verification by either using the online self-service identity verification method or by completing the identity verification in-person at your USDA Service Center.
- Step 4: You're enrolled

May 2019 Interest Rates

Farm Operating Loans - 3.500%

Farm Operating Microloans – 3.500%

Farm Ownership Loans – 4.000%

Farm Ownership Microloans- 4.000%

Farm Ownership Loans Direct Down Payment for Beginning Farmer or Rancher - 1.50 %

Emergency Loans – 3.75 %

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

Staff: Mary Robblee, Conservation Assistant

Monthly meetings are held on the 3rd 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 Coffee Expo

The 12th Annual Kona Coffee and Small Farm Expo was held in March down at the Old Airport Pavilion with the Kona SWCD and the NRCS office in attendance as vendors.

This expo is a great opportunity for local producers to meet and talk with folks representing all types of services successful farmers need, from marketing and brand development to soil building.

We saw lots of familiar faces, some were producers and others we know from having worked with them helping the producers. Looking forward to next year's event!

From the left, The USDA's Natural Resources Conservation Service's Soil Conservationist, Laura Nelson; District Conservationist, Jessica Schmelz; Soil Scientist, Jacky Vega. It was a fun day meeting and chatting with folks who want to do the right thing for their soil and their land.

On the right is Mary Robblee, Conservation Assistant for the Kona Soil and Water Conservation District reviewing the information in the soils folder with an attendee at the expo. The soils folder the district puts together has information and articles on pest control, cover cropping and soil health. Most of them come from the College of Tropical Agriculture and Human Resources, CTAHR.