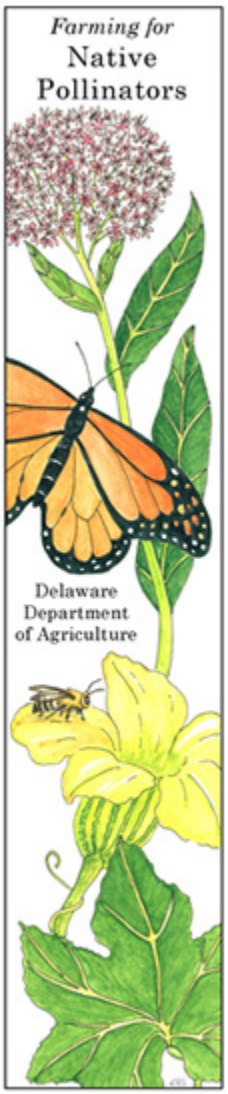
Farming for Native Pollinators



Our Mission

Managed honey bee populations, America's most important managed pollinator, are declining. Their decreased availability and reduced vigor have become a concern of scientists and farmers, since bees are needed to pollinate many fruit and vegetable crops. There are more than 3,500 species of solitary bees in North America, and recent research has shown that native bees can play a major role in the pollination of some agricultural crops. Native Bees will often visit flowers in wet or cold conditions, when honey bees remain in the hive. Even crops that use managed honey bees as their main pollinators can increase yield by five-fold when they interact with native bees.

Farming for Native Bees was a 4-year project (2007-2010) that is surveying native bees associated with cucurbit/mixed organic crops in Delaware and will use this data to make recommendations for management practices that will enhance pollinator populations. The findings, however, will benefit all farmers producing pollinator-dependent crops.

Pollinator Overview

More than 120 commercial crops are dependent upon insect pollination. Most growers rely on colonies of the honey bee, *Apis mellifera*, for pollination services. Beekeeper-managed colonies are necessary for commercial yields. Many of these colonies have been affected by mites and diseases, resulting in weaker colonies and fewer beekeepers able to supply growers with quality pollination colonies. The "crisis" in the pollination of both cultivated crops and native vegetation has attracted national attention. The Delaware Department of Agriculture (DDA), University of Delaware Cooperative Extension, and a number of Delaware growers are cooperating in a project, "Farming for Native Pollinators" that aims to develop solutions to this crisis for Delaware's growers.

Cucurbit crops are an important segment of Delaware agriculture, with revenue estimated between $16-$21 million/year. Cucurbits (e.g. pumpkins, cucumbers, and melons) are highly dependent upon insect pollination. Honey bee colonies supply the majority of these crops' pollination needs, although native bees also play a significant role in pollination. Therefore, maintaining cucurbits as a viable segment for Delaware agriculture requires maintaining adequate populations of both honey bees and native

bees. While growers may be aware of honey bee problems, many are unaware of the role that non-managed, wild bee species play in pollination needs. Furthermore, they are not generally aware of on-farm management practices that can enhance native pollinator populations.

During 2006, the Delaware Department of Agriculture funded a baseline survey of native bees in cucurbits. Over the following 2 years, additional surveys were conducted, and life history information developed for the native bees. In 2008, interested farmers were be encouraged to implement buffer strip and field margin recommendations that will favor native bees. In 2009, refined recommendations were proposed for incorporation into CREP and WHIP programs and a booklet and series of educational information on native bee management developed.

Lister Acres played a vital role in the "Farming for Native Pollinators" project by serving as a both a test and survey site. A special "Pollinator Mix" of native grass and flower seeds was developed and planted on the farm. The mix was designed to provide season-long pollen and nectar resources for bees and other important pollinators, such as butterflies. The suitability of the Pollinator Mix was subsequently evaluated as part of the project. Through special displays in its agri-tourism program, Lister Acres also provided an important educational link to the general public.

Project generated Information

DELAWARE NATIVE PLANTS FOR NATIVE BEES

http://dda.delaware.gov/plantind/forms/publications/Delaware%20Native%20Plants%20for%20Native%20Bees.pdf

FARM MANAGEMENT FOR NATIVE BEES; A GUIDE FOR DELAWARE

http://dda.delaware.gov/plantind/forms/publications/FarmManagementforNativeBees-AGuideforDelaware.pdF

FARMNG FOR NATIVE BEES IN DELAWARE

http://dda.delaware.gov/plantind/forms/Bee_Guide_07.pdf

MEADOWS AND BUFFERS FOR BEES; CREATING MID-ATLANTIC POLLINATOR HABITATS

http://www.google.com.bo/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiE6by8taHQAhWIg5AKHcR7Dt0QFggZMAA&url=http%3A%2F%2Fmatthewsarver.com%2Fdownloads%2FMeadows_and_Buffers_for_Bees.pdf&usg=AFQjCNEJ8cY3g7NHIc1IA9hNuxiUJhCpoQ&bvm=bv.138169073,d.Y2I

SARE FINAL REPORT FARMING FOR NATIVE BEES

http://mysare.sare.org/sare_project/lne07-261/?page=final&view=print

See ALSO Xerces Society FARMING FOR BEES GUIDELINES FOR PROVIING NATIVE BEE HABITAT ON FARMS http://www.xerces.org/guidelines-farming-for-bees/ Dewey M. Caron & Faith Kuehn