



Date: 1/24/2019

PSU Ref. No: 206785

Title: Fruit Grower Participation in the 2nd In-Service Pollinator Meeting at Penn State

Patti Keller

Submitted to: @acnursery.com

State Horticultural Association of Pennsylvania

PO Box 108

Asoers, PA 17353

Program: State Horticultural Association of Pennsylvania

Submitted by: Margarita Lopez-Uribe

(814) 865-1895

mml64@psu.edu

Proposed Project Period: 4/1/2019 - 03/31/2020

Total Project Request: \$4,000

AUTHORIZED UNIVERSITY OFFICIAL

 DATE 1/24/2019

Research Administrator - Pre-Award
College of Agricultural Sciences
107 Agricultural Administration Building
University Park, PA 16802-2602
Tel: 814-865-5419
Fax: 814-865-0323
Email: L-AG-contgrts@lists.psu.edu

 DATE 1/24/19

John W. Hanold
Assoc. VP for Research
Office of Sponsored Programs
The Pennsylvania State University
110 Technology Center Building
University Park, PA 16802-2602
Tel: 814-865-1372
Fax: 814-865-3377
Email: osp@psu.edu

EIN: 24-6000376

DUNS No: 00-340-3953

The Pennsylvania State University employs individuals and accepts students and graduate research students from a multitude of national backgrounds. As an entity, the University is subject to, and works diligently to obey, federal regulations regarding the export of controlled technologies and data. Sponsor, as an independent entity, is individually responsible for ascertaining its compliance with federal export laws and procedures. If Sponsor anticipates disclosure or provision of controlled technology or data to University as part of the proposed sponsored project, Sponsor should inform University, in writing, of the existence of, and information concerning the scope and extent of, such anticipated disclosures or provisions.

Please reference PSU Ref. Number in all correspondence.

Title: Increasing Fruit Grower Participation in the 2nd In-Service Pollinator Meeting at Penn State

Personnel: Margarita M. López-Urbe

Assistant Professor in Entomology

Pennsylvania State University

Phone: 814-865-8245

Address: 547 ASI Building, University Park, PA 16802

Email: mml64@psu.edu

Duration: 04/01/2019 to 03/31/2020

Justification:

Pollination is a critical ecosystem service that is responsible for the increased quantity, quality, and stability of over 60% of cultivated crop species including stone fruits such as apples and cherries (reviewed in Klein et al., 2006 *Proc B*). The economic value of pollination represents 9.5% of the total value of the world's agriculture and it is estimated to be worth at least \$200 billion/year (Gallai et al., 2009 *Ecol Econom*). In Pennsylvania, growers obtain over \$150 million annually from sales of apples and cherries. Despite the undoubted ecological and economic importance of pollinators as ecosystem service providers, a number of managed and wild pollinator taxa are exhibiting pronounced declines while some crops are being hand-pollinated in parts of the world (Biesmeijer et al., 2006 *Science*).

Given the great importance of pollinators for crop production and the recent decrease in the number of managed honey bee colonies available for pollination services, the topic of pollinator health is of great importance for the sustainability of agricultural systems in our region. A large amount of recent research has been dedicated to identifying drivers of bee decline, potential mechanisms to mitigate threats to pollinators and guidelines to manage alternative pollinators and landscapes for wild bees (see Pennsylvania Pollinator Protection Plan: <http://ento.psu.edu/P4>). In 2014, Drs. Shelby Fleischer, David Biddinger, Diana Cox-Foster, Christina Grozinger, and others organized the first pollinator in-service meeting hosted at the Pennsylvania State University, University Park campus. There has been accelerated research efforts to advance our knowledge about the status, problems, and opportunities for conservation of pollinator populations since the last pollinator in-service meeting.

We are organizing a pollinator in-service meeting to bring together scientists, extension educators, growers, and beekeepers to learn and discuss what has been investigated on the topic of crop pollination and pollinator management in the past five years. **Providing this training opportunity to tree fruit growers through this**

pollination in-service meeting directly targets one of the SHAP extension priorities of 2019: “Pollinator Management”. Many aspects of the diversity of wild pollinators in our region and their role in pollination of crops are still unknown. The active participation of tree fruit growers in this in-service meeting is therefore critical for the success of the event. The increased participation of growers into the discussion of what areas of pollination research are needed for the improvement of their crop production. One clear topic of discussion is the need for the development of general guidelines that can help growers minimize pesticide exposure to bees that provide pollination services. Another topic of discussion is how to manage habitat to support wild pollinators that will provide free pollination services. All of these topics will be discussed during the meeting while providing extensive background information and hands-on activities to allow participants to learn more in-depth information about the biology of pollinators, the reasons for their declines and what growers can do to improve pollination services.

The goal with this in-service meeting is to advance the knowledge of growers, extension educators, and beekeepers on topics related to pollinator health and pollination services in agricultural areas and. Specifically, I aim to:

- (1) Provide an in-depth update about the status of basic and applied research on the topic of crop pollination.
- (2) Identify partnerships to plan future projects that will fill some of the current gaps of knowledge.
- (3) Increase public awareness about pollinators through the training of growers, extension educators, garden writers, and beekeepers.

Procedures:

The second in-service pollinator meeting will take place on July 9th and 10th 2019 at the Pennsylvania State University, University Park campus. This two-day meeting will bring together speakers from Penn State and other institutions such as Michigan State and Cornell University. The agenda of the meeting includes the following topics:

- (1) overview of pollination services;
- (2) pollination of crops grown in Pennsylvania (the apple system will be extensively discussed);
- (3) pollination biology and fruit development;
- (4) pollinator diversity and ecology;
- (5) pollinator stressors; and
- (6) practical programs and guidelines to increase pollination services.

The program includes a combination of lectures, discussions, and hands-on activities throughout the two days.

Budget:

Below, I provide details for the items for which I am requesting funds from SHAP.

Item	Details	Cost
Lodging	Hotel costs for 15 growers at \$100 per night	\$2,000
Meals	Meals for 1 1/2 days at \$50 per day	\$1,000
Printing	Printing costs for the proceedings of the meeting	\$1,000
Total Requested		\$4,000

I request \$3,000 to cover travel expenses and meals for 20 growers to attend the 2nd In-Service Pollinator Meeting organized by Penn State. These funds will specifically cover the costs of a one-night hotel (\$100/night) and meals for one and a half days (\$50/person). In addition, I request \$1,000 for printing costs of the proceedings of the conference. This print out will summarize key information delivered during the meeting, and it will be able available for growers to take home and use for future reference.

Other Support: In addition to the funds requested from SHAP, I am also seeking funds from PVGA (\$2,250 for travel), the Pennsylvania State Beekeeping Association (\$1,000 for travel), the Center for Pollinator Research (\$2,000 for meals) and Penn State Extension (\$25,000 for online videos of the materials delivered during the in-service meeting). The Budgetary Figures shown are goals and do not represent a cost sharing commitment on the part of The Pennsylvania State University and will not be reported to the sponsor in any financial reports.