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New Hampshire
Department of Agriculture,
Markets & Food

Lorraine S. Merrill, Commissioner



March 26, 2013

Her Excellency, Governor Margaret Wood Hassan
And the Honorable Executive Council
State House
Concord, NH 03301

Dear Governor Hassan and Honorable Council:

REQUESTED ACTION

Authorize the NH Department of Agriculture, Markets & Food (NHDAMF) to enter into an agreement with the University of New Hampshire (vendor code # 177867 loc 46) for the period from Governor and Council approval to December 31, 2014 in the amount of \$22,218.00 to create a program integrating Ipad technology for information delivery and assistance to farmers. 100% Federal Funds.

Funding is available in account, Specialty Crop Block Grant, as follows with the authority to adjust encumbrances in each of the State fiscal years through the Budget Office if needed and justified, pending FY 14 budget approval.

Funding is available in FY 2013 as follows: 02-18-18-185010-33460000 Specialty Crop Block Grant, #12-25-B-1475

<u>ACCOUNT</u>		<u>FY 2013</u>	<u>FY2014</u>	<u>TOTAL</u>
33460000-500575	Promotion & Marketing	\$21,718.00	\$500.00	\$22, 218.00

EXPLANATION

The New Hampshire Department of Agriculture, Markets & Food (NHDAMF) received Specialty Crop Block Grant (SCBG) money from the United States Department of Agriculture to fund nine specific projects. The projects were solicited through the RFP process and submitted for review by USDA, Agricultural Marketing Service as part of our state application. The proposal submitted by the University of New Hampshire was one of the projects accepted by USDA for funding.

In the event that these Federal funds become no longer available, General Funds will not be requested to support this program.

Respectfully submitted,

Lorraine S. Merrill
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 **12/31/2014**. 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: **Innovative and Efficient Method to Interact with and Serve New Hampshire's Specialty Crops Agricultural Community**

- 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

Name: Gail McWilliam-Jellie
Address: State of New Hampshire
Dept. of Agriculture, Markets & Foods
25 Capitol Street, P.O. Box 2042
Concord, NH 03302-2042
Phone: 271-3788

Campus Project Administrator

Name: Dianne Hall
Address: University of New Hampshire
Sponsored Programs Administration
51 College Rd., Room 116
Durham, NH 03824
Phone: 862-1942

- 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

Name: Gail McWilliam-Jellie
Address: State of New Hampshire
Dept. of Agriculture, Markets & Food
25 Capitol Street, P.O. Box 2042
Concord, NH 03302-20142
Phone: 271-3788

Campus Project Director

Name: Cheryl Smith
Address: UNH Cooperative Extension
Plant Diagnostic Lab
Spaulding Hall, 38 Academic Way
Durham, NH 03824
Phone: 862-3841

F. Total State funds in the amount of **\$22,218** 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. **12-25-B-1475** from **U.S. Department of Agriculture** under CFDA# 10.170. 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.

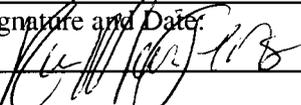
IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Department of Agriculture, Markets & Food** have executed this Project Agreement.

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

Name: Karen Jensen

Title: Manager, Sponsored Programs Administration

Signature and Date:

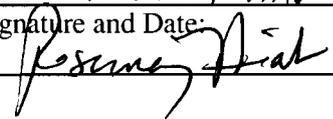
 3/25/13

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

Name: Rosemary Wiant

Title: Assistant Attorney General

Signature and Date:

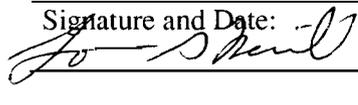
 4-1-13

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

Name: Lorraine S. Merrill

Title: Commissioner

Signature and Date:

 3-28-13

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

Name:

Title:

Signature and Date:

EXHIBIT A

- A. **Project Title:** Innovative and Efficient Method to Interact with and Serve New Hampshire's Specialty Crops Agricultural Community
- B. **Project Period:** Upon Approval by Governor and Executive Council through December 31, 2014
- C. **Objectives:** To integrate the use of iPads to reach and interact with and serve the agriculture community in New Hampshire.
- D. **Scope of Work:** Cooperative Extension Field Specialist in NH, as well as many other states, serve as generalists assisting producers across diverse specialty crops including fruits, vegetables, nursery stock, and floriculture crops. They are called upon to diagnose and provide management recommendations for a wide array of agricultural problems. Field Specialists utilize campus-based State Specialists to help them fill their knowledge gaps, yet this often takes significant time. In many instances notes and photos are taken by the Field Specialists before leaving the farm. They then need to wait until they can return to their offices to utilize resources to research the problems and provide an answer. The producer is contacted as soon as possible, but often must wait for several days prior to being able to take action. This model often results in crop losses while producers are waiting for a diagnosis and solution. This delay may also result in producers taking action before a confirmed diagnosis is made, and the action taken may be ineffective to solve the problem costing monetary and environmental damage.

The need to do more with less has excited agricultural Extension staff about this project. University of New Hampshire Cooperative Extension, like most other public institutions, has faced substantial budget cutbacks in the past several years and will likely continue to face budget constraints in the future. A major re-organization of Cooperative Extension's structure and operation has recently been implemented. Due to the re-organization county based Field Specialists are now required to service a larger geographic areas and therefore campus based State Specialist are also required to assume more responsibility. To more efficiently address expanded geographic regions and responsibilities, Field and State Specialists seek to improve their diagnostic skills, utilize technology to provide resource libraries in the field, get real time feedback from State Specialists, and provide producers with recommendations and solutions.

Information technology now has the capability of enhancing the diagnostic process, allowing State Specialists to interact with Field Specialists to assist with problems in real time. Recommendations can then be made to resolve the current issue and prevent future problems, saving farmers time and money. iPads will be provided to each Field Specialist and State Specialist in New Hampshire. Using this technology, staff will be able to carry a wide array of resources into the field.

In many cases it is not possible to demonstrate a practice while on a farm visit due to limiting factors such as crop stage, weather conditions or equipment needs. Cooperative Extension State Specialists and Field Specialists have been active in producing videos that can be loaded on to the iPads to share with growers when a demonstration is not possible. Some videos already available from UNH Cooperative Extension include fertilizer injector calibration, collection of water and plant tissue samples, and nutrient monitoring. UNH Cooperative Extension has also develop web-based and mobile apps to assist growers in calculating fertilizer and chemical applications. Having the ability to demonstrate these tools to growers on location will promote accurate dosing and therefore reduce inputs and/or increase crop quality.

Currently, it is not uncommon for a series of communications via e-mail or telephone to be required for a State Specialist to obtain adequate information to diagnose a problem, mainly because a follow-up question is required that is dependent on the answer to the initial question asked. In addition, photos submitted by growers do not always show the overall pattern or sufficient detail of a problem afflicting a crop. Ultimately, it may require the State Specialist to travel to the operation to see the situation first hand. iPads will allow a Field Specialist, who is visiting the producer, to initiate a video chat with a State Specialist and producer. A video chat will allow the State Specialist to see a first-person view of the problem at hand. Avoiding the need for a second trip to a producer can easily cost more than the \$30 monthly data plan for an iPad in just mileage, not to mention time lost in transit.

The real benefit of video chats is that one State Specialist can potentially have face-to-face interactions with producers in all 10 counties in one day. Thus stretching the ability of a State Specialist to impact more producers. In addition, if needed, multiple State Specialist and Field Specialists could interact with a producer with only one Field Specialist physically visiting the operation. The speed at which multiple first-hand interactions between producers and Cooperative Extension staff can happen will reduce the reaction time and reduce potential crop loss. It is unrealistic to expect individual producers to own an iPad to facilitate these interactions, but equipping State and Field Specialist across New Hampshire will make these interactions a common occurrence.

Recommendations to producers from Cooperative Extension Staff are most effect when they can be made quickly. Resources such as production guides, diagnostic guides, and product labels for pesticides and fertilizers can be stored on iPads and easily referred to on location so that recommendations can be made immediately. However, recommendations given verbally are easily forgotten or even misunderstood. Using an iPad a State or Field Specialist can hand-write the recommendation and then e-mail the recommendations to the producer. Not only will this protect against forgotten or misunderstood recommendations, it creates a means to quickly file, and therefore refer to, this information in the future.

A survey of NH Extension staff found that 100% of respondents said they felt iPads would help them diagnose farm issues, provide recommendations, and save them time. Seventy-three percent of Field Specialists said they often have difficulty diagnosing specialty crop issues. Ninety-one percent said they would commit to participating in this program and 100% of State Specialists said they would assist.

State Specialists (and selected qualified Field Specialists) will select resources to be loaded onto iPads, including one newly developed (under the scope of this project) electronic diagnostic book. Two half-daylong trainings will build skills in 1) Crop diagnosis and 2) Using iPads in the field for photos, videos, email, and video chats. The training will consist of both lecture and hands-on activities and exercises. A third half-daylong training will be held to resolve any issues encountered during previous trainings and to share experiences with producers. Field specialists will use this technology with at least five farms per year. State Specialists will use their iPads with at least five Field Specialists each year. After the third year the State and Field Specialists will take the responsibility of funding their own monthly data plans.

Potential Impacts: This project will help University of New Hampshire Cooperative Extension Agriculture Staff serve the New Hampshire Specialty Crop Community more quickly, efficiently, and effectively. The use of iPads will reduce the time producers will need to wait to receive information, diagnoses, or recommendations by allowing field-based staff to carry entire reference libraries with them to site visits. This advantage could save producers thousands of dollars by avoiding/limiting crop losses and hundreds of dollars in savings due to correct actions being taken. Already, Dr. Krug has been using an iPad during site-visits which has enabled him have a library of references at his fingertips allowing him to more quickly and effectively support producers. It should also increase the likelihood of accurate information being shared by all parties by allowing simultaneous communication. In addition, by using

iPads to connect to the Internet via cellular data plans, field-staff can contact on-campus specialist via photos, e-mail, or by video chat. These types of interactions will not only reduce critical response times but also reduce travel and telephone expenses.

Expected Measurable Outcomes:

- Increase efficiency in resolving time-critical problems identified on farms, in greenhouses and at landscape operations (pest/disease/weed identification and management)
 - Measure: Reduction in number of days/hours it takes to resolve issues after an initial farm visit. The baseline measure is variable, depending on the issue. If the real-time connections with the iPads can provide the information needed to diagnose the problem (via images, video, and 'face-to-face') the issue could potentially be resolved in less than one hour (compared to bringing/sending samples back to Durham). In other cases we can direct the best kind of samples to take to facilitate the diagnostic process (eg. soil & tissue samples, how to package samples for the particular testing that is needed...). It is reasonable that the minimum time for an issue to be resolved would be one day and would probably average 2-3 days by the time a sample is sent to Durham or a farm visit can be scheduled. Outcomes will be measured quarterly via surveys and follow-up calls.
- Cost savings to producers as a result of more timely resolution to on-farm/operation issues and a quicker response
 - Measure: Dollars saved – through reduced pesticide, reduction in crop loss or increase in yields as a result of a timely resolution. The baseline cost saving determination depends on the testing required. The UNH Plant Diagnostic Lab has a basic fee of \$20. Additional tests incur additional fees (virus testing). If soil or tissue testing is required, that is an additional fee, and additional time. In addition to the cost to the producer, when a UNCE specialists are called to make a farm visit to help in the diagnostics of a problems it costs on average \$100 dollars of travel expenses and 6 person-hours. Outcomes will be measured quarterly via surveys and follow-up calls.
- Reduction in travel time/costs for Extension specialists
 - Measure: Comparison of travel time/costs to records from previous years
- 11 Field Specialists and 5 State Specialists attend a half day-long workshop taught by a plant health specialist and increase their skills in diagnosing specialty crop issues
- 11 Field Specialists and 5 State Specialists attend a half day-long workshop to increase their skills in using iPads for still photos, videos, emails, and video conferencing
- 11 Field Specialists work with one farmer and one specialist to practice using the iPads in a field-based situation
- 11 Field Specialists and 5 State Specialists attend a half-day workshop to discuss and resolve issues encountered during the practice sessions
- 11 Field Specialists work with at least 5 farms per year
- 1 electronic resource/diagnostic book will be developed

E. Deliverables Schedule: Written progress reports shall be submitted quarterly to the NH Dept. of Agriculture, Markets & Food. Upon completion of the entire project, the contractor shall submit a written report of the project outcomes per federal reporting guidelines for the SCBG program.

Work Plan

Timeline	Activity	Who
April 2013	Purchase of iPads	Smith
April 2013	Registration and activation of iPads	Krug
April - May 2013	iPad In-Service training for Cooperative Extension Agriculture staff	Krug/Smith
April - May 2013	Integration of iPads into Coop. Extension activities and programming	Agriculture staff
May - June 2013	Each Field Specialist work with one Coop. Extension farmer and one State Specialist	Agriculture staff
June - July 2013	iPad in-service training for Cooperative Extension Agriculture staff	Krug/Smith
May - Dec 2013	Each Field Specialist use iPad on 5 farms	All Field Specialists
June 2013-Mar 2014	1 resource/diagnostic book developed	Smith/Krug
2014	Each Field Specialist use iPad on 5 farms	All Field Specialists

In addition to the outcome measures listed above, staff usage of the new technologies will be monitored by keeping track of the number of farm visits where iPads are used and how they are used (video conference; digital photo; electronic reference library, etc.).

Follow up correspondence (within a month) may be made to operations where iPad technology was used to ask questions about how the producer felt the technology worked to solve the issues that were identified.

F. Budget and Invoicing Instructions: Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less frequently than quarterly. Invoices will be based on actual project expenses incurred during the invoicing period, and shall show current and cumulative expenses by major cost categories. State will pay Campus within 30 days of receipt of each invoice. Campus will submit its final invoice not later than 30 days after the Project Period end date.

Budget Item	State Funding	Total
Supplies	22,218	22,218
Total	22,218	22,218

14 64gb-iPads, warranty and protective covers
 24 Month Data plan

EXHIBIT B

This Project Agreement is funded under a Grant/Contract/Cooperative Agreement to State from the Federal sponsor specified in Project Agreement article F. All applicable requirements, regulations, provisions, terms and conditions of this Federal Grant/Contract/Cooperative Agreement are hereby adopted in full force and effect to the relationship between State and Campus, except that wherever such requirements, regulations, provisions and terms and conditions differ for INSTITUTIONS OF HIGHER EDUCATION, the appropriate requirements should be substituted (e.g., OMB Circulars A-21 and A-110, rather than OMB Circulars A-87 and A-102). References to Contractor or Recipient in the Federal language will be taken to mean Campus; references to the Government or Federal Awarding Agency will be taken to mean Government/Federal Awarding Agency or State or both, as appropriate.

Special Federal provisions are listed here: Upon completion of the project, the contractor shall submit a written report of the project outcomes per federal reporting guidelines for the SCBG program. Guidelines will be provided to the Grantee.

McWilliam Jellie, Gail

From: Jensen, Karen [Karen.Jensen@unh.edu]
Sent: Friday, March 29, 2013 11:20 AM
To: McWilliam Jellie, Gail
Cc: Hall, Dianne; Desjardins, Sharon
Subject: RE: 2012 SCBG-- YOUR RESPONSE NEEDED ASAP

Dear Gail,

Please consider this email acknowledgment and acceptance of Exhibit C as written below.

Best regards,

Karen

Karen M. Jensen, MBA
Manager, Sponsored Programs Administration
University of New Hampshire
51 College Road, Durham NH 03824
E: Karen.Jensen@unh.edu
P: 603-862-2172

From: McWilliam Jellie, Gail [Gail.McWilliam.Jellie@agr.nh.gov]
Sent: Thursday, March 28, 2013 11:08 AM
To: Gail McWilliam Jellie (gail.mcwilliam.jellie@agr.nh.gov)
Subject: 2012 SCBG-- YOUR RESPONSE NEEDED ASAP

Hello Grantees:

As we finalize your grants for Governor & Council approval we have been asked to inform you about the potential for reduction of funding of your grant due to budget issues at the federal level. Please understand that we have not been informed of any specific impacts to the 2012 Specialty Crop Block Grant Program, but much is uncertain in Washington, now and the NH State budget also still not final.

Please review the following and by return email please indicate that you and your organization understand and accept this. A copy of your acknowledging email will be attached to your grant. Thanks for your prompt response and understanding.

Exhibit C

Due to the uncertainties of the federal budget sequestration and the still not finalized State of New Hampshire budget approval process for Fiscal Years 2014 and 2015, it is possible that part or all of the funds for this grant could be withdrawn with the State of New Hampshire, Department of Agriculture, Markets & Food (DAMF) prior to the Grant Agreement specified end date. In the event that funding is reduced, DAMF would have to adjust or end this grant accordingly.

(Grant recipient organization) acknowledges and accepts this condition for Specialty Crop Block Grant # 12-25-B-1475.