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Hoolehua PMC News

Helping People Help The Land

Jon Brito

Puna Kawamae

Misty Mollena

AmeriCorps for the Summer

Once again the Hoolehua PMC was happy to welcome the 2011 volunteers that promised to make life a little bit easier during the summer months. Three individuals that call Molokai home plan to assist the Hoolehua PMC with projects that were put on the back burner because of limited hands available.

Returning volunteer, Jon Brito has been attending college at Humboldt State University pursuing a degree in environmental engineering. He hopes his volunteer work at the PMC will help him with life decisions. Puna Kawamae has been attending college at the University of Hawaii at Hilo pursuing a degree in agriculture. She hopes to also pursue a career in conservation. Misty Mollena has been attending the Maui Community College right here on the island of Molokai. She is pursuing a career in journalism.

The new guys are eager to learn new things and willing to lend a helping hand. Two big projects that were planned for the summer included installing a 1000 ft of fencing along the front perimeter of the farm and haole koa removal from the main windbreak lines. There is over 12,000 feet of windbreak trees that need to be maintained on the Plant Materials Center. We need all the help we can get.

Improving Piligrass Seed

Piligrass (*Heteropogon contortus*) has proven to be an excellent plant for soil conservation. It is extremely drought tolerant and seems to grow just about anywhere from sandy soils to cracks in the pavement. Seedlings establish very quickly with very little water and thrive with any addition of nutrients. The grass would an ideal candidate for roadside applications with a hydro-mulch system if a technique to clean the seed can be established.

The nature of the awns and seed make it very difficult to clean. It forms a tangled mass that can clog a combine and make it almost impossible to separate from each other. The Arizona PMC recognized the potential for piligrass and released a cultivar known as 'ROCKER', but they also had difficulty cleaning the seed and gave up on developing a cleaning technique. The Hoolehua PMC has been trying to develop a method to clean the seed since 1999.

During this past year we have revisited the idea of cleaning piligrass seed with a new approach. By collecting the piligrass hay as well as the mature seed with the combine, we were able to "dilute" the tangled mass to make the seed easier to separate from the awn. Although this method has not been perfected, it is the cleanest piligrass seed, by far! More testing will continue in the following months to refine the technique.

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The People's Garden

Volunteer group helping to harvest sweet potato

In April, a handful of volunteers came to help harvest a sweet potato crop in The People's Garden that had been planted in September. The Peoples' Garden is a national project to showcase the type of work that the USDA is involved with. Chelsea Sakamoto of Molokai took on the responsibility as coordinator for the garden as her senior project. Chelsea was able to increase community awareness about the project, organized volunteers, and also collaborated with the local Food Bank to which all of the produce was donated to. She has done an outstanding job.

During the past year the People's Garden has produced 15 lbs. of pumpkin, 86 lbs. of taro leaf, 136 lbs. of sweet potato, and 560 lbs. of eggplant.

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Native Seed Mixture

Large degraded areas can sometimes be difficult to replant with live propagules because of the high cost of irrigation, labor, and the plants themselves. As an alternative, the Hoolehua PMC is in the process of developing a native seed mixture for critical area projects. Using seeds in critical areas can be a lot more cost effective because a larger area can covered with less effort and also with less soil disturbance.

We have chosen a few common shrubs and grasses native to Hawaii that are well adapted to degraded sites. These include piligrass (*Heterpogon contortus*), kawelu (*Eragrostis variabilis*), aalii (*Dodonaea viscosa*), uhaloa (*Waltheria indica*), and *Achyranthes splendens*. Other species that have potential to be added to the mix include: ilima (*Sida fallax*), kookoolau (*Bidens mensezii*), and aweoweo (*Chenopodium oahuense*). All of these plants are very drought and wind tolerant and are able to thrive in poor soils.

Currently, we are working on testing technology to establish plants in critical areas using the native seed mixture. The picture below shows seedlings emerging from a plot that had been shallow-ripped about 4-6 inches deep, covered with a thin mulch layer, with a small application of fertilizer, and about 20" annual rainfall (no irrigation). If you are interested in the status of the project or participating in the study, please do not hesitate to contact the Hoolehua PMC

In the future, we hope to gather stem-density data from intact native dry-land forests to determine a "good" ratio for the different plant species in the seed-mix. Also, we plan to test different seeding-rates of the mixture to determine how much of it is needed to establish plants at various climatic zones throughout the PIA.