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of Food and
Agriculture

'Stop the Rot' USDA NIFA SCRI Onion Bacterial Project (2019-51181-30013)

Project Charter
October 2021 (Rev2)

STOP THE ROT PROJECT CHARTER Collaborative Agreement

About the Project Charter

- The Project Charter is a collaborative agreement that we will use to guide our work together over the duration of the project. The project co-PIs have discussed each section and agreed on the content.
- This charter is based on the template in the NIH [Collaboration and Team Science Field Guide](#) (2018).

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Nature's Ninja graphic courtesy of National Onion Association

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Updates and revisions:

Final Rev1 (10/29/2020): Added Jennifer Darner (WSU) to list of non-author contributors.

Final Rev2 (10/19/2021): modified the requirements for internal review of work products.

1 OVERALL GOALS AND PRINCIPLES FOR COLLABORATION

1.1 Overall vision

The overall vision for this collaboration is to develop practical, economically sound strategies for pathogen detection and management that will improve profitability and sustainability of onion production.

1.2 Scientific issues, goals, and anticipated outcomes of the collaboration

Long-term, highly effective solutions for bacterial disease management will be achieved by enhancing our understanding of bacterial pathogens of onions in the diverse regions of production across the USA), and using that knowledge in an iterative manner to develop management programs that engage the complex interactions of the crops, pathogens, grower production and storage practices, economic assessments, and stakeholder priorities, expertise, and feedback.

1.3 Principles for collaboration

Operating principles for scientific collaboration within this team are:

- Professionalism;
- Trust;
- Open dialogue;
- Willingness to share knowledge and expertise;
- Willingness to listen, learn and adapt, giving credit where it is due;
- Work for practical solutions that best serve the needs of onion growers in each region.

2 PROJECT TEAM ORGANIZATION AND MANAGEMENT

2.1 Project co-PIs

- The team is structured so that the Project Director (PD), co-PD and Co-Principal Investigators (Co-PIs) and/or regional leads are accountable for activities in their regions of onion production: Uchanski in the Rockies (CO, UT); Hoepting in the northeast (NY, PA); Dutta and Kvitko in the southeast (GA); du Toit in the Columbia Basin; and Aegerter in the southwest (TX, NM, CA), Woodhall in the Treasure Valley (ID, OR).
- Each co-PI/regional lead will work with collaborators in their region to monitor activities, and will provide a monthly regional report to the co-PIs' regular meetings. The Co-PIs, PD, and Project Manager (PM) will meet monthly by conference call to review monthly regional reports and address issues that necessitate modifications.

2.2 Project team members

- The full project team and the Stakeholder Advisory Panel (SAP) will meet once a year in person each winter (at UGA in Year 1, and each winter thereafter coinciding with a NOA, NARC, or W-3008 annual meeting) to present results, receive SAP feedback, plan the next year's activities, and address Extension activities.
- The team will meet monthly in videoconferences arranged by WSU to review progress, make modifications as suggested by the SAP, and evaluate the annual survey results. The PM will schedule activities, collate reports, oversee budgets with each collaborating institution, and assist Hoepting/Dutta with planning Extension activities and dissemination of results.

- The Co-PIs will work with the team and SAP members to set expectations annually for accomplishments.
- Budgets will be allocated to team members annually. Members who do not fulfil commitments will be asked to develop a plan to address the setback. If necessary, their budget may be adjusted accordingly.

3 INTERNAL REVIEW AND ACCOUNTABILITY

This section covers processes for internal review and sign-off of Stop the Rot work products for release, including presentations, extension materials, technical reports and journal articles.

3.1 Purpose and objectives of internal review:

- Internal review by the co-PIs should be invited on all Stop the Rot draft work products. Review is voluntary but at least two team members with appropriate subject matter expertise should review each work product before it is released.
- Internal review needs to be efficient, not introducing delays but ensuring that work products are reviewed to confirm that they accurately reflect project research findings, as well as properly acknowledging funding and relevant collaborators, before being released as final.
- We should recognize subject matter expertise in inviting or asking co-PIs to review draft work products.

3.2 Internal review of scientific journal articles and Plant Disease Management Reports

- If the topic of the article is tangential to Stop the Rot or only partly based on work funded through Stop the Rot, then we should review the manuscript to make sure that the project is accurately reflected and acknowledged as needed.
- If the work is significantly or fully funded through Stop the Rot and the project is mentioned or acknowledged, then co-PIs and collaborators should be invited to review the article prior to submission. Should two or more project team members be authors on a manuscript, then only one internal review is required prior to submission to a journal for peer review. The reviewer should be someone who has relevant subject matter expertise and has not been involved in the task being reported in the manuscript.
- The co-PIs may ask for revisions or for Stop the Rot mentions to be removed if there are concerns about the manuscript, including interpretation of the findings and/or conclusions.

3.3 Internal review of other Stop the Rot work products:

- Extension products, technical reports and presentations about the project need to be reviewed internally prior to release, (1) to ensure they are consistent with Stop the Rot findings and (2) to check that, if the content of the work product was partly or fully supported by project funds, then the project and the team are acknowledged appropriately.

4 DATA MANAGEMENT, QAQC, CONFIDENTIALITY

The project team aims to maximize community benefit of our research by providing ready access to project outputs, including: i) genetic annotations, ii) bacterial isolates, iii) software, iv) research publications, and v) Extension and Outreach materials.

Lindsey du Toit will oversee the project's Data Management Working Group (DMWG) that includes the PD, all Co-PIs, James Woodhall, Kirti Rajagopalan and Gregory Colson. The DMWG will keep under

review the standardized protocols for data collection, entry, curation and sharing; and for central archiving and distribution.¹

4.1 Data management roles and responsibilities (Data Management Working Group)

- Lindsey du Toit: overall management and dissemination of data that results from this SCRI project.
- Brian Kvitko and Bhabesh Dutta: management of genetic data collected under Objective A.
- James Woodhall: diagnostic validation data and use of directed surveys in development of diagnostic tools.
- Lindsey du Toit and Bhabesh Dutta will assemble and manage data generated in resistance screening of onion germplasm under Objective A and in field trials under Objective B.
- Kirti Rajagopalan: data management relating to data-driven hypothesis extraction and modeling under Objective B.
- Gregory Colson: management of economic and social data relating to all project objectives.
- Christy Hoepting and Brenna Aegerter: leading the adaptation and sharing of Extension data and information.
- The University of Georgia (UGA: Joe LaForest and Sarah Jean Swain) will house and maintain the Alliumnet website (alliumnet.com) during this project. Mark Uchanski will help to guide the redesign and handoff of Alliumnet.com and the ‘Stop the Rot’ project section on Alliumnet, which will be active throughout and after the project life span.

4.2 Sharing of data within the project team

- Field and laboratory data from bacterial surveys (Objective A) should be entered into the standardized bacterial survey data collection forms.² These data will be collated into a central dataset periodically (August and February each year) and stored in LabGuru, accessible by the project team, until the end of the project.
- Field and laboratory data from field trials (Objective B) will be stored in a set of centralized folders, accessible by the project team, for use in development of extension products and project reports. Data files must contain the names and dates for data entry and data proofing before uploading.
- With regard to scientific publications, project team members will respect each other’s research results and will not distribute data, experimental results or any other pre-publication information outside of the project team without prior approval of those who generated the data.

4.3 Quality assurance and quality control

- Completed bacterial survey data collection forms should be scanned into PDF format and stored safely on your computer along with any photo files, with at least one offsite backup (preferably two). Keep a paper copy of all completed sampling forms.
- Before field or lab results can be added to any central compiled dataset or to the centralized data folders, an appropriate responsible person must certify that the data have been proofed for errors.

¹ For more detail, see the Data Management Plan in the final Stop the Rot [Project Narrative](#).

² See *Stop the Rot Project: Standardized Protocols for Season 1 Bacterial Surveys*.

- The co-PIs may ask for revisions or withdrawal of work products if there are concerns about interpretation of the findings and/or conclusions based on data generated within the project (see also Section 3 of this document on Internal Review and Accountability).

4.4 Sharing of data outside the project team; Third party confidentiality

- Sharing information and results from field trials with growers is an important extension responsibility, especially when supplementary funding is received for trials. Project team members must communicate with the rest of the team before sharing information from ‘Stop the Rot’ field trials with growers in their region.
- Confidential information and/or site-identifying information that is given via third parties will not be shared among team members, nor will it be shared with the Stakeholder Advisory Panel or anyone outside the project team without the written permission of the third party.
- All site-identifying information must be removed from datasets and information that are publicly released in draft and final work products, unless the landowner/third party agrees to sharing.
- Any public sharing of survey data and data from producers collected as part of the ‘Stop the Rot’ project will be in a form that maintains confidentiality of all survey respondents and de-identifies information on participating farms.

4.5 Long-term storage and access to data after the project is complete

- All project team members are responsible for meeting the data protection requirements of the federal granting agency (NIFA). This includes securely backing up and archiving raw data, results, interim and final work products, on as frequent a schedule as is necessary to ensure that project data will not be lost.
- Confidentiality requirements will still apply after the end of the project.

4.6 Public access to data and research products

Bacterial survey data and bacterial strains:

- At the end of the project, the national curated isolate collection database created under Objective A will be migrated to a searchable web platform and hosted by Alliumnet with open public access.
- Draft genome assemblies will be submitted to NCBI Genbank under an umbrella sequencing project and 16S community analysis reads will be submitted to the NCBI short read archive.
- If any bacterial strains are used in work that is reported in project publications, these strains should be represented in the National Onion Bacterial Collection.
- Isolates from the National Onion Bacterial Collection will be archived in perpetuity as frozen glycerol stocks in the lab of Co-PI Kvitko in Nuair -80°C freezer with an Ecolog-net monitoring system that remotely alerts lab members in case of equipment failure.
- Bacterial isolates collected and created during this project will be made available for distribution on a cost recovery basis by the PI and Co-PIs upon request in accordance with institutional material transfer agreements, USDA permitting requirements for movement of plant pests, and the Nagoya Protocol on Access and Benefit Sharing.³

Software:

- Software developed under Objective B.6 will be released to the public domain using an open-source license such as the GNU General Public License version 3 (GPL-3.0). Software will be released as soon as possible after testing and peer review, with the aim of providing access to

³ https://en.wikipedia.org/wiki/Nagoya_Protocol

the broader community even as the project is in progress. Software publication through bitbucket.org or github.com will render it accessible to web search engines.

Raw datasets:

- Data associated with peer-reviewed publications will be released in repositories associated with specific journals. Data repositories such as Figshare will be used to publish any remaining raw datasets once peer-reviewed publications are complete.

Survey data:

- In the case of survey data, separation between identifying data and responses will be maintained as is standard in approval from the Institutional Review Board.

5 AUTHORSHIP, CREDIT AND ACKNOWLEDGEMENT

Criteria for assigning authorship and credit, and for acknowledging non-author contributions to Stop the Rot work products are based on the criteria used by ICMJE⁴ for authorship, and their guidelines for deciding order of authors.

5.1 Criteria for authorship

Authorship of Stop the Rot work products, including articles, public presentations, extension products and technical reports, will be based on the following 4 criteria:

- (1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- (2) Drafting the work or revising it critically for important intellectual content; AND
- (3) Final approval of the version to be published; AND
- (4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

5.2 Acknowledging non-author contributors and collaborating institutions

- Those who do not meet all four criteria for authorship should be acknowledged as contributors.
- The corresponding author for each Stop the Rot work product must obtain written permission to be acknowledged from all acknowledged individuals.
- We will use a standard format for acknowledging non-author contributors and regional labs in project work products. Table 1 contains a list of the collaborating institutions and laboratories, and the preferred format for acknowledgement of their contributions.

5.3 Deciding authorship and author order:

- There will be some papers or work products from Stop the Rot that are region-specific or issue-specific, while others could be synthesis papers or might compare results across onion production regions. In each case, the group conducting the work should decide who will be an author before the work is started and confirm who is an author before submitting the manuscript for publication or the work product for final signoff and release.
- First author and last author are key positions, indicating leadership and primary responsibilities for the work reported in a paper.

⁴ Based on: *International Committee of Medical Journals Editors guidelines:*
<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>

5.4 Acknowledging USDA support

- All final Stop the Rot work products must include the following acknowledgement and disclaimer:
“This work is supported by Specialty Crops Research Initiative Award 2019-51181-30013 from the USDA National Institute of Food and Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.”
- The NIFA identifier should be included in Stop the Rot final work products, according to NIFA guidelines for its use.⁵

6 PUBLIC PRESENTATIONS, MEDIA INQUIRIES, INTELLECTUAL PROPERTY QUESTIONS

6.1 Public presentations about the project

- Public presentations about the project should only be made by the project collaborators, using the standard project slide deck to convey information about the general approach, goals and objectives of the research.
- Funding sources must be appropriately acknowledged in all presentations.
- If you are sharing data or summary results that are not your own, then the team members who generated the data must be requested to review and approve the presentation first.
- Final copies of presentations should be sent to the Project Manager for the project library, the project page on Alliumnet.com, and for grant reporting purposes.

6.2 Media inquiries about the project

- When responding to requests for information or interviews with media, project team members should take care to correctly represent the project goals and objectives and any research findings, and to avoid sharing data without permission.
- Copies of press releases, media articles and links to video or audio interviews should be sent to the Project Manager for grant reporting purposes as soon as possible after the event.

6.3 Intellectual property and patent applications arising from the project

- Project team members are bound by the standard Federal subcontract provisions (Attachment 2 of each collaborating institution’s subcontract). These set the conditions and constraints for use of intellectual property and patent applications by the PTE (Pass-Through Entity: Washington State University in this case) and by each collaborating institution.
- Potential patents and associated intellectual property implications will be discussed within the project team before any actions are taken.

7 CONTINGENCIES AND COMMUNICATING

- Mechanisms for **routine communications** among members of the research team (to ensure that all appropriate members of the team are kept fully informed of relevant issues) will include: monthly team conferences; monthly co-PIs meetings; team newsletters; quarterly progress reports; occasional email updates from the PM and PD; sub-team meetings as needed.
- If an **inter-personal conflict** arises on the team, it should first be addressed using a direct approach by phone or in-person. If this is not successful, then the co-PI for that region should be asked to assist in resolving the conflict.

⁵ The .jpg version of the identifier can be downloaded from <https://nifa.usda.gov/resource/official-nifa-identifier>

- As the research proceeds and new learning and results are generated, it may become necessary to redirect the research agenda. **Changes to the research agenda** will be formulated through discussion and agreement at the project team meetings and co-PIs' meetings. The PD and PM will seek NIFA approval for agreed changes to the research agenda as and when necessary.
- Additional **collaborations and spin-off projects** will be discussed with the project team as needed and incorporated into regular project planning.
- If a PI or a project collaborator **moves to another institution or leaves the project**, then the co-PIs will meet to assess impacts on the research and how to address the situation on a case by case basis. Project materials generated through NIFA funding for this project belong to the project. Project collaborators will develop succession plans for retirement or for a move to another institution.

8 CONFLICTS OF INTEREST

- Members of the project team may be receiving supplementary funding from several different sources that contributes to this research on bacterial diseases of onion. Potential conflicts of interest among collaborators as regards funding, data ownership and data sharing must be clarified early, by checking with other team members before using or reporting data from the Stop the Rot project.
- Potential financial conflicts of interest for collaborators involving their close associates or others who may benefit financially from the research must be disclosed. The requirements are covered in the standard Federal subcontract provisions on this matter (see Attachment 2 of each collaborating institution's subcontract).

Table 1: Format for acknowledgement of non-author contributions by collaborating institutions/laboratories

Full name of the contributing/ collaborating institution, lab, center	Names of individuals being acknowledged for non-author contributions	Contribution to Stop the Rot project
University of Idaho, Parma Research and Extension Center, Idaho, USA (James Woodhall)	Miranda Harrington Mackade Murdock	Miranda Harrington for assistance with isolation and sequencing of bacterial strains Mackade Murdock for assistance with the collection and isolation of onion bacteria samples
Department of Biochemistry, Genetics and Microbiology, Centre for Microbial Ecology and Genomics/Forestry and Agricultural Biotechnology Institute, University of Pretoria, South Africa (Teresa Coutinho)	Graduate students	Metagenomic analyses
Utah State University, Dept. of Biology (Dr. Nischwitz’s lab) Utah State University, Dept. of Plant, Soils and Climate (Dr. Drost’s lab)	Numerous undergraduate students Numerous undergraduate students	Making media, isolating bacteria and weeding plots
Utah State University Weber Co. Extension Utah State University Box Elder Co. Extension	Cody Zesiger Mike Pace	Help with field trials Help with field trials
University of Georgia Department of Plant Pathology (Brian Kvitko)	Amy Smith	Phenotypic and genotypic validation and curation of bacterial strains
Department of Plant and Environmental Sciences, New Mexico State University (Chris Cramer)	Christopher S. Cramer, Professor of Horticulture	
Department of Plant Pathology and Environmental Microbiology, The Pennsylvania State University (Beth Gugino)	Jennie Mazzone (Research technician) Ram Neupane (PhD student starting in January 2021)	Assisted in the collection and processing of onion samples from PA and NY in support of Objective 1A as well as the establishment, maintenance and data collection for field trials conducted in support of Objective B.
Washington State University Department of Plant Pathology (Lindsey du Toit)	Paul Morgan Mike Derie (in some cases he will be a co-author) Babette Gunderson Graduate students/postdocs who assist periodically	Survey (Objective 1A) – processing samples, generating pure strains, testing strains for pathogenicity, storing strains Field Trials (Objective B)
Section of Plant Pathology and Plant- Microbe Biology School of Integrative Plant Sciences 306 Plant Science Building Cornell University Ithaca NY, USA (Steven Beer)	Dr. Steven V. Beer Jean Bonasera	Provided onion bacterial strains for the National Onion Bacterial Strain Collection. Prepared inoculum for Objective B field trials in NY.

Full name of the contributing/ collaborating institution, lab, center	Names of individuals being acknowledged for non-author contributions	Contribution to Stop the Rot project
WSU Extension: Commercial Vegetables, Pasco WA	Jennifer Darner, Scientific Assistant	Managing and rating field trial plots.