Nicaragua Bee Exchange 2017
Managua, Mateare, & Somoto, Nicaragua
January 15-22, 2017

Beekeepers in Somoto, Nicaragua tasting Minnesota honey

UMN Bee Squad & Lab members helping with honey extraction in Materare, Nicaragua

Beekeepers from Cooperativa la Dulce Miel harvesting honey with UMN Bee Squad & Lab in Nagarote, Nicaragua

Beekeeping information sharing session in Somoto, Nicaragua

Thanks to funding from the Eva Crane Trust, the Mortenson Family Foundation, and the University of Minnesota GPS Alliance, 8 employees of the University of Minnesota Bee Squad and Lab traveled to Nicaragua in January 2017 to engage with beekeepers. The goal of the visit was to build relationships with beekeepers in Nicaragua, participate in meaningful beekeeping conversations and activities to learn from each other, and identify opportunities for future exchanges.

Bee Exchange Participants Included:
Beekeepers from Somoto and San José de Cusmapa, supported by Fabretto
Beekeepers from beekeeping cooperative Cooperativa la Dulce Miel from Mateare
Augosto's commercial beekeeping operation in Tipatapa
Rebecca Masterman, PhD, University of Minnesota Bee Squad Associate Program Director
Michael Goblirsch, PhD, University of Minnesota Bee Lab Postdoctoral Fellow
Katie Lee, University of Minnesota Bee Lab PhD Candidate
Ana Heck, MPP, University of Minnesota Bee Squad Project Coordinator
Clara Costello, University of Minnesota Bee Squad Equipment Manager & Creative Consultant
Judy Griesedieck, Professional Photographer & University of Minnesota Bee Squad Specialist
Brooke Sommerfeldt, University of Minnesota Specialist
Jennifer Warner, University of Minnesota Bee Team Leader

Successes of Nicaragua Bee Exchange 2017:

- Our host organizations, including Cantera, Fabretto, and Cooperativa la Dulce Miel, took excellent care of us. They planned and coordinated meaningful exchanges and were generous hosts.
- We spent a day harvesting boxes of surplus honey, extracting it, and returning equipment to their hives. For many of us, it was the first time that we experienced this process all in one day. We also observed that the honey frames were not left in the extractor for longer than a minute, which meant that more honey was returned to the colonies compared to our methods.
- We toured the extraction and equipment facility of a beekeeper who manages 4,000 colonies where we learned about equipment construction, maintenance, and storage.
- We had an excellent conversation with 20 beekeepers from Somoto and San Jose de Cusmapa, where we shared experiences related to beekeeping management, honey production, and pest management.
- Most of us saw Africanized honey bees for the first time. We visited honey bee colonies at a few different apiaries and learn from local beekeepers about their management styles.
- Many of us harvested propolis, resin the bees collect from trees and deposit in their hives, for the first time.
- We brought Minnesota honey for beekeepers to try, and it was fun for beekeepers in Nicaragua to taste a new range of honey flavors.
- We brought a book of beekeeping photos in Minnesota, which was a wonderful tool to share our Minnesota beekeeping experiences in Nicaragua.
- One of our host partners facilitated an orientation on the history and social context of Nicaragua. This orientation was valuable to us as we aimed to understand the cultural and economic realities of Nicaraguan beekeepers.

Lessons Learned on Nicaragua Bee Exchange 2017:

- It was difficult to facilitate beekeeping discussions when the levels of beekeeping experience varied from aspiring beekeepers to beekeepers with three years of experience. For most Bee Exchange conversations, our group was best suited to talk with beekeepers with at least a year of experience.
- It was physically challenging for members of our group to participate in beekeeping activities in weather hotter than 90°F in full suits. In the future, we may consider working in the early morning or late

afternoon, using Brazilian mesh suits, or assisting with less vigorous beekeeping activities. Staying hydrated was important.

- It might be sensible to limit the number of beekeepers in an apiary to avoid disturbing colonies and to allow for the beekeepers to observe the colony and management at a close distance.

Opportunities for Future Nicaragua Bee Exchanges:

- Assist with honey market chain processes, including honey processing/bottling, designing labels, marketing, and exportation
- Teach queen rearing in collaboration with local Nicaraguan beekeeping experts
- Teach basic honey bee biology
    - By teaching basic honey bee biology, there would be opportunities to apply biology to beekeeping management decisions. For example, we learned that some Nicaraguan beekeepers, in order to avoid heat and defensive behavior, work at night by white/yellow light flashlight. The biological understanding that honey bees cannot see the color red would allow them to use red light and disturb the bees even less.
- Teach the scientific method and/or experimental design
- Present recent academic research on Africanized bees
- Bring beekeepers from Nicaragua to the University of Minnesota Bee Lab
- Conduct native bee surveys
- Look at insect diversity, perhaps through a night insect viewing
- Facilitate stingless bee management workshops with local experts
- Help beekeepers access beekeeping equipment for a reduced cost
- Teach beekeepers how to store equipment to avoid pests
- Teach beekeepers how to plan, coordinate, and facilitate local beekeeping conferences
- Work with beekeepers to use swarm traps to capture new honey bee colonies
- Support beekeepers in Nicaragua in conducting a research project in Nicaragua investigating:
    - available forage for honey bees
    - efficacy of feeding protein supplements
    - in-hive pesticide contamination
    - wax moth management
    - pollen analysis