HoneyBEE (Beekeeping Electronic Education) developed by Meghan Milbrath, an extension and outreach specialist at Michigan State University.

The HoneyBEE app will be for the development of beekeeping skills through the management of virtual honey bee colonies. This game will be a fun and engaging way for non-beekeepers to have a peek into the beekeeping world. It will also help individuals consider the challenges in a risk-free environment before spending money or purchasing any animals.

HoneyBEE is a game with the goal to successfully manage a virtual beekeeping colony and to build a sustainable virtual beekeeping operation. The game will be based on real honey bee management data and will be a fun and engaging way for individuals to learn the basics of honey bee care and running a small honey bee business. Players will start with one colony and will have to provide ‘care’ to the colony to keep it healthy and for it to grow. Players will learn how to monitor health indicators and will have options to respond to multiple scenarios. Players will be able to choose multiple locations and scenarios and can challenge themselves by trying different management strategies. Successful players with hive products that can be sold - earning the player virtual money that can be used to purchase more colonies and more equipment and grow their operation. Beekeepers who don’t successfully take care of their bees will have their colonies die, and they can start the game over.

Target audiences – people who are interested in keeping bees, teachers, beekeeping clubs, individuals who want to play a virtual game with bees.

Example – a player will start with a colony, and will chose the location (e.g. Michigan). The player will choose when to check on the hive and will receive information on the health and status of the colony. The player can choose to feed the colony, to add supplements, to monitor for disease, to treat for disease, to split the colony etc. The colony will respond to the player’s action or inaction depending on the time of year, weather etc. A beekeeper who is successful will be able to grow their operation, and can bring in income by putting money in their operation, getting virtual grants, or selling hives or hive products.

Benefits – The game will be based on real honey bee management data, and can be integrated into beekeeping and science education. Factors such as pests, pathogens, weather, habitat, will all affect the virtual beekeeping operation, and the beekeepers can try different scenarios to find management strategies that work to keep colonies successful.
Need – Honey bees are struggling, and entering the beekeeping industry can be difficult for the general public. This app will educate the public on the issues surrounding honey bees and beekeeping. Many people have recently heard about beekeeping, and want to start, but underestimate the work and costs involved, or may not enjoy it. This app will allow them to experience the art, joys and challenges of keeping bees before spending money, getting hot, or stung, and will be another tool for them to learn how to better care for their animals.

https://www.gofundme.com/pd-honeybee

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**Sustainable Agriculture**

“Sustainable agriculture” as legally defined in U.S. Code Title 7, Section 3103 means an integrated system of plant and animal production practices having a site-specific application that will over the long term:

- Satisfy human food and fiber needs.
- Enhance environmental quality and the natural resource base upon which the agricultural economy depends.
- Make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls.
- Sustain the economic viability of farm operations.
- Enhance the quality of life for farmers and society as a whole.
The basic goals of sustainable agriculture are environmental health, economic profitability, and social and economic equity (sometimes referred to as the “three legs” of the sustainability stool). The University of California Sustainable Agriculture Research and Education Program has a helpful explanation of some of the common themes woven throughout various definitions of sustainable agriculture on their website. The following is an excerpt:

Sustainability rests on the principle that we must meet the needs of the present without compromising the ability of future generations to meet their own needs. Therefore, stewardship of both natural and human resources is of prime importance.

Stewardship of human resources includes consideration of social responsibilities such as working and living conditions of laborers, the needs of rural communities, and consumer health and safety both in the present and the future. Stewardship of land and natural resources involves maintaining or enhancing this vital resource base for the long term.

A systems perspective is essential to understanding sustainability. The system is envisioned in its broadest sense, from the individual farm, to the local ecosystem, and to communities affected by this farming system both locally and globally. An emphasis on the system allows a larger and more thorough view of the consequences of farming practices on both human communities and the environment. A systems approach gives us the tools to explore the interconnections between farming and other aspects of our environment.

A systems approach also implies interdisciplinary efforts in research and education. This requires not only the input of researchers from various disciplines, but also farmers, farmworkers, consumers, policymakers, and others.

Making the transition to sustainable agriculture is a process. For farmers, the transition to sustainable agriculture normally requires a series of small, realistic steps. Family economics and personal goals influence how fast or how far participants can go in the transition. It is important to realize that each small decision can make a difference and contribute to advancing the entire system further on the “sustainable agriculture continuum.” The key to moving forward is the will to take the next step.

Finally, it is important to point out that reaching toward the goal of sustainable agriculture is the responsibility of all participants in the system, including farmers, laborers, policymakers, researchers, retailers, and consumers. Each group has its own part to play, its own unique contribution to make to strengthen the sustainable agriculture community. For more information visit the National Sustainable Agriculture Coalition http://sustainableagriculture.net/about-us/what-is-sustainable-ag/
Animal pollination plays a vital role as a regulating ecosystem service in nature. Globally, nearly 90 per cent of wild flowering plant species depend, at least in part, on the transfer of pollen by animals. These plants are critical for the continued functioning of ecosystems as they provide food, form habitats and provide other resources for a wide range of other species.

Read more at [http://www.ipbes.net/sites/default/files/downloads/pdf/spm_deliverable_3a_pollination_20161124.pdf](http://www.ipbes.net/sites/default/files/downloads/pdf/spm_deliverable_3a_pollination_20161124.pdf)

**Information for Your Beekeeping Association**

Scotts is helping people of all ages express themselves on their own piece of the Earth.

When people come together in a garden, or gather on a green space, something good happens: the world and their place in it becomes more amazing, more special, more powerful. With urban and economic development at an all-time high, we desperately need to protect and grow our collective connection to nature, to the environment and to each other.

**Learn more and apply for a grant** at [http://scottsmiraclegro.com/responsibility/gro1000/](http://scottsmiraclegro.com/responsibility/gro1000/)

If your Beekeeping Association is a member of Pollinator Stewardship Council, we can work with you in writing the grant and serving as your fiscal agent. Email the Program Director for more information progdirector@pollinatorstewardship.org
EPA Financial Advisory Board Nominations

The EPA is pleased to invite nominations for individuals to serve on our Environmental Financial Advisory Board (EFAB). Members of EFAB provide advice and recommendations to EPA on a wide range of issues including: reducing the cost of financing environmental facilities; identifying approaches specifically targeted to small community financing; developing new and innovative environmental financing approaches and supporting and encouraging the use of cost-effective existing approaches; and increasing the total investment in environmental protection of public and private environmental resources to help ease the environmental financing challenge facing our nation.

The deadline for nominations is Friday, February 10, 2017. For more information or to provide a nomination, please refer to the Federal Register notice at https://www.gpo.gov/fdsys/pkg/FR-2016-12-29/pdf/2016-31449.pdf. For more information on EFAB, please visit https://www.epa.gov/waterfinancecenter/efab.

Pesticide Label Review Manual

EPA has updated the Pesticide Label Review Manual (LRM)’s Chapter 1. (https://www.epa.gov/pesticide-registration/label-review-manual) This manual began as a guide for EPA label reviewers, and now it serves as a tool to assist EPA’s stakeholders in understanding the pesticide labeling process. The LRM is also useful in understanding approaches for how labels should generally be drafted.

EPA considers this document to be an instructional aid that does not establish new guidance, but instead compiles existing interpretations of statutory and regulatory provisions and reiterates existing Agency policies.

EPA is interested in optimizing the usefulness of the Label Review Manual (LRM) as a tool for understanding the pesticide labeling process. The LRM is also useful in understanding approaches for how labels should generally be drafted. “As always, we will consider each label on its own merits and will consider deviations from our policy in labeling under the appropriate provisions of FIFRA and its implementing regulations.” states EPA on their website.

“Pesticide product labels provide critical information about how to safely and legally handle and apply pesticides. Unlike other types of product labels, pesticide labels are enforceable and must include the statement, “It is a violation of Federal law to use this product in a manner inconsistent with its labeling.” 40 CFR156.10(i)(2)(ii). In other words, the label is the law.

A critical function of the label is to translate the results of the science evaluations into a set of conditions, directions, precautions, and restrictions that define who may use a pesticide, as well as
where, how, how much, and how often it may be used. Therefore, the accuracy of a label is vital as it can impact:

- EPA and other agencies that use the label to manage and mitigate pesticide risks.
- EPA and other agencies that enforce pesticide production, distribution, and use.
- Registrants, including pesticide manufacturers, and their supplemental distributors.
- Pesticide applicators who rely on the label for hazard and safety information and use directions.
- Bystanders and other individuals who may be exposed to the pesticide.” EPA Chapter 1.

LRM change requests may be submitted by anyone, including OPP and other EPA staff, other federal, state, local, and tribal agencies, pesticide registrants, researchers, and private citizens. All requests will be reviewed by the LRMS and/or the LCC before a decision is made. You can submit errors or suggestions for the LRM on the Pesticide Labeling Questions and Answers page (https://www.epa.gov/pesticide-labels/pesticide-labeling-questions-answers), which is a component of the Pesticide Labeling Consistency Web page (https://www.epa.gov/pesticide-labels/ways-obtain-assistance-pesticide-labeling-issues).

We are a member of the Honey Bee Health Coalition

HBHC Varroa videos:
- Varroa mite PSA - https://www.youtube.com/watch?v=p4titRjZuOQ
- Video 1 - IPM - https://youtu.be/aFilPZ5KbgU
- Video 2 - Sampling methods - https://youtu.be/IgPfT9FQxLc
- Video 4 - Essential oils - https://youtu.be/fsn0RurGz10
- Video 5 - Using Apivar - https://youtu.be/pCq_Pu1iFeo
- Video 6 - Using Apistan or Checkmite+ - https://www.youtube.com/watch?v=nsbY1nuUREY
- Video 7 - Formic acid - https://www.youtube.com/watch?v=6PK5BTjexSs
- Video 8 - Using HopGuard - https://www.youtube.com/watch?v=rOlafuIBBf0&t=8s
- Video 9 - Using Oxalic Acid - https://www.youtube.com/watch?v=Sp-9eD3SgwW
- Video 10 - Using sanitation, screen bottoms - https://www.youtube.com/watch?v=U7Axyy5JVDc
- Video 11 - Using drone brood removal - https://www.youtube.com/watch?v=j17AStzxEgs
- Video 12 - Using requeening - https://www.youtube.com/watch?v=GnPBIStvC60

Tools for Varroa Management http://honeybeehealthcoalition.org/varroa/
Quick Guide to Reporting A Bee Kill http://pollinatorstewardship.org/?page_id=3292
Beekeeper Guide http://honeybeehealthcoalition.org/tools-and-resources/#hm
Grower Guide  http://honeybeehealthcoalition.org/tools-and-resources/#hm


The Bee Understanding Project-. View the first film at this link  https://vimeo.com/149238870

Seeds for spring flowers for honey bees!
Pollinator Stewardship Council has partnered with Ohio Prairie Nursery in support of pollinator habitat. You can get native seeds for eastern U.S. planting zones here. Select “Support our Cause” (http://www.ohioprairienursery.com/?ref=pollsteco) to view featured seed selections to benefit pollinators. A portion of sales generated from our website will help support our work.

Seeds for honey bees WEST of the Mississippi
To increase plant biodiversity, improve gardens yields, and make a positive difference for the future, plant for pollinators WEST of the Mississippi with bbseed. The Plant for Pollinators Project, developed by bbseed, offers a discount on their pollinator mixes. Go to their website, find and enter the discount code, and Plant For Pollinators! https://www.bbbseed.com/articles/plant-for-pollinators-project/

Pollinator Stewardship Council
1624 Idlewood Ave., Akron, OH 44313
832-727-9492 www.pollinatorstewardship.org

We are also on facebook

A COPY OF THE OFFICIAL REGISTRATION AND FINANCIAL INFORMATION MAY BE OBTAINED FROM THE APPLICABLE REGULATORY DEPARTMENT/ DIVISION WITHIN EACH STATE (LISTED BELOW) BY CALLING TOLL-FREE WITHIN THE STATE. REGISTRATION DOES NOT IMPLY ENDORSEMENT, APPROVAL, OR RECOMMENDATION BY THE STATE. For more information go to http://pollinatorstewardship.org/?page_id=5048
We are member supported! The Pollinator Stewardship Council is a nonprofit organization; donations are tax deductible.

Butterfly Pavilion
https://www.butterflies.org/

A.H. Meyer & Sons, Inc.
http://www.ahmeyerandsons.com/

People and Pollinators Action Network
http://www.peopleandpollinators.org/

Selbi’s Hoosier Honey
http://www.selbishopsierhoney.com/

Strachen Apiaries
https://www.strachanbees.com/

Sunshine Apiary, Inc.
https://www.facebook.com/sunshineapiary

Tennessee Beekeepers Assn.
http://www.tnbeekorea.org/

Empire State Honey Producers Assn.
http://www.eshoee.org/

Smith Farm Pure Honey
www.smithfarmpurehoney.com/

Randy Oliver
http://scientificbekeeping.com/

Browning’s Honey Co., Inc.
http://www.browningshoney.com/

Wilson County Beekeepers Assn.
http://wilsoncountybeekapers.org/

Hackenberg Apiaries
http://hackenbergapiaries.org/

Nashville Area Beekeepers Assn.
http://nashbee.org/

Delta Bee Club
http://www.deltabeeclub.org/

Colorado State Beekeepers Assn.
http://coloradohoneykeepers.org/

Heartland Apiicultural Society
http://www.heartlandbees.org/

Portage County Beekeepers
http://www.portagecountybeekapers.com/

Beekeepers of Middle Tennessee
http://bomt.org/

Old Mill Honey Co.

Foothill Honey Farms

Kathleen Stang

W. David Taylor

Wind River Honey Co.

Miika Honey Farms

California-Minnesota Honey Farms

Rick Smith

Bob McDonnell

Samuel & Helen Hall

Headwaters Farm

Hiatt Honey, LLC

Bret Adee

Indian Run Apiary

California Apiaries, LLC

Sunrise Feed & Supply
http://sunrisefeed.com/

Kentucky State Beekeepers Association
http://www.kcbabeekkeepers.org/

Geauga County Beekeepers
http://www.geaugacountybeekapers.org/

Nature’s Own Designs Apiary Products
http://nodglobal.com/

Essex County Beekeepers’ Assn.
http://www.essexcountybeekapers.org/index.shtml

Los Angeles County Beekeepers Assn.
http://www.losangelescountybeekapers.com/

Pennsylvania State Beekeepers Assn.
http://www.pastatebeekapers.org/
Beekeepers Working for Beekeepers

The Board and Program Director are all beekeepers. We work to:

- Raise awareness about the adverse impact of pesticides on pollinators critical to the supply of food and the ecosystem.
- Provide advocacy, guidance, and tools to document the detrimental effect of pesticides on pollinators.
- Affect regulatory processes of pesticide risk assessment, label, and enforcement.