New Hampshire
Department of Agriculture,
Markets & Food

Shawn N. Jasper, Commissioner

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January 11, 2024

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 and Food, Division of Agricultural Development (DAMF) to enter into Cooperative Project Agreement (CPA) with the University of New Hampshire in the amount of $38,378.00 to evaluate pumpkins for color and color retention, effective upon Governor and Council approval through April 30, 2025. **100% Federal Funds** – Specialty Crop Block Grant.

Funding is available in account, Specialty Crop Block Grant, as follows:

02-18-18-180010-23290000 Specialty Crop Grant – Farm Bill, 21SCBGPNH1101-00

ACCOUNT	FY2024
072-500577 Grants to Schools – Federal	$38,378.00

EXPLANATION

The New Hampshire Department of Agriculture, Markets & Food (DAMF) received Specialty Crop Block Grant (SCBG) money from the United States Department of Agriculture to fund projects that increase the competitiveness of specialty crops in New Hampshire. The projects for 21SCBGPNH1101-00 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 as enumerated in the CPA.

University of New Hampshire research will investigate rind color and color retention in different ornamental pumpkins, disseminate results to stakeholders, and use those results to develop new ornamental pumpkin varieties. This research will provide regional growers a competitive edge in the pumpkin market.

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

Respectfully submitted,

Shawn N. Jasper
Commissioner

COOPERATIVE PROJECT AGREEMENT
between the
STATE OF NEW HAMPSHIRE, **Department of Agriculture, Markets, and 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, and 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 **04/30/25**. 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: **Evaluating Pumpkins for Color and Color Retention**

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: Joshua Marshall	Name: Svetlana Wanzer
Address: NH Dept Agriculture, Markets & Food P.O. Box 2042 Concord, NH 03302-2042	Address: University of New Hampshire Sponsored Programs Administration 51 College Road Durham, NH 03824
Phone: 603-271-3688	Phone: 603-862-2037

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: Joshua Marshall	Name: Christopher Hernandez
Address: NH Dept Agriculture, Markets & Food P.O. Box 2042 Concord, NH 03302-2042	Address: UNH Agriculture, Nutrition & Food Systems Kendall Hall Rm. 422 Durham, NH 03824
Phone: 603-271-3688	Phone: 603-862-1368

Campus Authorized Official *KJ*
Date *01/17/24*

F. Total State funds in the amount of **$38,378.00** 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. **AM21SCBPNH1101** from **AMS/USDA** 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, **Dept of Agriculture, Markets & Food** have executed this Project Agreement.

By An Authorized Official of:
University of New Hampshire
Name: Karen M. Jensen
Title:Director, Pre-Award
Signature and Date:
Karen Jensen Digitally signed by Karen Jensen Date: 2024.01.17 10:11:04 -05'00'

By An Authorized Official of:
NH Dept of Agriculture, Markets & Food
Name: Shawn N. Jasper
Title: Commissioner
Signature and Date: 1/17/24

By An Authorized Official of: the New Hampshire Office of the Attorney General
Name:
Title:
Signature and Date:
Sheri Phillips Digitally signed by Sheri Phillips Date: 2024.01.18 11:19:26 -05'00'

By An Authorized Official of: the New Hampshire Governor & Executive Council
Name:
Title:
Signature and Date:

Campus Authorized Official *KJ*
Date *01/17/24*

EXHIBIT A

A. **Project Title:** Evaluating Pumpkins for Color and Color Retention

B. **Project Period:** May 1, 2023 - April 30, 2025

C. **Objectives:** Objective 1: To evaluate color and color retention in white, and in other differently colored pumpkin lines in New Hampshire conditions.

Objective 2: To disseminate knowledge on color retention in existing and new pumpkin lines to growers and other stakeholders. Outreach will be conducted via participation in NH Vegetable & Berry Growers' Association meetings, as well as in other informal meetings with growers and seed company stakeholders.

Objective 3: Make new breeding lines available to growers via industry stakeholders.

Project Beneficiaries This project will impact 50 pumpkin growers

Statement of Enhancing Specialty Crops: I confirm that this project enhances the competitiveness of specialty crops in accordance with and defined by the Farm Bill.

External Project Support: Many seed companies have collaborated with the UNH Cucurbit breeding program. At least four companies have expressed some interest in ornamental pumpkins with different colors. These industry stakeholders provide support in the form of marketing and distributing UNH varieties to farmers via high quality seed. This benefits NH growers through making new varieties available.

Expected Measurable Outcomes: This project will address one of the listed Outcomes.

Outcome 4: Enhance the competitiveness of specialty crops though greater capacity of sustainable practices of specialty crop production resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources

Outcome Indicators:
Outcome 4, Indicator 1: Number of plant/seed releases (i.e., cultivars, drought-tolerant plants, organic, enhanced nutritional composition etc.): 5 new cultivar releases

Data Collection to Report on Outcomes and Indicators: Data will be collected on seed companies trialing and marketing UNH pumpkin cultivars evaluated as part of the proposed project. These data are routinely collected and maintained in spreadsheets and kept in a folder using Microsoft Teams. The University of New Hampshire's tech transfer office, UNH Innovations (https://innovation.unh.edu), currently maintains a database of companies that license UNH Cucurbit varieties. Thus, they will collect data related to new cultivar releases for Outcome 4, Indicator 1 as they do for all UNH Cucurbit cultivar releases. Any data analysis related to color stability will be conducted by the PI.

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D. **Scope of Work:** Ornamental pumpkins are an important crop for New Hampshire and the New England region as a whole. Pumpkins have the second largest acreage and are fifth for total number of farms with acreage in NH (USDA, 2022). They contribute to the region's agrotourism economy in many ways; they provide autumnal U-pick opportunities and visually draw visitors to farm stands and stores. Since U-Pick operations take place outdoors, they can be conducted, assuming best practices are followed, during the COVID-19 pandemic (CCE, 2020). In this way, the economy stimulated by autumnal U-pick's and farm stands have potential to buffer the local agricultural community against economic disruptions. In order to assure continued success in U-Pick and farm stand markets, new pumpkin varieties must yield well under regional conditions and have novel characteristics that set them apart from other pumpkins on the market. New rind colors or different shades of existing colors are one of several ways a new pumpkin variety can stand out on the market.

The UNH Cucurbit Breeding program develops new varieties of squash and pumpkins. As a result of being based in New Hampshire, varieties are selected and developed for New Hampshire growing conditions---they are regionally adapted by design. The program has released roughly 50 new pumpkin varieties, which are marketed by seed companies and are grown both regionally and globally. Pumpkins with novel shades of yellow, tan, green, and white colors appear to be growing in popularity according to conversations with seed companies. In more recent years, the program has released around 16 lines with new color shades. Color stability has also been identified as a major factor effecting pumpkin marketability. The stability of white pumpkin varieties is of particular interest. Personal observations have been made that many white pumpkins develop an undesirable yellowish tinge before or soon after harvest. This diminishes their marketability. Informal observations of color instability for pumpkins with other colored rinds have also been made. For example, UNH white breeding lines display variation in their ability to stay white. However, there is very little quantitative data on the stay-white ability of white pumpkins. The UNH program has a number of other breeding lines with different colors, but these lines have not be evaluated systematically for color stability. More work is needed to test different breeding lines for new colors, and for their ability to retain color when stored in less than optimal conditions experienced by roadside or U-Pick pumpkins.

In this project, we propose evaluating white, yellow, "black" (dark green), and tan pumpkin lines for their color and color retention ability. Commercial check varieties will be purchased from seed companies. Checks and UNH Cucurbit breeding lines will be grown in a replicated design for two field seasons at the Kingman Research Farm in Durham NH. Rind color will be measured at harvest using a portable Spectrophotometer. This device will allow for measuring precise fruit color values (Itle and Kabelka, 2009). Harvested fruit will be left in the field with full exposure and measured at regular intervals for several weeks post-harvest to assess their color retention. This will provide useful data to growers on which pumpkins would be most suitable for their operation. It will also provide valuable data to the breeding program for producing the next generation of profitable pumpkins.

E. **Deliverables Schedule:** 6 month and annual reports on project activity due in June and December of 2024 and 2025. Final printed and digital report due by December 10, 2025.

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 as shown below. State will pay Campus within 30 days of receipt of each invoice. Campus will submit its final invoice not later than 60 days after the Project Period end date.

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Budget Items	State Funding	Cost Sharing	Total
1. Salaries & Wages	$29,001	0	$ 29,001
2. Employee Fringe Benefits	$ 7,377	0	$ 7,377
3. Travel	0	0	0
4. Supplies & Services	$ 2,000	0	$ 2,000
5. Equipment	0	0	0
6. Facilities & Admin Costs	0	0	0
Subtotals	$38,378	0	$ 38,378
Total Project Costs:			$ 38,738

Campus Authorized Official *KJ*
Date *01/17/24*

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: ☐ None or **Uniform Guidance issued by the Office of Management and Budget (OMB) in lieu of Circulars listed in paragraph above.** .

Campus Authorized Official *KJ*
Date *01/17/24*