New Hampshire
Department of Agriculture,
Markets & Food

MAY 20'19 AM 8:17 DAS

Shawn N. Jasper, Commissioner

April 23, 2018

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

## REQUESTED ACTION

Authorize the New Hampshire Department of Agriculture, Markets & Food, Division of Pesticide Control to grant funds and enter into a Cooperative Project Agreement, in the amount of $40,424, with the University of New Hampshire Office of Sponsored Research, vendor #177867, for the advancement of agricultural research and to assist in the promotion of Integrated Pest Management practices in New Hampshire, for the period from Governor and Council approval through March 31, 2020. 100% Other Funds.

Funding is available for FY 2019 in account, Integrated Pest Management, and is contingent upon the availability and continued appropriation of funds for FY 2020 as follows, with the ability to adjust encumbrances through the Budget Office between State Fiscal Years if needed and justified.

**02-18-18-183010-21820000 INTEGRATED PEST MANAGEMENT**

| OBJECT CLASS | ACCOUNT | FY 2019 | FY 2020 | Total |
|---|---|---|---|---|
| 075-500590 | Grants and Subsidies | $37,000 | $3,424 | $40,424 |

## EXPLANATION

The New Hampshire Department of Agriculture, Markets and Food (NHDAMF), Division of Pesticide Control in fulfilling its responsibilities under the Integrated Pest Management (IPM) Program, RSA 430:50; to promote the principles of IPM and assist New Hampshire citizens to advance the practice of such principles, has reviewed the project, "*2019 IPM Program for Spotted Wing Drosophila On-Farm Monitoring*", and finds it exemplifies good practices associated with Integrated Pest Management. The research and educational aspects associated with this project and the efforts of the University of New Hampshire Cooperative Extension identify and establish the presence and treatment methods to control an insect pest that is of economic significance relative to certain fruit, particularly berries and grapes. Experience and results of this project serve the benefit of all citizens of New Hampshire. The attachment includes a summary of the project and the dollar amount associated with each component.

Respectfully submitted,

Shawn N. Jasper
Commissioner

**COOPERATIVE PROJECT AGREEMENT**
between the
STATE OF NEW HAMPSHIRE, **Department of Agriculture, Markets & Food**
and the
**University of New Hampshire** of the UNIVERSITY SYSTEM OF NEW HAMPSHIRE

A. This Cooperative Project Agreement (hereinafter "Project Agreement") is entered into by the State of New Hampshire, **Department of Agriculture, Markets & Food**, (hereinafter "State"), and the University System of New Hampshire, acting through **University of New Hampshire**, (hereinafter "Campus"), for the purpose of undertaking a project of mutual interest. This Cooperative Project shall be carried out under the terms and conditions of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, except as may be modified herein.

B. This Project Agreement and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approve this Project Agreement ("Effective date") and shall end on **3/31/20**. If the provision of services by Campus precedes the Effective date, all services performed by Campus shall be performed at the sole risk of Campus and in the event that this Project Agreement does not become effective, State shall be under no obligation to pay Campus for costs incurred or services performed; however, if this Project Agreement becomes effective, all costs incurred prior to the Effective date that would otherwise be allowable shall be paid under the terms of this Project Agreement.

C. The work to be performed under the terms of this Project Agreement is described in the proposal identified below and attached to this document as Exhibit A, the content of which is incorporated herein as a part of this Project Agreement.

Project Title: **2019 IPM Program for Spotted Wing Drosophila On-Farm Monitoring**

D. The Following Individuals are designated as Project Administrators. These Project Administrators shall be responsible for the business aspects of this Project Agreement and all invoices, payments, project amendments and related correspondence shall be directed to the individuals so designated.

| **State Project Administrator** | **Campus Project Administrator** |
|---|---|
| Name: David J. Rouuseau | Name: Cheryl Moore |
| Address: State House Annex<br>25 Capitol Street<br>P.O. Box 2042<br>Concord, NH 03301 | Address: University of New Hampshire<br>Sponsored Programs Administration<br>51 College Road<br>Durham, NH 03824 |
| Phone: 603 271-3640 | Phone: 603 862-1992 |

E. The Following Individuals are designated as Project Directors. These Project Directors shall be responsible for the technical leadership and conduct of the project. All progress reports, completion reports and related correspondence shall be directed to the individuals so designated.

| **State Project Director** | **Campus Project Director** |
|---|---|
| Name: David J. Rousseau | Name: George Hamilton |
| Address: State House Annex<br>25 Capitol Street<br>P.O. Box 2042<br>Concord, NH 03301 | Address: UNH Cooperative Extension<br>Hillsborough Country<br>329 Mast Road, Room 101<br>Goffstown, NH 03045 |
| Phone: 603 271-3640 | Phone: 603 641- 6060 |



**Campus Authorized Official** KT
**Date** 4/15/19

F. Total State funds in the amount of **$40,424** have been allotted and are available for payment of allowable costs incurred under this Project Agreement. State will not reimburse Campus for costs exceeding the amount specified in this paragraph.

Check if applicable

☐ Campus will cost-share % of total costs during the term of this Project Agreement.

☐ Federal funds paid to Campus under this Project Agreement are from Grant/Contract/Cooperative Agreement No. from under CFDA# . Federal regulations, required to be passed through to Campus as part of this Project Agreement, and in accordance with the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, are attached to this document as Exhibit B, the content of which is incorporated herein as a part of this Project Agreement.

G. Check if applicable

☐ Article(s) of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002 is/are hereby amended to read:

H. ☒ State has chosen **not to take** possession of equipment purchased under this Project Agreement.
☐ State has chosen **to take** possession of equipment purchased under this Project Agreement and will issue instructions for the disposition of such equipment within 90 days of the Project Agreement's end-date. Any expenses incurred by Campus in carrying out State's requested disposition will be fully reimbursed by State.

This Project Agreement and the Master Agreement constitute the entire agreement between State and Campus regarding this Cooperative Project, and supersede and replace any previously existing arrangements, oral or written; all changes herein must be made by written amendment and executed for the parties by their authorized officials.

IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Department of Agriculture, Markets & Food** have executed this Project Agreement.

**By An Authorized Official of:**
**University of New Hampshire**

Name: Karen M. Jensen
Title: Manager, Sponsored Programs Administration
Signature and Date: 4/15/19

**By An Authorized Official of:**
**Department of Agriculture, Markets & Food**

Name: Shawn N. Jasper
Title: Commissioner
Signature and Date: 5/1/19

**By An Authorized Official of:** the New Hampshire Office of the Attorney General

Name: Erik Bal
Title: Assistant Attorney General
Signature and Date: 5/17/2019

**By An Authorized Official of:** the New Hampshire Governor & Executive Council

Name:
Title:
Signature and Date:



**Campus Authorized Official** KJ
**Date** 4/15/19

## EXHIBIT A

A. **Project Title:** 2019 IPM Program for Spotted Wing Drosophila On-Farm Monitoring

B. **Project Period:** Upon Governor and Council Approval through March 31, 2020

C. **Objectives:** The objectives of the University of New Hampshire are to assist the Department of Agriculture, Markets & Food in the promotion and advancement of Integrated Pest Management in New Hampshire.

D. **Scope of Work:** A detailed scope of work is on file with the Department of Agriculture, Markets & Food and described in Item G ("Other") of Attachment A of this agreement.

E. **Deliverables Schedule:** A detailed description with schedule is on file with the Department of Agriculture, Markets & Food

Major Project Components:

On Farm Monitoring: 2019 Growing Season
Insect/Crop: Spotted Wing Drosophila/small fruit and tree fruit

Final Report: March 31, 2020

F. **Budget and Invoicing Instructions:** Campus will submit an invoice on regular Campus invoice form for $40,424 at the time of Governor and Council approval. State will pay Campus within 30 days of receipt of the invoice.. Any unused funds must be returned to the State after the project end date.

| Budget Items | State Funding | Cost Sharing (if required) | Total |
|---|---|---|---|
| 1. Salaries & Wages | $19,712 | 0 | $19,712 |
| 2. Employee Fringe Benefits | 5,626 | 0 | 5,626 |
| 3. Travel | 3,745 | 0 | 3,745 |
| 4. Supplies and Services | 3,000 | 0 | 3,000 |
| 5. Facilities & Admin. Costs | 8,341 | 0 | 8,341 |
| Subtotals | | 0 | $40,424 |
| In Kind Contribution | | 0 | 0 |
| Total Project Costs | | | $40,424 |

G. Other.

A representative of the Department of Agriculture, Markets & Foods reserves the right to attend seminars and audit any work performed by the grant recipient.

Attachment A: Project Proposal - "2019 IPM Program for Spotted Wing Drosophila On-Farm Monitoring"



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**Date** 4/15/19

I. Itemized Budget

Funding can only be used for items detailed in your budget..Requests for the purchase of nonconsumable equipment that may serve a broader purpose than the IPM project will be rejected.
Itemized budget must be specific.

| Expense Account | Total |
|---|---|
| Personnel | |
| George Hamilton, Extension Field Specialist (.0833 FTE or 1 month) | $8,212 |
| Michael Toepfer, Local Area Network Manager (PAT) | $3,500 |
| Additional Labor: 50 days @ 8 hours /day @ $18.00/hr. | $8,000 |
| Benefits | $5,626 |
| Mileage:100 miles/day@ 70 days @ $0.535/mile | $3,745 |
| Supplies | $3,000 |
| Subtotal | $32,083 |
| Indirect costs at 26% | $8,341 |
| Total | $40,424 |

Personnel: $19,712

George Hamilton, UNH CE - Extension Field Specialist, (.0833 FTE) is the primary person conducting the project and will be managing the finances of the grant. All recommendations that are given to the farmers will be approved through the primary person conducting the project and may be delivered through the IPM scout hired for the project. The primary person conducting the project will make follow-up farm visits when problems occur with the IPM scouting during the growing season.

Local Area Network Manager is responsible for maintaining the web page and providing supportive programming and development of a web-based in-field data entry application. The IPM scout will use the application to enter insect trap data and monitoring counts where a weekly IPM report will be emailed automatically to the grower, farmer or orchardist.

Hourly Labor:

IPM Scout for Insect Monitoring and Scouting

One IPM Scout will be hired for insect monitoring and scouting from April through November for Spotted Wing Drosophila, a fruit insect pest; 50 days for one IPM scout. The IPM scout, with participating growers/farmers/orchardists, will set-up traps, check the traps and monitor the crop weekly to record and collect data throughout the growing season. The scout will collect the traps at the end of the season, clean and inventory the good traps and dispose of the traps that are no longer usable. The scout will collect the end of season grower/farmer/orchardist surveys.

Benefits Rate(s): $5,626

The Employee Benefit Rates are based on UNH's most current Rate Agreement with the U. S. Department of Health and Human Services. Details of fringe rates may be viewed at: https//unh.app.box.com/s/2ask4jij19t4pfjnx9f7zu6slkt8r8u.



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Travel: $3,745

Over the previous two years, the IPM scout averaged approximately 100 miles per day conducting the weekly farm visits for checking traps and monitoring crops. The total mileage is based on the 50 days additional labor (IPM Scout); 20 days for George Hamilton, UNH CE Extension Field Specialist.

Mileage and per diem expenses will be reimbursed at the current federal rates. Travel expenses will include instate travel to farms participating in the IPM program and attending planning sessions and events/meetings/workshops dealing with this IPM program.

Supplies & Services: $3,000

This application is requesting $3,000 for the purchase of project supplies/services directly related to the support of this project. Funds will be used for purchasing traps (projected at $1,080), trap supplies (i.e., wires, fasteners, etc.), attractants/lures (projected at $1,420) and paper, ink, ink cartridges, and printing for forms used by the IPM scout (projected at $500).

Facilities and Administrative Costs Rate: $8,341

The Facilities and Administrative Cost Rate is based on UNH's most current Rate Agreement with the U. S. Department of Health and Human Services, unless capped by Sponsor. The University's rate agreement may be viewed at https://unh.app.box.com/s/2ask4jij19t4pfjnx9f7zu6slkt8r8u.

II. Project Description (3 lines or less, to be used for publicity purposes):

Spotted Wing Drosophila will be trapped and monitored on a minimum of fifteen small and tree fruit farms/orchards throughout the summer of 2019.

III. Project Objectives (be sure to include how this project serves the concepts of IPM):

• Monitor for Spotted Wing Drosophila activity on a weekly basis throughout the growing season on small fruit and tree fruit farms.

• The data will yield information on seasonal activity and relative abundance of Spotted Wing Drosophila, which is needed to determine an IPM control strategy if Spotted Wing Drosophila numbers are over the action threshold of one male fly and becomes a threat to New Hampshire small fruit and tree fruit farms.

IV. Economic and Environmental Impact

The Spotted Wing Drosophila situation is brand new to not only New Hampshire (2011) but also the United States (2008). Results of grower surveys conducted from 2012-2015 showed losses were greatest in later-maturing crops and/or varieties and no damage to earlier maturing crops and/or varieties. In 2016, we saw a similar pattern with the on-farm trapping conducted by the IPM scout throughout the season. Many growers reported that they made fewer pesticide applications in 2016 than they did in 2012.

Based on grower reports of crop losses combined with crop price and acreage production data from the National Agricultural Statistics Service, our team calculated the total 2012 NH crop loss



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due to SWD was $1,516,000. In 2013 the calculated losses decreased to $529,000 and in 2014 the losses dropped to $214,000. The late appearance and slower buildup of SWD may have contributed to the drop in 2014. However, as SWD trapping began in 2012, we believe trapping has provided growers with a tool they have been able to use to help minimize crop losses.

Without trapping, growers may choose to spray according to the calendar in order to prevent infestation and crop losses like they saw in 2012. This could lead to higher pesticide use than necessary. We aim to continue to prevent infestation and reduce the Spotted Wing Drosophila losses compared to the 2012 high without excessive use of pesticides by using trapping data to help growers decide if and when to spray to control the insect.

In addition to minimizing crop and therefore profit losses, reducing the chances of significant Spotted Wing Drosophila infestation in fruit helps prevent customer panic. We saw this in August 1994, when a front page article in a major New Hampshire newspaper reported maggots in the New Hampshire blueberry crop. The reporter apparently did not know that the vast majority of growers that year did not have a maggot problem. In fact, it was probably only one grower with a serious problem. The publicity spread to other media, and customer demand for blueberries went down sharply that year. All growers suffered.

Monitoring SWD with lure-baited traps is a key part of our defenses against this recent invader. In 2017, it surprised us by appearing over two weeks earlier than we expected, and this allowed it to attack June-bearing strawberrries and cherries for the first time in New Hampshire. If we had not been monitoring, many growers could have experienced serious losses. Trapping also provides us with a way to quantify the SWD population for future reference, and let non-participating growers see SWD catch figures.

Beyond dollar savings, reduced insecticide spraying can help protect populations of beneficial insects: predators, parasitoids, and pollinators. Fewer sprays also reduces farm worker exposure to pesticides, in particular those involved with spraying, pesticide mixing & loading. Reduced spraying also reduces the opportunity for drift and the risk of environmental contamination. It can help keep farms in business growing locally produced food to meet the rising demand for fresh, local products.

V. How will your goals be accomplished? (i.e., experimental design)

• One IPM scout will be hired through use of the NHDAM&F – IPM Grant funds to conduct on-farm monitoring and scouting.

• We will work with fifteen growers/farmers/orchardists in New Hampshire on monitoring for Spotted Wing Drosophila insect pests, on a weekly basis, checking traps to determine need, frequency and timing for insecticide control applications for insects we are trapping.

o Spotted Wing Drosophila uses the cup traps where the baiting and trapping protocol is evolving and will be updated based on 2018 results prior to the 2019 growing season.

o Based on experience of Spotted Wing Drosophila trapping and monitoring in 2012 through 2018, SWD trapping requires more time and effort to check the traps than the other insects we regularly scout.



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• We will check traps throughout the 2019 growing season. Since Spotted Wing Drosophila is new to New Hampshire; growers/farmers/orchardists do not know precisely when the insects arrive until damage appears. This could lead the growers/farmers/orchardists to apply unnecessary sprays for prevention.

• If there are major outbreaks, we will consider disseminating alerts through additional means, including Weekly Market Bulletin

• At the end of the season, growers/farmers/orchardists in the program will complete a survey evaluating the project.

VI. Sampling Methods (if applicable):

• On-farm monitoring for SWD will be conducted during the 2019 growing season on a minimum of fifteen farms or orchards in New Hampshire with UNH CE personnel assisting.

• Weekly trap counts will be reported to the growers/farmers/orchardists and we hope growers/farmers/orchardists will participate in the monitoring.

• The baits used in the trap will be changed according protocol recommendations and according manufacturer recommendations.

• Working with the growers/farmers/orchardists, some traps will be moved according to crop conditions and crop maturity.

VII. How will your data be evaluated?

• At the end of the season, growers/farmers/orchardists in the program will complete a program evaluation survey to be reviewed by the UNH CE IPM Coordinator and/or other UNH CE personnel.

• Based on the trap counts collected during the season, UNH CE can decide if additional educational programming needs to be developed for fruit growers/farmers/orchardists in the state.

VIII. Explain how the results of your project will be shared/publicized.

All published literature (papers, presentations, publications, advertisements, etc.) must contain a statement attributing funding to the New Hampshire Department of Agriculture, Markets and Food IPM Grant Program. Publications must be submitted with the final report.

• A weekly visit to each grower will be made to monitor trap counts where the grower will be provided the information on need, frequency and timing for insecticide control applications.

• Updates on insect pest situations will be given at scheduled grower twilight meetings throughout the growing season.

• Pending agreement by participating growers, trap catches will posted on UNHCE's website, for anyone to access whenever he/she wishes. This will support decision-making by growers beyond those directly involved, and by other agricultural workers.



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• If there are any major insect outbreaks, we will consider disseminating alerts through additional means, including Weekly Market Bulletin.

• A presentation on the results of this project will be developed and presented to growers/farmers upon request.

IX. Detail how other groups may adopt some of the information you learn or develop:

• The UNH CE Extension specialists will be available to present the information described

Provide a complete list of all persons involved in the proposed project; include the names, addresses and phone numbers of the individuals.

George Hamilton, Extension Field Specialist
Mailing Address:
UNH Cooperative Extension – Hillsborough County
329 Mast Road – Room 101
City: Goffstown State: NH Zip: 03045
Telephone: day: (603)641-6060
Fax: (603)645-5252
email: george.hamilton@unh.edu



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