

STATE OF COLORADO INTERAGENCY AGREEMENT

COVER PAGE

Paying State Agency Department of Natural Resources Colorado Water Conservation Board, ("CWCB")	Contract Number CMS Number: 191259 Encumbrance Number: CTGG1 PDAA 2024*4072
Performing State Agency The Board of Governors of the Colorado State University System acting by and through the Colorado State University	Agreement Performance Beginning Date The Effective Date
Contract Maximum Amount Entire Contract term for all applicable fiscal years: \$69,673.00	Agreement Expiration Date May 8, 2029 Agreement Authority HB-22-1316 Contract is exempt from the procurement code under 24-101-105(1)(a)(II)
Agreement Purpose The project will produce Southern Sweet Pea at the Western Colorado Research Center's Grand Valley location. Water consumption during production will be measured and reported as kilograms of water consumed per kilogram of produce grown. The resulting produce will undergo a taste tasting procedure at two western Colorado farmer's markets and the CSU SPUR campus.	
Exhibits and Order of Precedence The following Exhibit(s) and attachment(s) are included with this Agreement: <ol style="list-style-type: none"> 1. Exhibit A – Statement of Work and Budget. In the event of a conflict or inconsistency between this Agreement and any Exhibit or attachment, such conflict or inconsistency shall be resolved by reference to the documents in the following order of priority: <ol style="list-style-type: none"> 1. The provisions of the main body of this Agreement. 2. Exhibit A, Statement of Work and Budget. 	
Principal Representatives <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> For the Paying State Agency: Ashley Garrison Colorado Water Conservation Board 1313 Sherman St., #718 Denver, CO 80203 ashley.garrison@state.co.us </div> <div style="width: 45%;"> For the Performing State Agency: Todd Ballard Colorado State University 2002 Campus Delivery Fort Collins, CO 80523 todd.ballard@colostate.edu </div> </div>	

SIGNATURE PAGE

THE PARTIES HERETO HAVE EXECUTED THIS AGREEMENT

Each person signing this Agreement represents and warrants that the signer is duly authorized to execute this Agreement and to bind the Party authorizing such signature.

STATE OF COLORADO Jared S. Polis, Governor	
<div>The Board of Governors of the Colorado State University System acting by and through the Colorado State University</div> <div>Signature: <u>Catherine Douras</u></div> <div>Printed Name: <u>Catherine Douras</u></div> <div>Title: <u>Senior Research Administrator</u></div> <div>Date: <u>May 16, 2024 1:49 PM MDT</u></div>	<div>Colorado Department of Natural Resources Dan Gibbs, Executive Director Colorado Water Conservation Board</div> <div>Signature: <u>Cole Bedford</u></div> <div>Printed Name: <u>Cole Bedford</u></div> <div>Title: <u>Chief operating officer, CWCB</u></div> <div>Date: <u>May 17, 2024 8:59 AM MDT</u></div>
<p>In accordance with §24-30-202, C.R.S., this Agreement is not valid until signed and dated below by the State Controller or an authorized delegate.</p> <div>STATE CONTROLLER Robert Jaros, CPA, MBA, JD</div> <div><u>Jon Cotsapas</u></div> <div>Signature: _____</div> <div>Printed Name: <u>Jon Cotsapas</u></div> <div>Title: <u>DNR Procurement Director</u></div> <div>Effective Date: <u>May 17, 2024 1:16 PM MDT</u></div>	

1. PARTIES

This Interagency Agreement (this “Agreement”) is entered into by and between the Paying Agency, (the “Paying Agency”), and the Performing Agency, (the “Performing Agency”) who are named on the Cover Page of this Agreement. The Paying Agency and the Performing Agency may each individually be referred to as a “Party” and collectively as the “Parties.” Each Party is an agency of the STATE OF COLORADO, hereinafter called the “State.”

2. TERM AND EFFECTIVE DATE

A. Effective Date

This Agreement shall not be valid or enforceable until the Effective Date.

B. Term

The Parties’ respective performances under this Agreement shall commence on the Agreement Performance Beginning Date shown on the Cover Page for this Agreement and shall terminate on the Agreement Expiration Date shown on the Cover Page for this Agreement unless sooner terminated or further extended in accordance with the terms of this Agreement.

C. Termination for Convenience

Either Party may terminate this Agreement for convenience by giving the other Party 90 days prior written notice setting forth the date of termination.

3. STATEMENT OF WORK AND BUDGET

A. Work

The Performing Agency shall complete the Work as described in this Agreement and in accordance with the provisions of Exhibit A. The Paying Agency shall have no liability to compensate the Performing Agency for the delivery of any goods or the performance of any services that are not specifically set forth in this Agreement.

B. Goods and Services

The Performing Agency shall procure goods and services necessary to complete its obligations using Agreement funds and shall not increase the maximum amount payable hereunder by the Paying Agency.

4. PAYMENTS TO THE PERFORMING AGENCY

A. Maximum Amount

Payments to the Performing Agency are limited to the unpaid, obligated balance of the Agreement funds. The Paying Agency shall not pay the Performing Agency any amount under this Agreement that exceeds the Agreement Maximum Amount shown on the Cover Page for this Agreement.

B. Payment Procedures

- i. The Performing Agency shall initiate payment requests by invoice to the Paying Agency, in a form and manner approved by the Paying Agency. To facilitate Fiscal

Year End closing, final invoices for each Fiscal Year should be submitted to the Paying Agency by July 15th of the following Fiscal Year.

- ii. The Paying Agency shall pay each invoice within 30 days following the Paying Agency's receipt of that invoice, so long as the amount invoiced correctly represents work completed by the Performing Agency and previously accepted by the Paying Agency during the term that the invoice covers.
- iii. In accordance with the Fiscal Procedures Manual, each Agency shall report the outstanding balance of this Agreement on Exhibit AR_AP at Fiscal Year end.

5. RECORDS, MAINTENANCE AND INSPECTION

A. Maintenance

During the term of this Agreement and for a period terminating upon the later of (i) the six year anniversary of the final payment under this Agreement or (ii) the resolution of any pending Agreement matters (the "Record Retention Period"), each Party shall maintain, and allow inspection and monitoring by the other Party, and any other duly authorized agent of a governmental agency, of a complete file of all records, documents, communications, notes and other written materials, electronic media files, and communications, pertaining in any manner to the work or the delivery of services or goods hereunder.

B. Inspection

The Paying Agency shall have the right to inspect the Performing Agency's performance at all reasonable times and places during the term of this Agreement. The Performing Agency shall permit the Paying Agency, and any other duly authorized agent of a governmental agency having jurisdiction to monitor all activities conducted pursuant to this Agreement, to audit, inspect, examine, excerpt, copy and/or transcribe the Performing Agency's records related to this Agreement during the Record Retention Period to assure compliance with the terms hereof or to evaluate performance hereunder. Monitoring activities controlled by the Paying Agency shall not unduly interfere with the Performing Agency's performance hereunder.

6. CONFIDENTIAL INFORMATION

Each Party shall treat the confidential information of the other Party with the same degree of care and protection it affords to its own confidential information, unless a different standard is set forth in this Agreement. Each Party shall notify the other Party immediately if it receives a request or demand from a third party for records or information of the other Party.

7. DISPUTE RESOLUTION

The failure of a Party to perform its respective obligations in accordance with the provisions of this Agreement is a breach of this Agreement. In the event of disputes concerning performance hereunder or otherwise related to this Agreement, the Parties shall attempt to resolve them at the divisional level. If this fails, disputes shall be referred to senior departmental management staff designated by each Party. If this fails, the executive director of each Party shall meet and attempt resolution. If this fails, the matter shall be submitted in writing by both Parties to the State Controller, whose decision shall be final.

8. NOTICES AND REPRESENTATIVES

Each individual identified as a Principal Representative on the Cover Page for this Agreement shall be the Principal Representative of the designating Party. All notices required or permitted to

be given under this Agreement shall be in writing, and shall be delivered **(A)** by hand with receipt required, **(B)** by certified or registered mail to such Party's Principal Representative at the address set forth on the Cover Page or **(C)** as an email with read receipt requested to the Principal Representative at the email address, if any, set forth on the Cover Page for this Agreement. Either Party may change its Principal Representative by notice submitted in accordance with this section without a formal amendment to this Agreement. Unless otherwise provided in this Agreement, notices shall be effective upon delivery of the written notice.

9. GENERAL PROVISIONS

A. Assignment

The Performing Agency's rights and obligations under this Agreement are personal and may not be transferred or assigned without the prior, written consent of the Paying Agency. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of the Performing Agency's rights and obligations approved by the Paying Agency shall be subject to the provisions of this Agreement.

B. Counterparts

This Agreement may be executed in multiple, identical, original counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

C. Digital Signatures

If any signatory signs this Agreement using a digital signature in accordance with the Colorado State Controller Contract, Grant and Purchase Order Policies regarding the use of digital signatures issued under the State Fiscal Rules, then any agreement or consent to use digital signatures within the electronic system through which that signatory signed shall be incorporated into this Agreement by reference.

D. Third Party Beneficiaries

Except for the Parties' respective successors and assigns, this Agreement does not and is not intended to confer any rights or remedies upon any person or entity other than the Parties. Enforcement of this Agreement and all rights and obligations hereunder are reserved solely to the Parties. Any services or benefits which third parties receive as a result of this Agreement are incidental to this Agreement, and do not create any rights for such third parties.

Exhibit A

Statement Of Work	
Date:	April 2, 2024
Name of Grantee:	Colorado State University
Name of Water Project:	Southern Sweet Pea Drought Tolerance and Market Study
Water Project Overview:	
Scientists at CSU have completed several field studies of cowpea (also known as southern sweet pea) at Agricultural Experiment Station Sites and on farms. A drought tolerance and market development plan will support continued study of cowpea production in the state. The study will include both a field study and consumer sensory studies with cowpea products. Consumer preferences will be surveyed at Farmer's markets in Montrose and Mesa Counties. A detailed sensory study will be completed at CSU Spur's Sensory Evaluation Lab, located in Denver, CO.	
Project Objectives:	
<ol style="list-style-type: none"> 1. Measure consumptive water use during crop production in three steps. <ol style="list-style-type: none"> a. Measure soil volumetric water content at planting b. Add water inputs of rain and irrigation as measured through a flow meter during irrigation. c. Measure soil volumetric water content at harvest 2. Determine an appropriate phosphorus fertility rate for each of the three varieties in the test. 3. Measure consumer preference among three varieties. California Type 5 and California Type 46 are varieties offered within Colorado through Trinidad-Benham. These varieties are frequently sold as mature black-eyed peas. The third variety will be Purpled Hulled Pinkeye Southern Pea. 4. Expose Colorado consumers to "southern sweet pea," as fresh cowpea is labeled in groceries. 	

Tasks
Task 1 – Cowpea Field Study
Description of Task:
Plating - Placement of seed in the plots In season crop management - monitoring and support of crop growth Harvest - picking and weighing of immature pea yield Consumptive water use measurements - determine net evapotranspiration during the season
Method/Procedure: The Varieties will be planted in a split plot design
Planting will occur when the soil temperature has consistently been above 70° F for 48 hours. This occurs between May 20 and June 10 at the WCRC – GV in most years. Planting will be accomplished using a John Deere 450 drill. The location is 39° 10' N 108° 42' W in Mesa County, CO near Fruita. The split plot design will include each variety in equal distance from the headlands and from tailwater. This accounts for the differences in yield potential created by the distance from irrigation source. Splits within rep will be defined by the variety with the phosphorus fertility rate as the main plot. The plots will be a single pass of a 10 ft drill for 30 ft.
Initial irrigation will be a volume of three inches X the plot area delivered through an overhead sprinkler system. It will occur within seven days of planting. Subsequent irrigations will occur at the discretion of the PI as deemed necessary by the condition of the crop and a visual assessment of the soil moisture.

Pre-emergence herbicide of sulfentrazone and S-metolachlor will be the primary source of weed control. Supplemental weed control will be achieved through bentazone, imazamox, and clethodim. The pre-harvest interval of bentazone will be the limiting factor as to when herbicides can be applied. To manage this concern, manual weed removal will supplement herbicide use within forty days of harvest.

Pea pods will be manually harvested when determined to be ripened to the desired level of maturity. The purple hulled pink eyed variety will be harvested when the hull turns purple. The other two varieties will be harvested when the size of the rise in the hull is similar to the size of rise in the purple hulled pink eyed variety.

Harvested weights from each plot will be recorded at the time of harvest.

- 1. Determine field moisture content at planting through weight wet – dry weight formula.
- 2. Measure in season water inputs of irrigation and rainfall
- 3. Determine field moisture content at the end of the season using the same formula as the start of the season.
- 4. Use the Darcy equation to model the movement of field water back into groundwater.

Unaccounted for water has been lost during the season to evapotranspiration.

Deliverable: Field Study Report

- 1. Stand Counts
- 2. Planting date report
- 3. Irrigation records
- 4. Weed management records
- 5. Harvested weight for each date of harvest
- 6. Consumptive water use

The consumptive water use results will be contrasted to other common crops in the area which include sweet corn, alfalfa, wheat, orchard grass, and field corn. The consumptive use comparison will determine the contribution of southern sweet pea will be used as an augmentation to other crops. Economic studies built off results from the proposed studies can show the contribution to vibrant communities and robust agriculture. The report and results will be shared with the public through local and regional presentations and news releases or other means as available.

Tasks
Task 2 – Sensory Quality and Consumer Perceptions
Description of Task: Two central location tests (CLT) to assess acceptability of Cowpea varieties
The consumer preference study will occur at farmers’ markets in Mesa and Montrose Counties. The more detailed sensory study will in occur in an accessible, urban setting (Spur Campus, Denver). Central Location Tests are consistently used in the consumer insights and sensory science fields because they provide meaningful data on consumer demographics and behaviors, as well as on the acceptability of new products in a semi-controlled environment. These types of test utilize target consumers to gain a thorough understanding of likes and dislikes before a product enters the marketplace, while also allowing target consumers to have extended exposure with a product as compared to traditional sensory testing. Conducting two independent CLTs with different consumers based in different areas of the State of Colorado, this research will enable a stronger understanding of consumer perceptions of the sensory quality of Cowpeas. The Colorado State University Spur Campus is a recently developed, state-of-the-art campus with a dedicated Food Innovation Center and Sensory Evaluation Lab that supports regional food businesses and researchers. Resources and collaborations available through CSU Spur will be fundamental to completing this task.
Method/Procedure:

Central Location Tests will take place at a rural Colorado Farmer's Market (in Mesa and Montrose County) and at CSU Spur, in Denver, CO. At both locations, a large area will be set up with tables and chairs for consumers to sit at and participate in the CLT activity. For the CLT occurring at the Farmer's Market, consumers will be verbally recruited from the open Farmer's Market to participate in the tasting and evaluation activity. For the CLT occurring at CSU Spur in Denver, participants will be recruited from a community listserv. For both CLT tests, the estimated number of participants is 75-150.

The CLT questionnaire will include demographic questions related to age, gender, income, occupation, other standard metrics. Following the demographic survey, each participant will evaluate three (3) separate samples of fresh cooked Cowpeas for overall liking (9-point Likert Scale) and they will be asked to indicate descriptive sensory attributes which best describe each sample (Check-all-that-apply method). Following the sample evaluation, participants will be asked about their willingness to adopt the Cowpeas into their regular diet and other consumption-focused questions. Samples will be served in 1-ounce compostable ramekins labeled with a 3-digit blinding code. The CLT questionnaire will be completed by all participants at all locations using an iPad and all data collection will occur using Compusense20 software.

All research procedures will be approved through the Colorado State University Institutional Review Board (IRB) and all participants will give their informed consent prior to participation in the research study.

Deliverable: Preference Mapping and Report of Consumer Willingness to Adopt Report

All sensory data will be analyzed using standard statistical protocols (one-way analysis of variance, paired t-tests) for overall acceptability scores and for descriptive attributes. Preference mapping will be done to understand major drivers of liking in the sensory quality of Cowpeas. Demographic, consumption, and willingness to adopt data will be analyzed based on frequency of responses and in association with other sensory variables.

The report and results will be shared with the public through local and regional presentations and news releases or other means as available.

Budget and Schedule

This Statement of Work is accompanied by a combined Budget and Schedule that reflects the tasks identified in the Statement of Work.

Task No.	Task Description	Estimated Task Start Date	Estimated Task End Date	Grant Funding	Match Funding	Total
1	Cowpea Field Study	5/1/2024	11/30/2029	\$ 30,255.95	\$ 11,630.85	\$58,528.00
2	Sensory Quality and Consumer Perceptions	7/1/2024	11/30/2025	\$ 37,042.83	\$ 11,631.16	\$28,622.25
3	Other Direct Costs			\$ 2,374.22		\$2,374.22
Total				\$69,673.00	\$23,262.00	\$92,935.00

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every six months, beginning from the date of issuance of the grant agreement. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a final report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the final report is completed to the satisfaction of CWCB staff. Once the final report has been accepted, and final payment has been issued, the grant agreement will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this grant agreement are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this grant agreement must be provided to the CWCB as part of the project documentation.

Performance Measures

Performance measures for this grant agreement shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget. Per grant guidelines, the CWCB will pay out the last 10% of the budget when the final report is completed to the satisfaction of CWCB staff. Once the final report has been accepted, and final payment has been issued, the grant agreement will be closed without any further payment.

(b) Accountability: Per grant guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Grant Guidelines, progress reports must be submitted at least once every 6 months. A final report must be submitted and approved before final project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each progress report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the grant agreement.