

Pollinator Forage Development

Final Report for FW11-005

Project Type: Farmer/Rancher

Funds awarded in 2011: \$15,000.00

Projected End Date: 12/31/2014

Region: Western

State: New Mexico

Principal Investigator:

[Heather Harrell](#)

For the Love of Bees

Co-Investigators:

[Les Crowder](#)

For the Love of Bees

Project Information

Abstract:

This project began in 2011 as an effort to support educational development in the study of honeybees and pollinator habitat. For the Love of Bees Farm is a four acre certified organic farm located in Penasco, NM. Our farm land is in the mountains at an altitude of 7600 feet. The natural landscape is a mixture of high desert pinon/juniper and lush spring fed valleys filled with native grasses and wildflowers. Because our natural setting is already supportive of pollinators, we thought it would be an ideal location to experiment with a wide variety of plantings in support of pollinators, with the idea of creating a long succession of blooms that would provide both pollen and nectar over the spring, summer, and fall seasons.

This project was envisioned due to the profound effects of Colony Collapse Disorder (CCD) on the world of beekeeping. Commercial agriculture has proven to be very hard on pollinators of all kinds, and many of them have disappeared entirely. The beekeeping world is still experiencing massive losses, and although the causes of CCD continue to be researched, there is no clear agreement in the world of science and research about how to turn the problem around. Hence, organic producers, such as ourselves, have turned to the idea of building healthy habitats for pollinators in areas that are still somewhat protected from environmental degradation. The hope behind this idea is to create small pockets of resistance to CCD, where honeybees and other pollinators can survive and persist into the future.

- [Bee Drinking Drop of Nectar](#)

Introduction

We began our project by purchasing a large number of trees, shrubs, perennials, and cover crop seeds to develop our land. Some of the species were purely

experimental, and we chose them based on research into their blooming habit, with the thought that they might provide unique sources of nectar or pollen for our site. Other species were already established as beneficial plants for pollinators, and we chose them in order to have a wide representation of plants on display for visitors and students. In the first year, we made great strides in our project; doing lots of planting and establishing irrigation and infrastructure to support the plantings.

Simultaneously, we began to develop a stronger outreach program for our work. With the help of Western SARE, as well as the Santa Fe Community Foundation and the McCune Foundation, we worked hard to write a book on using organic methods in top-bar hives. Our book was published by Chelsea Green Publishing in 2012 and includes an extensive section on Planting For Bees. We also made a DVD on Top-Bar Beekeeping that features a section on Planting for Bees. To date, the book has sold many thousands of copies and has garnered wonderful reviews. We have continued to lead farm tours, teach classes, and generally spread the word about supporting pollinators through organic methods. Each year, we plant more annuals, perennials, and cover crops to support the honeybees and the pollinator life around us.

- [Hannah in Buckwheat](#)

Project Objectives:

The main objectives of this project were threefold:

- To develop our farm as a pollinator forage species demonstration site, with a wide diversity of plantings that provide a continuous source of nectar and pollen through the active season.
- To provide education and outreach to students and the general public concerning honeybee and pollinator health and welfare. We did this through having multiple farm tours, leading classes on beneficial plantings, and teaching classes on top-bar beekeeping. We also teach classes on organic farming techniques.
- To publish a book on using organic methods in top-bar beekeeping, which included a list of plants that are useful in supporting honeybee health and longevity.

- [Butterfly on Monarda](#)

Cooperators

- [Joran Viers](#)

jviers@ad.nmsu.edu

County Project Manager/ Agricultural Agent

Bernalillo County Extension Service

1510 Menaul NW

Albuquerque, NM 87107

(505) 243-1386 (office)

Research

Materials and methods:

We used organic methods to support the many plantings that we did over the three years. We make our own compost on the farm and used both compost and compost tea to nurture the plants. We also use drip irrigation on our farm to conserve water and to provide targeted irrigation to the plants that need it.

We wrote a book and published it with a large and well known publishing company in the world of agriculture, hoping to reach the widest audience possible with the message about supporting honeybees and pollinators with organic methods. The book has had international recognition and continues to sell well.

We lecture nationwide, and even went to Jamaica with USAid's Farmer to Farmer program in order to teach about organic top-bar beekeeping. We also teach regular classes each summer and include a component about planting for bees.

- [Alliums on Drip Irrigation](#)
- [Reviews of our book](#)
- [Information on Bees and Honey](#)

Research results and discussion:

The two main outcomes of this project were:

- We created a very beautiful natural setting on our farm that is extremely supportive of honeybee and pollinator health. There are hedgerows of beneficial plants, multiple layers of trees and shrubs throughout the property, and each year we plant extensive blooming cover crops.
- We published a book that has reached thousands of people, letting them know how they can support honeybees and pollinators by using organic methods and by developing their ecosystem via planting for bees.

The impacts of our project have been:

- Students of our classes have benefited from the knowledge we have gained through this project. They are able to confidently do their own planting in support of honeybees and pollinators with the information we have provided for them.
- People who have read our book have been exposed to a new way of thinking about beekeeping. They have been provided with a strong encouragement to use organic methods and to develop the land around them to support the lives of honeybees and pollinators.
- Staff from local agencies who have visited our farm have seen the success of our plantings and been encouraged to spread the word in other agricultural venues. This was part of our original goal, and our land serves as a beautiful inspiration to others from all walks of life.

- The honeybees and pollinators in our area have benefited tremendously from our plantings, and there is some evidence to suggest that a wide diversity of nectar and pollen sources can heal sick hives.
- [Native Bumblebee and Honeybee on Motherwort](#)
- [Echinops Thistle, Peppermint and Monarda in bloom](#)

Participation Summary

Educational & Outreach Activities

PARTICIPATION SUMMARY:

Education/outreach description:

- We published a book on Top-Bar Beekeeping, published in 2012 by Chelsea Green.
- We teach Beekeeping Classes each year.
- We lecture at numerous conferences each year, both agricultural conferences as well as beekeeping conferences.
- We hold farm tours in which the general public can walk the land and see the various plants on display.
- We worked with beekeepers in Jamaica to help them develop a top-bar hive beeyard and spoke with many groups there about building and maintaining their own top-bar hives rather than relying on the commercially produced Langstroth hives.
- [Illustration on Hive Management from book](#)
- [Planting for Bees illustration](#)

Project Outcomes

Project outcomes:

Our main accomplishments include:

- Publishing a very well-received book on Top-Bar Beekeeping that has garnered excellent reviews and international recognition in the beekeeping world.
- Developing our land with multiple layers of plantings as a demonstration site for pollinator forage.

- Teaching students about planting for bees through farm tours, classes, and through extensive lecturing, as well as through outreach programs such as US AID.

Recommendations:

Potential Contributions

I believe we have contributed greatly to the world of agriculture and beekeeping by spreading the word about planting for bees. There was a time when the harvesting of honey, and the strength of our pollinator community, was taken for granted as a result of natural abundance. Those times have passed, and now a shift of perspective is happening that requires that citizens take an active role in supporting and maintaining pollinators by investing in the protection and maintenance of their habitats.

While natural landscapes used to be covered in wildflower blooms and native environments were found unadulterated in many wilderness areas, environmental factors related to the expansion of human settlements have diminished these natural landscapes. The responsibility for keeping some of these areas alive is falling upon humans who have an interest in environmental stewardship. Our efforts have helped to outline some ways in which people can be of use to the world of honeybees and pollinators. We have helped to create greater awareness about the problem, as well as offering concrete solutions that anyone can participate in.

Future Recommendations

I would really love to see extensive research done on the medicinal properties and constituents of the pollen and nectar of various plants and their specific effects on honeybee health and longevity. It would be good to see a small book published on this research that outlines the most medicinal plants for honeybees and other pollinators. Many beekeepers interested in organic methods are already experimenting with medicinal barks and herbs for smoking their hives, as well as landscape plantings that provide support to foragers. We saw evidence on our land of honeybee hives making recoveries from illness when certain plants came into bloom. However, we have no hard evidence to support this assertion, and it would be great to see science step in to do this important research.

- [Bee Eating Pollen](#)

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture or SARE.



This site is maintained by SARE Outreach for the SARE program and is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award No. 2019-38640-29881. SARE Outreach operates under cooperative agreements with the University of Maryland to develop and disseminate

information about sustainable agriculture. [USDA is an equal opportunity provider and employer.](#)

© 2022 Sustainable Agriculture Research & Education