



United States Department of Agriculture

Natural Resources Conservation Service Earth Team

Volunteer Showcase

My Experience as an Earth Team Volunteer Conservationist

By Genesis Z. Tua Ayala

I am a student at the University of Puerto Rico in Mayagüez, studying crop protection. Being an NRCS Earth Team volunteer was a nice opportunity to expand my skills and acquire new knowledge about soils. NRCS is an excellent group to work with. My experience in observing the farms and comparing pasture conditions with and without conservation practices helped open my eyes to the importance of the soil and its value to agriculture. Soil conservation management helps prevent soil compaction, provides good water infiltration and soil moisture, improves evapotranspiration, and reduces erosion.

I joined the NRCS Mayagüez staff on field visits to a number of dairy farms to observe resource concerns and identify opportunities to implement conservation practices. The dairies we visited were in Arecibo, Camuy, Hatillo, Humacao, Las Piedras, Manati, San Sebastián, and Utuado.

At the dairies we visited we observed degraded pasture conditions due to overgrazing and pesticide misuse. When cattle feed on the same land for long time periods they eat the grass down to the roots. This does not allow new grass to sprout and reduces plant growth rates, allowing faster-growing weeds to take over pastures. When farmers do not make good use of pesticides weeds can develop resistance to those pesticides and monopolize pasture areas.



Earth Team Volunteer Genesis Tua Ayala helps stake out grassed waterways for a dairy producer in the Caribbean Area (above) and assembles Soil Health information packets for distribution (below).



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During our dairy farm visits we identified *Solanum viarum* as one of the more damaging weeds in pastures. It is difficult to control because seeds have high viability and germinate quickly. If not properly managed and eliminated, it bears fruit that livestock eat and then spread the seeds over the land.



Solanum viarum
(Tropical Soda Apple)

Some conservation practices recommended to address these resource concerns are rotational grazing; planning intensity, frequency, timing, and duration of grazing; and placing the appropriate number of cattle per acre, based on animal weight. Applying these practices can help to replenish pastures and reduce soil compaction by livestock trampling.

During my time volunteering, I was able to help the NRCS agronomist write and review conservation practice standards. It helped me learn to organize my ideas and improve my method of analysis. Thanks to the great opportunity I had to work as an NRCS volunteer, I now have the ability to evaluate and determine conservation standards to analyze problems and opportunities in the field.



Overgrazed pastures with poor weed control (left) and good quality grass using conservation practices such as grazing management and weed control (right)

Genesis was one of 16 Earth Team Volunteers providing valuable assistance to field offices in the Caribbean Area this fiscal year. These volunteers received special recognition for their significant conservation efforts.

“Volunteers work closely with our staff, and they play an important role in our conservation work in the Caribbean Area,” said NRCS Caribbean Area Director, Edwin Almodóvar.



NRCS Caribbean Area Earth Team Volunteers (left to right): Rubén J. Hernández, PhD; José Domínguez; Luis Ruiz; Elmer Acevedo; Elvin Lassalle; William Durán; Yanira Miranda; Génesis Tua; Josean Torres; José Zamora, UPR Professor; and Rosario Zamora.

The Earth Team is the volunteer component of the Natural Resources Conservation Service. If you are interested in volunteering, contact the National Earth Team Office at 888-526-3227 or visit: <http://www.nrcs.usda.gov/EarthTeam>

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