U.S. Wheat & Barley Scab Initiative

FY18-19 Request for Pre-Proposals

For more information:
https://scabusa.org/research_rfp18-19
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517-353-0201

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Note: All CP-related Proposed Research Project forms may be viewed and downloaded from the FY18-19 RFP web page: https://scabusa.org/research_rfp18-19

SECTION 2: PROPOSED RESEARCH PROJECTS SUBMITTED TO THE FHB MANAGEMENT INTEGRATED MANAGEMENT COORDINATED PROJECT (IM-CP)

Introduction

Instructions

Note: All IM-CP Proposed Research Project forms may be viewed and downloaded from the FY18-19 RFP web page: https://scabusa.org/research_rfp18-19

SECTION 3: RESEARCH AREA INDIVIDUAL PROJECT PRE-PROPOSALS

Note: All Individual Research Area Pre-Proposal forms may be viewed and downloaded from the FY18-19 RFP web page: https://scabusa.org/research_rfp18-1-9

EXECUTIVE SUMMARY
Quick Start - FY18-19 Request for Pre-Proposals (RFP)
Read this First!

The USWBSI is soliciting proposed research for the following:

> **Category 1 – Commodity-based and VDHR-Uniform Nursery Coordinated Projects (CP):**
> - Commodity-based
>   - Barley (BAR-CP);
>   - Durum (DUR-CP); and
>   - Hard Winter Wheat (HWW-CP)
> - VDHR Uniform Nurseries:
>   - Spring Wheat Parents (VDHR-SPR);
>   - Northern Soft Winter Wheat (VDHR-NWW); and
>   - Southern Soft Red Winter Wheat (VDHR-SWW)
>
> For more information, please turn to page 17.

> **Category 2 - FHB Management (MGMT) Coordinated Projects.**
> For more information, please turn to page 26.

> **Category 3 - Research Area Individual Project Pre-Proposals:**
> - FHB Management (MGMT);
> - Food Safety and Toxicology (FST);
> - Gene Discovery and Engineering Resistance (GDER);
> - Pathogen Biology and Genetics (PBG).
> - Other – pre-proposals that do not fit into a specific research area or coordinated project.
>
> For more information, please turn to page 34.

What is new for FY18-19?

- **Project Summary** is a required component for <u>all</u> Pre-Proposal Categories. The format and content requirements changed starting with the FY16-17 RFP. **However, not all PIs with projects that have been funded prior to FY17, have modified their project summary to conform to the new required format.** PIs submitting pre-proposals for ongoing research projects should <u>carefully</u> review the instructions and new content requirements. Simply copying and pasting the FY17 project summary into the pre-proposal without editing for conformance to content requirements and word limit is not acceptable.

- Digital images inserted into the Plan of Work/Project Description must only be included within the page limits. The **maximum size of images** to be included should be <u>approximately 1200 x 1500 pixels</u> using 256 colors. Figures must be readable as printed on an 8.5" x 11" page at normal (100%) scale.

- **Research priorities** have been updated for FY18-19. For more information, please see the <u>FY18-19 Program Descriptions and Research Priorities</u> (begins on page 9).

- **Electronic Pre-Proposal Submission (EPS) System:** The EPS System is running on a new platform for FY18-19. However, PIs who have previously submitted pre-proposals to the USWBSI will **NOT** need to create a new user account. For PIs submitting a pre-proposal to the USWBSI for the first time,

each Category contains specific instructions for creating a new user account for the EPS system (see page 19, 27 or 34)

What is included in this document?

This document contains only the instructions for submitting pre-proposals for FY18-19. All RFP forms can be downloaded from the RFP website at: https://scabusa.org/research_rfp18-19.
NOTE: Using forms from previous RFP versions is **not** allowed and may result in rejection of pre-proposal.

Categories of Pre-Proposals for FY18-19:

There are three distinct categories of FY18-19 Pre-Proposals:

1) Proposed Research Projects submitted to one of the Commodity-based or Variety Development and Host Resistance (VDHR) Uniform Nursery Coordinated Projects (CP);
2) Proposed Research Projects submitted to the FHB Management (MGMT) Integrated Management Coordinated Project (IM-CP); and
3) Individual Pre-Proposals submitted to one of the Research Area.

For more information on these three categories, see page 3.

IMPORTANT DEADLINES FOR ALL PRE-PROPOSAL CATEGORIES

Description of Item:	Deadline:
Pre-Registration for Electronic Pre-Proposal Submission (EPS) System Begins	**August 1, 2017**
EPS System Opens	**August 3, 2017**
Pre-Registration for EPS System Closes	**August 31, 2017**
Pre-Proposal Deadline	**September 19, 2017**

PREFACE

The FY18-19 Request for Pre-Proposals is based on the USWBSI's Action Plan which will lead to greater collaboration and communication, and more rapid attainment of the Initiative's primary goal: **"To enhance food safety and supply by reducing the impact of Fusarium Head Blight (scab) on wheat and barley."** To read the complete action plans for all research areas go to https://scabusa.org/pdfs/uswbsi_action-plan_web.pdf.

FY18-19 Research Categories (RC)

Below are the Research Categories for which FY18-19 pre-proposals will be accepted:

1. Commodity-based and VDHR-Uniform Nursery Coordinated Projects:
   ❖ Barley Coordinated Project (BAR-CP)
   ❖ Durum Coordinated Project (DUR-CP)
   ❖ Hard Winter Wheat Coordinated Project (HWW-CP)
   ❖ Variety Development and Host Resistance – Spring Wheat Region (VDHR-SPR)
   ❖ Variety Development and Host Resistance - Northern Soft Winter Wheat Region (VDHR-NWW)
   ❖ Variety Development and Host Resistance - Southern Soft Red Winter Wheat Region (VDHR-SWW)

2. FHB Management Coordinated Project:
   ❖ Integrated Management Studies (IM)

3. Research Area (RA) Individual Project Pre-Proposals:
   ❖ FHB Management (MGMT)
   ❖ Food Safety and Toxicology (FST)
   ❖ Gene Discovery and Engineering Resistance (GDER)
   ❖ Pathogen Biology and Genetics (PBG)
   ❖ Other – pre-proposals that do not fit into a specific research area or coordinated project.

Program descriptions and research priorities for the research categories listed above are included in this document (beginning on page 9), and may also be accessed at http://scabusa.org/research_rfp18-19. Proposed research should be based on the FY18-19 research priorities which are derived from the goals of the Action Plan.

Requests for Funding

There are three distinct categories of FY18-19 Pre-Proposals: **1)** Commodity-based and VDHR-Uniform Nursery Coordinated Projects; 2**)** MGMT's Integrated Management Coordinated Project (IM-CP); and **3)** Research Area Individual Pre-Proposals.   An overview of the three categories follows:

1) **Commodity-based and VDHR-Uniform Nursery based Coordinated Projects (CPs):** If the primary focus of your proposed research (all USWBSI Research Areas) is on Barley, Durum or Hard Winter Wheat, you **should** submit your proposed research to the appropriate Commodity-based Coordinated Projects. If your proposed research is in the area of Variety Development and Host Resistance, and you work within one of the Uniform Nursery Regions (see page 17 to find your regional nursery), you **must** submit your proposed research to the appropriate VDHR Uniform

Nursery Coordinated Projects. Please follow the instructions under **Section 1** - **Commodity and VDHR-Uniform Nursery based Coordinated Projects (CPs) – Proposed Research Projects** (instructions begin on page 17).

2) **FHB Management Coordinated Project (CP):** If your proposed research fits into the FHB Management Coordinated Project listed below, please follow the instructions and forms under Section 2 titled "**FHB Management Coordinated Project (CP) for Integrated Management – Proposed Research Project**" (instructions begin on page 26) to submit your proposed research.
   ➢ Integrated Management Studies (IM)

3) **Research Area Individual Project Pre-Proposals:** If your proposed research is in one of the research areas listed on page 2 and is <u>not</u> associated with a Commodity-based, VDHR-Uniform Nursery or FHB Management Coordinated Project, or if you proposed research was not accepted by one of the CPs, please follow the instructions under Section 3 titled "**Research Area Individual Project Pre-Proposals**" (instructions begin on page 34) to submit your pre-proposal.

Enhancement of USWBSI Communication Activities: The USWBSI is interested in receiving pre-proposals that innovatively address this need. PIs should follow the instructions under **Category 3**: Individual Research Area Pre-Proposals. In Box 13 of the Application for Funding Cover Page, select option 'Other/None of the above'.

PIs are welcome and encouraged to interact with any of the contacts (listed on page 7) for the Coordinated Projects or Research Areas, or the Networking & Facilitation Office, to identify the appropriate area for their proposed work.

<u>Electronic Submission of FY18-19 Pre-Proposals:</u>

The Electronic Pre-Proposal Submission (EPS) System (web-based) must be used for the submission of <u>all</u> Research Area Individual Pre-Proposals (Category 3) as well as supporting documents for all categories. General instructions for completing pre-proposals and supporting documents for electronic submission are included in this document under each Pre-Proposal Category section.

The on-line submission process begins with the completion of the 'Pre-Registration Process.' The pre-registration period opens August 1, 2017 and must be completed no later than August 31, 2017. Information submitted during this process will be used to setup/configure accounts for PIs and Co-PIs. The Electronic Pre-Proposal Submission (EPS) System will open August 3rd. Information needed for accessing the EPS System will be distributed to PIs within 48 normal business hours after completing the 'Pre-Registration Process.'

The USWBSI does not require signatures by the Authorized Organizational Representatives (AORs) on pre-proposals/proposed research projects, so AORs will not be granted access to the EPS system. If PI's institution requires approval from the Authorized Organizational Representative (i.e. Sponsored Programs Administration/Office) on 'pre-proposals', included in the RFP is a special form that can be used at the institutional level for obtaining approval by the PI's sponsored programs office. The form can be downloaded from the USWBSI's Website at https://scabusa.org/research_rfp18-19 under 'SPECIAL FORMS' on the FY18-19 RFP web page.

INTRODUCTION

After carefully reading the 'PREFACE' and 'FY18-19 Research Category Program Descriptions and Research Priorities', you are ready to create your proposed research request(s). Below are a few steps to guide you through this process:

1. First, determine the appropriate Category for your proposed research: **1)** Commodity-based or VDHR-Uniform Nursery Coordinated Project; **2)** MGMT Integrated Management Coordinated Project; or **3)** Research Area Individual Project Pre-Proposal. You may contact any individual listed in Table 1 (page 7) to help determine the most appropriate category for your proposed research.
2. If Category 1 or 2 was selected in step 1, determine the Coordinated Project that best fits your proposed research.
3. If Category 3 was selected, determine the appropriate Research Area for your proposed research.
4. Finally, follow the instructions in the corresponding section to complete your proposal.

NOTE: Pre-Proposals that do not fit into one of the coordinated projects or research areas (listed on page 3) for which proposals are being accepted for FY18-19 are also welcome. Follow the instructions under Section 3 to complete and submit a pre-proposal.

CONFORMANCE WITH INSTRUCTIONS FOR PRE-PROPOSAL PREPARATION:

It is important that all pre-proposals conform to the instructions provided in the FY18-19 Request for Project Pre-Proposal Application. The USWBSI's Networking & Facilitation Office may return, without review, any pre-proposals that are not consistent with these instructions. The NFO must authorize any deviations from these instructions in advance of pre-proposal submission. Deviations must be authorized by written approval from the NFO Executive Director (dvs@uky.edu) or Administrator (nfo@scabusa.org).

COLLABORATIVE PROJECTS:

In addition to the Coordinated Projects, other collaborative projects within or across research areas are encouraged. PIs who intend to submit pre-proposals with similar objectives, methods, treatments, etc. should coordinate their efforts to produce a single, unified pre-proposal rather than similar, separate pre-proposals. If you are part of a collaborative project, and your proposed project is approved for funding, the funding will come in the form of a direct agreement between USDA-ARS and the collaborating PIs' institutions.

REVIEW AND FUNDING RECOMMENDATION PROCESS:

Please note that proposed research projects and pre-proposals will be **regarded as confidential** documents. Distribution will be limited only to parties involved with the review process. All pre-proposals received by the assigned deadline will be sent for review to one of the designated review panels. Because Fusarium head blight is such a severe problem for the U.S. wheat and barley industries, the USWBSI's review process focuses on the **competitiveness of total projects costs** (i.e. direct and indirect) to maximize total funding used for research.   The Executive Committee will then review the panels' recommendations and if necessary, modify the awards to conform to the FY18 Congressional budget and the overall objectives of the Initiative. The final step is approval of the EC's recommended research plan and budget by the Steering Committee in early December. **All PIs whose pre-proposals or proposed research project(s) are recommended for funding by the Initiative will be asked to compile and formalize their proposed**

research into 'Grant Applications' for inclusion in the Initiative's recommended research plan (approximately mid- to late-January 2018). The recommended comprehensive plan will be sent to USDA-ARS in the early months of 2018. More detailed information on the review process for each pre-proposal category is available on the RFP website - https://scabusa.org/research_rfp18-19.

REVISIONS TO PRE-PROPOSALS MADE DURING THE REVIEW PROCESS:

In the event of a significant development (e.g., research findings, changed circumstances, unavailability of PI, etc.) that might materially affect the outcome of the review of a pending pre-proposal, the PI must contact the Executive Director of the Networking and Facilitation Office (NFO) to discuss the issue. Depending on the outcome of that discussion, the PI may be allowed to submit a one-page update to the NFO. The NFO will provide a form and deadline for the update. Submitting additional information must not be used as a means of circumventing page limitations or stated deadlines.

NEED HELP?

If you have any questions regarding this application or the pre-proposal process, please contact the U.S. Wheat and Barley Scab Initiative's Networking and Facilitation Office by phone at (517) 353-0201 or by e-mail at nfo@scabusa.org.

To facilitate pre-proposal preparation, a Frequently Asked Questions (FAQs) document pertaining to preparation and submission of pre-proposals has been developed and is available electronically on the USWBSI's Website at:

https://scabusa.org/pdfs/rfp_faq.pdf

The FAQ document will be updated regularly as questions and requests for clarification are submitted to the Networking & Facilitation Office .

Table 1. Contacts for Research Areas, Coordinated Projects and the Networking & Facilitation Office (NFO).

RESEARCH AREAS (RA)	CONTACT	EMAIL ADDRESS
FHB Management (MGMT)	Andres Friskop, North Dakota State University	andrew.j.friskop@ndsu.edu
Food Safety and Toxicology (FST)	Paul Schwarz, North Dakota State University	paul.schwarz@ndsu.edu
Gene Discovery and Engineering Resistance (GDER)	Steve Scofield, USDA-ARS, IN	Steve.Scofield@ars.usda.gov
Pathogen Biology and Genetics (PBG)	H. Corby Kistler, USDA-ARS, MN	Corby.Kistler@ars.usda.gov
COORDINATED PROJECTS (CP)	CONTACT	EMAIL ADDRESS
MGMT'S Integrated Management Studies (IM-CP)	Pierce Paul, Ohio State University	paul.661@osu.edu
Commodity-Based CPs		
Barley (BAR-CP)	Brian Steffenson, University of Minnesota	bsteffen@umn.edu
Durum (DUR-CP)	Steven Xu, USDA-ARS, ND	Steven.Xu@ARS.USDA.GOV
Hard Winter Wheat (HWW-CP)	Jon Rich, Syngenta Co., KS	jon.rich@syngenta.com
VDHR - Uniform Nursery CPs		
Spring Wheat Region (VDHR-SPR)	Jochum Wiersma, University of Minnesota	wiers002@umn.edu
Northern Soft Winter Wheat (VDHR-NWW)	Eric Olson, Michigan State University	eolson@msu.edu
Southern Soft Red Winter Wheat (VDHR-SWW)	Esten Mason, University of Arkansas	esten@uark.edu
NETWORKING & FACILITATION OFFICE (NFO)	CONTACT	CONTACT INFORMATION
General Questions Regarding the RFP Process	Dave Van Sanford, Executive Director	859-338-2409 dvs@email.uky.edu
	Sue Canty, Administrator	517-290-5023 nfo@scabusa.org

IMPORTANT RFP DATES AND DEADLINES
FOR FY18-19 PRE-PROPOSALS

IMPORTANT DATES AND DEADLINES
(Ordered by Category and then Date)

RFP Category	Description of Item:	Deadline:
Category 1: Commodity-based and VDHR-Uniform Nursery Coordinated Projects (CP)	Letter of Intent (LOI) sent to CP Chair and NFO (electronic version acceptable)	July 14, 2017
	Pre-Registration for EPS System Begins	August 1, 2017
	EPS System Opens	August 3, 2017
	CP Chairs notify all PIs who submitted Letters of Intent to their CP whether their proposed research has been accepted into the CP's FY18-19 Pre-Proposal.	August 15, 2017
	Pre-Registration for EPS System Closes	August 31, 2017
	• E-version of Proposed Research Project (PRP) sent to CPC Chair and NFO. • CV/Publication List, and Current and Pending Support Form uploaded to EPS System.	September 19, 2017
	Submission of FY18-19 CP Pre-Proposals by CPCs	October 27, 2017
Category 2: MGMT's Integrated Management Coordinated Project (IM-CP)	Letter of Intent (LOI) sent to CP Chair and NFO (electronic version acceptable)	July 14, 2017
	Pre-Registration for EPS System Begins	August 1, 2017
	EPS System Opens	August 3, 2017
	CP Coordinator notify all PIs who submitted Letters of Intent to their CP whether their proposed research has been accepted into the CP's FY18-19 Pre-Proposal.	August 15, 2017
	CP Coordinator sends protocols to PI's accepted into the CP.	August 23, 2017
	Pre-Registration for EPS System Closes	August 31, 2017
	• E-version of Proposed Research Project (PRP) sent to CPC Chair and NFO. • CV/Publication List, and Current and Pending Support Form uploaded to EPS System.	September 19, 2017
	Submission of FY18-19 MGMT IM-CP Pre-Proposal by IM CPC	October 27, 2017
Category 3: Research Area (RA) Individual Pre-Proposals	Pre-Registration for EPS System Begins	August 1, 2017
	EPS System Opens	August 3, 2017
	Pre-Registration for EPS System Closes	August 31, 2017
	Submission of FY18-19 Pre-Proposal(s) and supporting documents via the EPS System.	September 19, 2017

Need Help? Please contact (see page 7) Sue Canty or Dave Van Sanford if you have questions.

FY18-19 Research Categories (Areas and Coordinated Projects) Program Descriptions and Research Priorities

FHB MANAGEMENT (MGMT)

Program Description:

The FHB Management (MGMT) research area supports research to develop effective and economical disease management practices that reduce FHB severity and mycotoxins in small grain crops to meet the immediate and long-term needs of the wheat and barley industries.

This research area involves:
- tillage practices, crop sequences, and other cultural practices targeting *Fusarium*-infested residues;
- fungicides and biocontrol agents with demonstrated field efficacy, and their application technologies;
- the refinement and deployment of disease prediction and forecasting models, and disease management decision tools; and
- studies of pathogen survival, inoculum production, dispersal, infection, colonization, mycotoxin production, fungicide sensitivity, and factors accounting for unacceptable levels of mycotoxins in symptomatic or asymptomatic grain.

NOTE: Priority will be given to multi-PI, collaborative, integrated pre-proposals that address the research priorities listed below. Project pre-proposals pertaining to integrated management (IM) studies will be developed as a multi-PI, collaborative, integrated proposal. The Coordinator for the Integrated Management Coordinated Project (IM-CP) is listed on pages 7 and 27 of the FY18-19 RFP.

FY18-19 Research Priorities derived from Action Plan Goals:

1. Develop integrated management strategies for FHB and mycotoxins that are robust to conditions experienced in production fields of wheat and barley.
2. Help develop and validate the next generation of management and mitigation tools for FHB and mycotoxin control.
3. Develop a full understanding of the factors influencing infection and toxin accumulation that can be used to develop the next generation of FHB and DON risk assessment measures.
4. Enhance communication and end user education/outreach.

FOOD SAFETY AND TOXICOLOGY (FST)

Program Description:

The Food Safety and Toxicology (FST) research area supports research on food safety and food processing issues related to the presence of *Fusarium* spp. mycotoxins in wheat and barley grain. Practical outcomes of research in this area include: 1) improved toxicological data to assure that current guidelines are providing the appropriate safety factors for the consumer; 2) analytical tools that can be used by small grain producers, elevators, millers, and processors, to rapidly and reliably identify mycotoxin-contaminated grain; 3) develop appropriate strategies to deal with contaminated grain; and 4) diagnostic data on *Fusarium* spp. mycotoxins required for development of FHB resistant/tolerant varieties of wheat and barley.

FY18-19 Research Priorities derived from Action Plan Goals:

1. Provide analytical support for DON/trichothecene quantitation for the Initiative's stakeholders.
2. Support research on DON/trichothecene safety that is needed by producers, grain processors, researchers, risk assessors, and regulators.

GENE DISCOVERY AND ENGINEERING RESISTANCE (GDER)

Program Description:

The Gene Discovery and Engineering Resistance (GDER) research area (RA) places its primary focus on the identification of wheat and barley gene variants that can be deployed in breeding strategies to increase FHB resistance and/or reduce DON accumulation. The GDER RA also supports development of gene editing and transgenic strategies to improve FHB resistance, however priority will be given to the use of transgenic techniques as research tools leading to identification of wheat and barley genes that can then be manipulated in breeding approaches. Gene discovery and transformation of non-cereal systems will be supported only for the purpose of rapidly screening potential anti-*Fusarium* genes**.**

FY18-19 Research Priorities derived from Action Plan Goals:

1. Identify native wheat and barley gene variants that improve FHB resistance and/or reduce DON accumulation.
2. Develop assays that can be used to rapidly validate candidate wheat and barley genes for resistance against FHB and/or reduced DON accumulation.
3. Develop effective FHB resistance and/or reduced DON accumulation through transgenic strategies.
4. Incorporate new technologies for the generation of gene edited or transgenic wheat and/or barley.

PATHOGEN BIOLOGY AND GENETICS (PBG)

Program Description:

Research in this area includes studies that address mycotoxin biosynthesis *in vivo* or *in planta*, host/parasite interactions, and host resistance mechanisms that target the pathogen. Research in PBG should complement and be linked to whole plant research that will lead to disease control and/or toxin reduction strategies.

FY18-19 Research Priorities derived from Action Plan Goals:

1. Characterize plant-fungal interactions to identify important genes, proteins or small molecules that may be used to develop FHB resistance or to reduce DON contamination in barley and wheat.
2. Gain new understanding of initial fungal infection that may be utilized to boost FHB resistance.
3. Discover epiphytic or endophytic microbes or microbial communities that may be useful for development of biological control of practices for FHB.

VARIETY DEVELOPMENT AND HOST RESISTANCE (VDHR)

Program Description:

The VDHR research area will be Uniform Nursery based in the case of soft winter wheat and spring wheat. States will be aligned with the uniform nurseries as follows: Uniform Regional Scab Nursery for Spring Wheat Parents (ID, MN, ND, SD, MT); Uniform Northern Winter Wheat FHB Screening Nursery (NY, MI, OH, IN, IL, MO, KY); Uniform Southern Soft Red Winter Wheat FHB Screening Nursery (NC, VA, AR, GA, LA). VDHR research will be commodity-based in the case of barley, durum and hard winter wheat coordinated projects.

Each Uniform nursery will be coordinated by a regional committee. Nurseries will be conducted in collaboration with a pathologist wherever possible and a subset of promising entries may be grown at multiple locations in Integrated Management Trials. The nurseries will also be evaluated for milling and baking quality, and haplotyped at the USDA regional genotyping labs. The most promising lines may be entered in the nurseries for a second year of testing at the lines originator's request. Collaborators will submit candidate parents for crossing, and prebreeding populations derived from these crosses/populations will be made available to all collaborators. Mapping of new resistance sources will be accomplished through joint phenotyping of populations. All collaborators must screen varieties planted commercially (>5% of wheat acreage) in their state for FHB resistance and provide this information to growers.

FY18-19 Research Priorities derived from Action Plan Goals:

1. Increase and document acreage seeded to varieties with improved FHB resistance to increase grain yield and grain quality and reduce DON in the US grain supply.
   - Participate in educational activities to increase the acreage and impact of varieties with FHB resistance.

2. Increase efficiency of coordinated project breeding programs to develop and release FHB resistant varieties.

- Enhance cooperation and coordination of research among programs. For example, phenotypic data should be uploaded to the T3 database, and early generation populations could be shared among programs

3. Implement new breeding technologies and germplasm to further enhance short term and long term improvement of FHB resistance and to efficiently introgress effective resistance genes into breeding germplasm.
   - Enhance selection efficiency through technologies such as genomic selection, marker-assisted selection, doubled haploid production or high throughput phenotyping.

BARLEY COORDINATED PROJECT (BAR-CP)

Project Description:

Minimizing the impact of Fusarium head blight (FHB) on barley production in the U.S. requires a multi-dimensional, yet focused and coordinated research effort. The Barley Coordinated Project (CP) seeks to combine existing lines of productive research with new avenues of investigation to develop a set of tools and disease management strategies that will minimize disease risk to producers and end-users of barley (Figure 1). This toolbox will be developed in coordination with other research areas (see below) and will consist of: 1) varieties with enhanced levels of resistance to FHB, lower levels of deoxynivalenol (DON), superior agronomic performance, and good end-use quality; 2) chemical formulations, application procedures, and a disease forecasting model that maximize fungicide efficacy; 3) residue management strategies that reduce the potential of pathogen inoculum to contribute to disease epidemics; and 4) a set of best management practices that incorporate our current understanding of the tools available to combat this disease.

FY18-19 Research Priorities derived from Action Plan Goals:

The Barley CP is organized around four of the Research Areas (RA) outlined in the USWBSI Action Plan. A set of 10 objectives are established within these four RAs that the CP will address either directly or indirectly via coordination with these other RAs.

I Variety Development and Host Resistance (VDHR)
    Objective 1. Screen *Hordeum* germplasm to identify new sources of resistance.
    Objective 2   Map novel QTL for resistance to FHB and the accumulation of mycotoxins in barley.
    Objective 3. Validate and fine map QTL for resistance to FHB and the accumulation of mycotoxins.
    Objective 4. Develop new barley varieties with enhanced resistance to FHB and lower mycotoxins.

II. Gene Discovery and Engineering Resistance (GDER)
    Objective 5. Evaluate promising transgenes in adapted genetic backgrounds in regional nurseries.
    Objective 6. Identify barley genes conferring resistance to *Fusarium*.

III. Pathogen Biology and Genetics (PBG)
    Objective 7. Investigate host x pathogen interactions that increase our understanding of the infection process; pathogen colonization, sporulation and spread; and the accumulation of mycotoxins.
    Objective 8.   Elucidate the epidemiology of colonization and survival of *Fusarium graminearum* on host tissue, disease development, and mycotoxin accumulation.

IV. FHB Management (MGMT)

Objective 9. Develop and evaluate chemical/biological management strategies that reduce FHB and/or mycotoxin accumulation in barley.

Objective 10. Develop and promote best management strategies through integrated disease management.
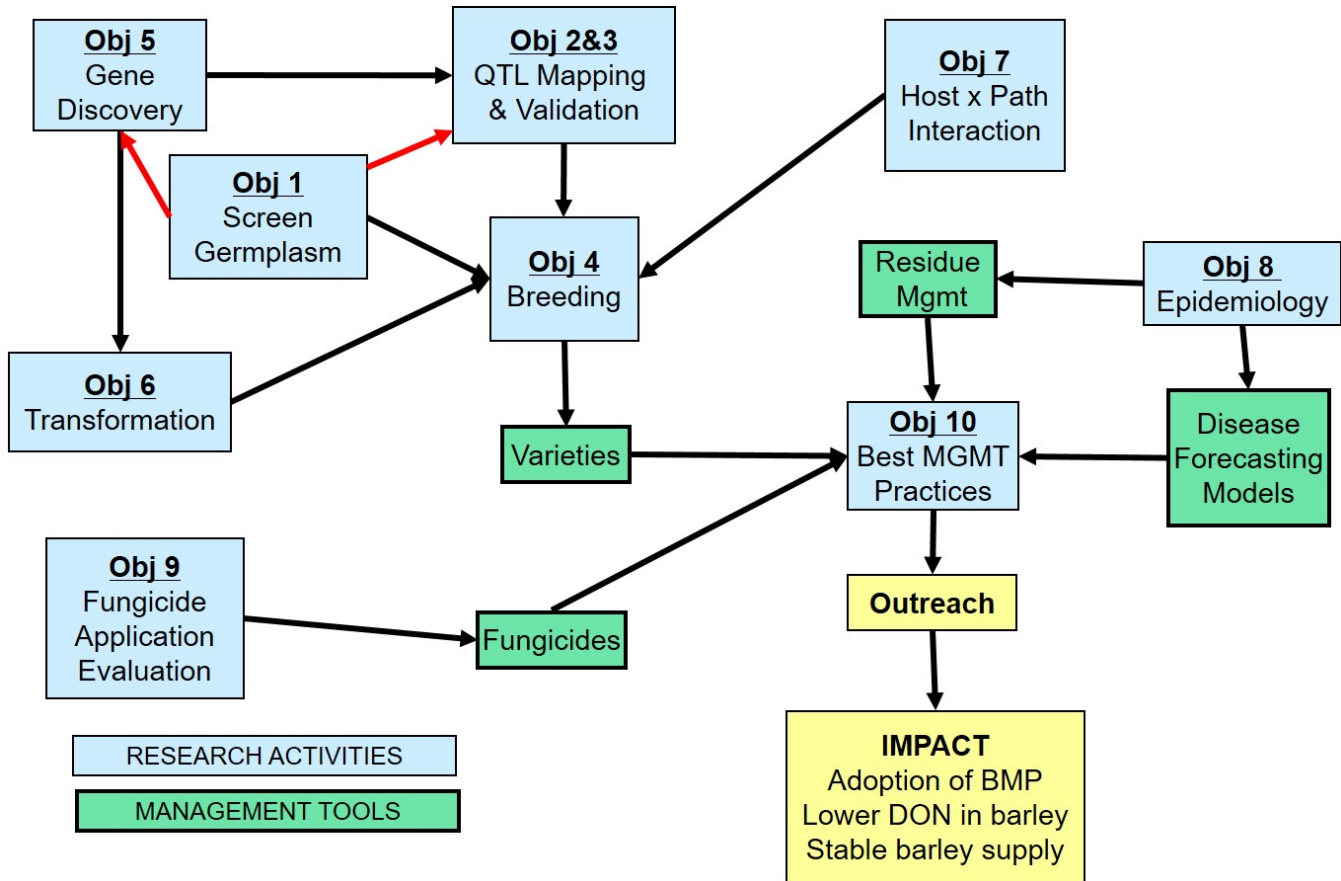

Figure 1. USWBSI BAR-CP Flow Chart of Research Priorities.

DURUM COORDINATED PROJECT (DUR-CP)

Project Description:

The Durum Coordinated Project (DUR-CP) has been created under the direction of the USWBSI to accomplish the initiative action plans. The DUR-CP's main objective is to develop FHB resistant durum wheat germplasm (lines/cultivars) with low DON levels, good agronomic traits, and good quality traits that will serve the producers, the domestic pasta industry, and the international export market. Reducing the impact of FHB requires a multidisciplinary effort and therefore the CP includes plant breeders, pathologists, geneticists, agronomists and other researchers working in the area of disease management. The CP also includes stakeholders such as millers and pasta manufactures.

FY18-19 Research Priorities derived from Action Plan Goals for VDHR:

1. Search for novel sources of resistance to FHB in durum and its diploid and tetraploid relatives.
2. Identify, map, and validate FHB resistance QTL in the newly identified sources of resistance and develop user-friendly molecular markers to assist selection in durum breeding and germplasm development.
3. Incorporate FHB resistance QTL from diploid, tetraploid and hexaploid wheat accessions into adapted durum backgrounds and develop elite durum germplasm with the assistance of molecular markers in selection.
4. Develop durum varieties with enhanced level of FHB resistance and reduced DON accumulation.
5. Investigate genetic mechanism of suppressors and enhancers affecting FHB resistance expression in durum wheat.
6. Evaluate chemical management strategies that reduce FHB and/or DON in durum.
7. Develop and promote best management strategies through integrated disease management.

HARD WINTER WHEAT COORDINATED PROJECT (HWW-CP)

Project Description:

The HWW-CP is an efficient coordinated project that will measure its success by reducing DON in the hard winter wheat grain supply to the food grade level acceptable in the European Union (EU). This level is currently lower than the US standard. Because half of our grain is exported and the majority of it shipped to the EU, the risk is that it can be sourced from high scab areas within the HWW region (e.g. the Eastern Great Plains). As the popularity of whole grain products increases, our goal is to ensure that the DON concentration in these products is also below established thresholds. Based upon the timelines expected for success in reducing DON, the HWW-CP includes the scientific activities of plant breeders, pathologists, geneticists and supporting research programs. We coordinate with disease management efforts because we realize that in addition to improved varieties, improved management will optimize project success within expected timelines. HWW-CP germplasm and information are publicly available and made available to other participating researchers in other research areas of the USWBSI. The HWW-CP remains focused on reducing DON levels as quickly as possible and by using the most efficacious methods to do so (breeding and management). Membership in the HWW-CP includes all researchers currently funded within the CP, individuals designated as representatives from other research areas of the USWBSI, all interested FHB researchers who may or may not be funded by the USWBSI, stakeholders representing members from groups that fund our research (e.g. the KS, NE, SD, ND, ID and MT Wheat Commissions), and members of groups that are key to our industry and who non-monetarily support HWW-CP research. These are

"independent" stakeholders, such as major mills and bakeries, private wheat breeders, and chemical company representatives.
These are "independent" stakeholders, such as major mills and bakeries, private wheat breeders, and chemical company representatives.

FY18-19 Research Priorities derived from Action Plan Goals:

The HWW-CP is organized around two of the research areas – Variety Development and Host Resistance (VDHR) and FHB Management (MGMT) as outlined in the USWBSI Action Plan. Two major objectives and associated research activities have been established within this CP. In addition, the HWW-CP works closely with other USWBSI Research Areas (RAs) to support the stated goal of reducing DON levels specified by the EU. Specifically, the HWW-CP works most closely with the MGMT RA.

Variety Development and Host Resistance (VDHR) and FHB Management (MGMT)

Objective 1. Increase acreage planted to varieties exhibiting low DON through improved FHB resistance in the HWW grain supply for domestic, export and whole grain products.

Associated Research Activities:
- Increase efficiency of individual breeding programs by developing phenotypic and genomic selection models through coordinated effort of pyramiding major and minor genes leading to the development and release FHB resistant varieties with lower levels of DON.
- Create new genetic resources and efficiently introgress resistance genes into breeding germplasm for long-term improvement in FHB resistance.
- Develop and utilize new breeding and non-destructive DON screening technologies to increase the rate of improvement for FHB resistance in winter wheat.
- Test and evaluate regional germplasm to include breeding lines from public and private breeding programs as well as irrigated field nurseries representative of all FHB environments throughout the region.

Objective 2. Evaluate management and storage practices leading to reduced DON in the HWW grain supply. These practices will enhance varietal resistance and will be disseminated as information in association with resistant varieties.

Associated Research Activities:
- Characterize genotype x fungicide "specific" treatment responses for enhancing FHB resistance and the reduction of DON so information can be given to the MGMT group to help them optimize their program using advanced breeding lines and new varieties. Management practices need to use the most resistant varieties to develop the best systems with the lowest DON concentrations.
- Develop a full understanding of specific environmental and biological factors influencing FHB infection and toxin accumulation.
- Enhance communication and end-user education/outreach relating to resistant varieties and effective management practices and have end use stakeholder representatives on the HWW-CP.
- Enhance cooperation with other RAs by having HWW-CP representatives on MGMT and GDER RAs.
- Coordinate efforts among RA groups on FHB management in hybrid wheat and the CRISPR-CAS9 system for improved FHB resistance.

SECTION 1:

COMMODITY-BASED AND VDHR-UNIFORM NURSERY COORDINATED PROJECTS

Proposed Research Projects

Category 1: Commodity-based and VDHR-Uniform Nursery Coordinated Projects (CPs)

INTRODUCTION

Does my proposed research belong in a Commodity-based or VDHR-Uniform Nursery Coordinated Project?

Yes, if the primary focus of your proposed research involves the following:

Commodity-based Coordinated Projects	Barley (BAR)
	Durum (DUR)
	Hard Winter Wheat (HWW)
VDHR-Uniform Nursery Coordinated Projects	**Spring Wheat Region -** States included in this CP: ID, MN, MT, ND, SD
	Northern Soft Winter Wheat - States included in this CP: IN, IL, KY, MI, MO, NY, OH
	Southern Soft Red Winter Wheat - States included in this CP: AR, GA, LA, NC, VA

NOTE: If you are working on spring or soft winter wheat and your state is not listed above under one of the VDHR Uniform Nursery CPs, please contact the Networking and Facilitation Office (NFO) for guidance on submission of your pre-proposal.

Overview of Submission Process for the Commodity-based and VDHR-Uniform Nursery Coordinated Projects:

Whether you are proposing research to the Barley, Durum, Hard Winter Wheat CPs or one of the VDHR - Uniform Nursery CPs, below are the main components (in order of completion) of the submission process:

1. PIs submit a **Letter of Intent (LOI)** to the Chair of the CPC (see Table 1, page 7) and Cc: the NFO.
    Deadline: July 14

2. CP committees notify all PIs who submitted Letters of Intent to their CP whether their proposed research has been accepted into the CP's FY18-19 Pre-Proposal.   **Deadline:** August 15

3. PIs and Co-PIs complete the Pre-Registration Process for uploading their CV/Publication Lists and Current and Pending Support Form to the EPS System.   **Deadline:** August 31

4. PIs submit (via email) electronic version of the '**Proposed Research Project'** to the Chair of the CPC and the NFO.   **Deadline:** September 19

5. PIs upload their CV/Publication Lists and Current and Pending Form to the EPS System.
    Deadline: September 19

6. CPC Chairs submit electronic version of CP's FY18-19 Pre-Proposal to the NFO.
    Deadline: October 27

INSTRUCTIONS

1. PRE-SUBMISSION - LETTER OF INTENT (LOI)

If you plan to participate in one of the Coordinated Projects, you must submit a Letter of Intent to the Chair of the appropriate CP Committee (see below) by **July 14th**. The LOI must adhere to the following:

- *One page (single spaced) maximum;*
- *Name of PI and co-PIs, and the proposed title;*
- *Indicate if this is a <u>continuing</u> or <u>new</u> project;*
- *Identify the <u>research area</u> (MGMT, FST, GDER, PBG or VDHR) in which your project fits (applicable to Commodity-based CPs only).*
- *Synopsis that describes the following:*
  - *the CP's research priority which your project fits;*
  - *the problem being addressed, approaches for solving the problem and the rationale for using these approaches; and*
  - *the outputs of the project and how those outputs will be used by researchers, extension educators, or stakeholders to accomplish the overall goal of the USWBSI.*
  - *<u>NOTE</u>: If it does not fit one of the CP's stated research priorities (refer to CPs' or VDHR Program Descriptions and Research Priorities/Objectives - https://scabusa.org/pdfs/rfp/FY18-19_pd-rp.pdf), then suggest a new objective;*
- *Include a statement that demonstrates that the PI/Co-PI's are capable of carrying out the proposed research based on past research productivity and expertise in the relevant field(s) of research; and*
- *Projected total amount of budget request.*

Deadline: Both the Chair of the relevant Coordinated Project Committee (CPC) and the NFO (nfo@scabusa.org) must receive the Letter of Intent by **July 14, 2017**. LOIs should be submitted electronically via e-mail.

Contact Information for Coordinated Project Committees' Chairs:

COMMODITY-BASED COORDINATED PROJECTS		
Barley	**Durum**	**Hard Winter Wheat**
Brian Steffenson University of Minnesota Dept. of Plant Pathology 495 Borlaug Hall 1991 Upper Buford Cr. St. Paul, MN 55108 PH: (612) 625-4735 Email: bsteffen@umn.edu	Steven Xu USDA-ARS Northern Crop Science Laboratory 1307 18th Street North Fargo, ND 58105-5677 PH: (701) 239-1327 Email: Steven.Xu@ARS.USDA.GOV	Jon Rich Agripro-Syngenta 11783 Ascher Rd. Junction City, KS 66441 PH: (785) 210-2108 Email: jon.rich@syngenta.com

VDHR–UNIFORM NURSERIES COORDINATED PROJECTS		
Spring Wheat Parents	**Northern Soft Winter Wheat**	**Southern Soft Winter Wheat**
Jochum Wiersma University of Minnesota Northwest Experiment Station 2900 University Ave. Crookston, MN 56716 PH: (218) 281-8629 Email: wiers002@umn.edu	Eric Olson Michigan State University Dept. of Plant, Soil & Microbial Scs. Plant & Soil Science Bldg. 1066 Bogue St., RM 382 East Lansing, MI 48824 PH: (517) 353-0142 Email: eolson@msu.edu	Esten Mason University of Arkansas Dept. of Crop, Soil and Envir. Scs. 115 Plant Sciences Bldg. Fayetteville, Arkansas 72701 PH: (479) 575-5725 Email: esten@uark.edu

2. CP COMMITTEES' RESPONSE TO RECEIVED LETTERS OF INTENT

The CP Coordinator will notify all PIs who submitted Letters of Intent whether their proposed research has been accepted into the CP FY18-19 Pre-Proposal.

Deadline: August 15, 2017

<u>Note</u>: If your proposed research was rejected by one of the CPs, you may submit an individual project pre-proposal for consideration following the instructions for Category 3 (page 34).

3. PRE-REGISTRATION PROCESS FOR THE EPS SYSTEM

All PIs submitting a proposed research project to a Commodity-based or VDHR-Uniform Nursery Coordinated Project must complete the Pre-Registration Process so that they may upload their CV/Publication Lists and Current and Pending Support forms to the EPS System. However, PIs should wait to complete the Pre-Registration Process until after they have received a response from the CP Committee Chair concerning their submitted Letter of Intent (LOI) – *refer to Item 2*.

Step 1: <u>Setting up User access to EPS System</u>: All PIs and Co-PIs submitting a proposed research project for the first time must complete this step in order to have access to the EPS System. Complete the user registration form at https://scabusa.org/user/register.
NOTE: This step must be completed before you can complete step 2. If you are unsure if you already have a user account, contact the NFO.

Step 2: <u>Proposed Research Form</u>: Information submitted on this form pertains to the proposed research being submitted. You must complete a separate form for each proposed research project being submitted. After logging in on the USWBSI's home page, click on the link below and then follow the instructions included on the form - https://scabusa.org/pre_reg.php.

Important Dates and Deadlines for the EPS System:

August 1:   Pre-registration Process begins. Upon successful completion of the pre-registration process, PIs and Co-PIs will receive their EPS access information via email on or within 48 business hours.
August 3:   EPS System Opens
August 31: Pre-Registration Process ends.
Sept. 19:   Deadline for final submission of supporting documents.

4. PROPOSED RESEACH PROJECT (PRP)

<u>NOTE</u>: There are two versions of the Proposed Research Project forms: 1) Commodity; and 2) VDHR-Uniform Nurseries. Make sure to download the appropriate version from the FY18-19 RFP web page at https://scabusa.org/research_rfp18-19.

Title of Proposed Research Project

The title of the project pre-proposal must be brief (**85-character maximum**), yet represent the major thrust of the project. Because this title will be used to provide information to those who may not be familiar with the proposed project, highly technical words or phraseology should be avoided where possible. In addition, phrases such as "investigation of" or "research on" should not be used.

Project Summary

Each project proposed research project must contain a completed Project Summary Page, which will be the second page of the proposed research project. The text for the project summary **should not exceed 400 words**. The project summary should include a description of the activity to be undertaken, and focus on the following (**all four bullets below must be addressed**):

- Overall project goal(s)
- Project Objectives (list in numbered format) and Expected Outcomes;
- Plans to accomplish project goal(s) within period of proposed work; and
- Statement of Mutual Interest (i.e. how will stakeholders/end-users benefit from this research).

The Project Summary should be concise and focused; specific details of the experimental design, materials and methods, etc. should be elaborated on in the Plan of Work.

Plan of Work

The Plan of Work should immediately follow the Project Summary. This plan must describe how your work specifically fits into the overall Coordinated Project and identify any linkages to other work plans that are part of the Coordinated Project. The Plan of Work should be formatted using Times New Roman, 12 point or higher with one-inch margins. **NOTE:** Bold formatting should only be used for section headings or used minimally to emphasize importance or significance. Conformance to the format requirements will be strictly enforced.

The Plan of Work should not exceed four (4) pages in length and should describe in clear, concrete terms the substance of your proposed research including the following:

- *Rationale and Significance.* It is understood that head scab is a devastating disease. **Acknowledgment of this fact should require no more than one sentence**. Concisely present the rationale behind the proposed research; identify the gaps in the knowledge base that your pre-proposal is trying to fill. Relevance of the project to the goals of the U.S. Wheat and Barley Scab Initiative with specific reference to the priorities listed in the FY118-19 Program Descriptions and Research Priorities (PD-RP) should be clearly stated.
- *Research Materials and Methods.* Specifically, this section must include:
    - The hypotheses or questions being asked;
    - A description of the investigations and/or experiments proposed **in the sequence** in which the investigation or experiments are to be performed;
    - Techniques and methodologies to be used in carrying out the proposed project, including the feasibility of the techniques. **(Describe in step by step fashion exactly what techniques, materials and methods will be used.)**;
    - Results expected;
    - Means by which experimental data will be analyzed or interpreted;
    - Means of applying results or accomplishing technology transfer, where appropriate;
    - Pitfalls that may be encountered;
    - Limitations to proposed procedures; and
    - A tentative schedule/timetable for conducting major steps involved in these investigations and/or experiments.

Category 1 - CP

NOTE: Digital images inserted into the Plan of Work must only be included within the page limits (4). The **maximum size of images** to be included should be approximately 1200 x 1500 pixels using 256 colors. Figures must be readable as printed on an 8.5" x 11" page at normal (100%) scale.

Budget Requests (Year 1 and 2)

Please complete the '**Proposed Research Project Budget Justification Form'** by following the instructions on the form. PI will also complete a budget using either '**Proposed Research Project Budget Form'** or the '**FY18-19 Multi-PI Budget Worksheet'** (MS Excel file). If the 'Multi-PI Budget Worksheet' is used, please remove the PRP budget page from the 'Proposed Research Project' forms prior to submission.   In most cases, your proposed research project should include a 'Year 1' and 'Year 2' budget request.   **NOTE:** In the majority of cases, the total for direct and indirect costs for Year 1 and Year 2 should be the same amount.

Tuition Remission: Tuition remission is **permitted** under USDA-ARS **extramural agreements** with any type of recipient organization (i.e. universities). If tuition remission is budgeted as a direct cost, it should be included in the "Other Direct Costs" category of the Budget Page (Section H).

Indirect Cost (IDC) Rate Policy:

USWBSI: Because Fusarium head blight is such a severe problem for the U.S. wheat and barley industries, the USWBSI's review process focuses on the **competitiveness of total projects costs** (i.e. direct and indirect) to maximize total funding used for research.
USDA-ARS: Per U.S. Code Title 7, Chapter 64, Subchapter X, Section 3310: Limitation on indirect costs for agricultural research shall not exceed 22 percent of the total Federal funds.

NOTE: Indirect Costs are not applicable to ARS PIs (currently ARS PIs based in CA, KS, MN, MT, NY, NC, and ND are funded under the USWBSI).

Small Business Innovated Research (SBIR) Fee: In the event your proposed research is recommended for funding, the SBIR Fee will be assessed prior to the award made by USDA-ARS. The SBIR fee is mandated by Congress under Public Law 112-81, Subtitle A, SEC. 5102 (a) (1) (I) in support of the Small Business Act. The current rate for the SBIR fee is 3.2%.

This fee is charged to only projects that are funded through an extramural agreement with ARS (i.e. not applicable to ARS PIs). When applicable, PIs are advised to incorporate the Small Business Innovated Research (SBIR) fee into their budget request. Below is the formula to calculate the fee including an example:

Step 1: Total of Direct and Indirect Costs X SBIR Fee % [e.g. 0.032] = SBIR Fee Amount.
Step 2: Add the SBIR Fee Amount to the Total Amount for Direct and Indirect Costs to get the 'Total Amount of Request.'

Example: Direct and Indirect Total: 34,500
Step 1: 34,500 X .032 = $1,104 (SBIR fee amount)
Step 2: 34,500 + 1,104 = 35,604 (Total Amount of Requested)

Multi-PI Budget Worksheet: The 'Multi-PI Budget Worksheet' was developed for use by PIs whose proposed research includes components at multiple institutions. In such cases, if a 'Multi-PI' proposed

research project is recommended for funding, the awards would go directly to the individuals' institution from USDA-ARS. This form should be used in place of the Single Budget Page, as it provides for both the individual budgets as well as the total requested amount for the proposed research. However, when using this form, separate Budget Justification Forms must be included for each individual budget request. The 'Multi-PI Budget Worksheet' and 'Budget Justification Form' can be downloaded from the Scab Website at https://scabusa.org/research_rfp18-19 under the section 'SPECIAL FORMS' on the FY18-19 RFP web page. The file contains detailed instructions for completing the budget worksheets. It should be noted that the worksheets contain calculated fields (highlighted in yellow).

Instructions for submitting Multi-PI Budget Worksheet with PRP: Send the multi-budget worksheets in either XLXS or PDF (must contain completed worksheets for both Years 1 and 2) formats to the CPC Chair and the NFO along with your Proposed Research Project document. The Multi-PI Budget Worksheet must contain the Lead PI's signature.

Breeder Form

If you are submitting a proposed research project that focuses on the development of varieties and/or germplasm, you must also complete a 'Breeder Form.' This form can be downloaded from the USWBSI's Website at https://scabusa.org/research_rfp18-19 under 'SPECIAL FORMS' on the FY18-19 RFP web page.

Instructions for submitting Breeder Form with PRP: Convert the Breeder Form to a PDF file and either merge it with the other items listed under 'Proposed Research Project' into a single PDF, or you may send it as a separate PDF file to the CPC Chair and the NFO.

Submission Deadline

Both the Chair of the relevant Coordinated Project Committee (CPC) **and** the NFO must receive the electronic version of the Proposed Research Project (PRP) by **September 19, 2017**.

5. SUPPORTING DOCUMENTS - ITEMS TO BE UPLOADED TO EPS SYSTEM

Curriculum Vitae and Publication List *(Maximum four pages per scientist)*

To assist peer reviewers in assessing the competence and experience of the proposed project staff, all personnel who will be involved in the proposed project must be identified clearly. The items listed below should be included for all personnel (PI, Co-Investigators, and secondary scientists (i.e. post-docs, graduate students)) who are expected to work on the project in a significant fashion (e.g. expectation of co-authorship on ensuing publications), whether or not funds are sought for this support:

- *Curriculum Vitae (C.V.).* The C.V. should be limited to a presentation of academic and research credentials, e.g., educational, employment and professional history, and honors and awards. Unless pertinent to the project, do not include meetings attended, seminars given, or personal data such as birth date, marital status, or community activities.

- *Publication List.* A chronological list of all publications in refereed journals during the past five years, including those in press, should be provided for each professional project member for whom a

Curriculum Vitae is provided. Non-refereed technical publications that have relevance to the proposed project may be included.

The C.V. and Publication List combined <u>must not exceed four pages per scientist</u>. C.V. and Publication Lists for collaborators or sub-contractors are not required.

<u>Submission Instructions:</u> PIs and Co-PIs are responsible for uploading their own CV/Pubs to the EPS System. <u>CV/Pubs for all secondary scientists should be included in the PI's file.</u> The CV/Pubs will only need to be uploaded one time whether or not the investigator is connected to multiple pre-proposals. The file (PDF format) must be uploaded to the EPS System by **September 19, 2017**.

Current and Pending Support (CPS) Form
CPS form can be downloaded from the FY18-19 RFP web page at https://scabusa.org/research_rfp18-19.

All PIs submitting a proposed research project (PRP) must also submit completed Current and Pending Support Forms listing other current public or private support to which key personnel identified in the PRP have committed portions of their time, whether or not salary support for person(s) involved is included in the budget. Analogous information must be provided for any pending proposals that are being considered by, or that will be submitted in the near future to, other possible sponsors, including other USDA Programs or agencies, and the USWBSI. Concurrent submission of identical or similar proposals to the other possible sponsors will not prejudice the review or evaluation by the USWBSI for this purpose. However, a PRP that duplicates or overlaps substantially with a **proposal already reviewed and funded (or to be funded)** by another organization or agency will not be recommended under this program. The third column ('Requested/Award Amount') on the 'Current and Pending Support Page' has been divided into two sub-columns: Total $ Amount and PI $ Allocation. For each grant/proposal listed, **include both the total ('Total $ Amount') and the amount you have or may receive ('PI $ Allocation')**.

<u>Submission Instructions:</u> PIs are responsible for uploading their own Current and Pending Support Form to the EPS System. The CPS Form will only need to be uploaded one time whether or not the investigator is connected to multiple pre-proposals. The CPS form must converted to PDF format before uploading to the EPS System by **September 19, 2017**.

IMPORTANT DATES/DEADLINES

Pre-Submission

➢ PIs submit Letters of Intent (LOI)   **July 14, 2017**
➢ CPCs respond to PIs regarding acceptance of LOIs into CP   **August 15, 2017**

Pre-Registration/EPS System

➢ STEP 1: Setup User access to EPS System *(First time submitters only)*
➢ STEP 2: Complete Proposed Research Form *(<u>NOTE</u>: This step should not be completed until you have received a response from the CP Coordinator to your Letter of Intent.)*

Pre-Registration Begins: **August 1, 2017**
EPS System Opens: **August 3, 2017**
Pre-Registration Ends: **August 31, 2017**

Final Submission of Proposed Research Projects (PRP)

<u>PI Check-list</u> of Required Items for PRP Submitted to Coordinated Project Committee

➢ Project Summary *(should not exceed 400 words)*
➢ Plan of Work *(should not exceed four pages)*
➢ Budget Justification Forms *(details required for all sections <u>and</u> subsections where funds are being requested)*
➢ Budget Page *(e-signature required, Adobe digitally signed is accepted)*
   <u>NOTE</u>: use either Individual or Multi-PI Budget forms; if 'Multi-PI Budget form is used, attach as a separate file (XLXS or PDF)
➢ Breeder Form *(required for all variety/germplasm development related proposed research projects)*

Submission Deadline - E-version <u>received</u> by CP Chair and the NFO: **September 19, 2017**

Submission of Supporting Documents

<u>Check-list</u> of Required Items to be uploaded to EPS System

➢ Curriculum Vitae and Publication List (PIs and Co-PIs)
➢ Current and Pending Support Form (PIs and Co-PIs)

Submission Deadline (uploaded to EPS System)   **September 19, 2017**

SECTION 2:

FHB MANAGEMENT's COORDINATED PROJECT FOR INTEGRATED MANAGEMENT (IM-CP)

Proposed Research Projects

Category 2: FHB Management Coordinated Project for Integrated Management (IM)

INTRODUCTION

Does my proposed research belong in the FHB Management Coordinated Project (CP)?

Yes, if the primary focus of your proposed research involves the following:

Integrated Management Studies (IM)	Integrated management strategies for FHB and DON including tillage practices, crop sequences, and other cultural practices targeting *Fusarium*-infested residues.

Overview of Submission Process for MGMT's Integrated Management Coordinated Project (IM-CP):

1. PIs submit a **Letter of Intent (LOI)** to the Coordinator of the IM-CP (see page 27), with a copy of the LOI sent to the NFO.   **Deadline:** <u>July 14</u>

2. IM-CP committee notifies all PIs who submitted Letters of Intent to their CP whether their proposed research has been accepted into the CP's FY18-19 Pre-Proposal.   **Deadline:** <u>August 15</u>

3. CP Coordinator distributes protocols to PIs accepted into CP.   **Deadline:** <u>August 23</u>

4. PIs (and Co-PIs) complete the Pre-Registration Process for uploading their CV/Publication Lists and Current and Pending Support Form to the EPS System.   **Deadline:** <u>August 31</u>

5. PIs submit electronic version (PDF format) of the '**Proposed Research Project'** to the Coordinator of the MGMT IM-CP and the NFO.   **Deadline:** <u>September 19</u>

6. PIs upload their CV/Publications Lists, and Current and Pending Support (CPS) Form (PDF format) to the EPS System.   **Deadline:** <u>September 19</u>

7. NFO receives MGMT IM-CP FY18-19 Pre-proposal from CP Coordinator.   **Deadline:** <u>October 27</u>

INSTRUCTIONS

PRE-SUBMISSION - LETTER OF INTENT (LOI)

If you plan to participate in the FHB Management Integrated Management Coordinated Project, you must submit a Letter of Intent to the CP Coordinator (see table below) by **July 14th.** The LOI, which may be in the form of an e-mail, must include address the following:

- *One page (single spaced) maximum;*
- *Name of PI and co-PIs, and the proposed title;*
- *Indicate if this is a <u>continuing</u> or <u>new</u> project;*

- *Reasons proposed component is needed;*
- *Goals in the USWBSI's [USWBSI Action Plan](#) addressed by this proposed research;*
- *Research needs in the USWBSI's [Program Description and Research Priorities for FHB Management](#) addressed by this research;*
- *Outputs of the project and how those outputs will be used by researchers, extension educators, or stakeholders to accomplish the overall goal of the USWBSI;*
- *Statement that demonstrates that the PI/co-PI(s) are capable of carrying out the proposed research based on past research productivity and expertise in the relevant field(s) of research; and*
- *Projected total amount of budget request.*

Deadline: Both the Coordinator of the MGMT IM-CP and the NFO must receive the Letters of Intent (may be in the form of an e-mail) by **July 14, 2017**. LOIs should be submitted electronically via e-mail.

Contact Information for the Integrated Management Coordinated Project (IM-CP) Coordinator and NFO:

Integrated Management Studies (IM)
Pierce Paul
1680 Madison Ave.
Dept. of Plant Pathology
Ohio State University
Wooster, OH 44691
E-mail: paul.661@osu.edu
Networking & Facilitation Office
ATTN: Sue Canty
USWBSI-NFO
Plant & Soil Sciences Bldg.
1066 Bogue St, RM 372
East Lansing, MI 48824
E-mail: nfo@scabusa.org

2. MGMT IM-CP COORDINATOR'S RESPONSE TO RECEIVED LETTERS OF INTENT

The CP Coordinator will notify all PIs who submitted Letters of Intent whether their proposed research has been accepted into the FY18-19 Coordinated Project Pre-Proposal.

Deadline: August 15, 2017

<u>Note</u>: If your proposed research was rejected by the MGMT IM-CP, you may submit an individual project pre-proposal for consideration following the instructions for Category 3 (page 33).

3. PRE-REGISTRATION PROCESS FOR THE EPS SYSTEM

All PIs submitting a proposed research project to the Integrated Management Coordinated Project must complete the Pre-Registration Process so that they may upload their CV/Publication Lists and Current and Pending Support forms to the EPS System. However, PIs should wait to complete the Pre-Registration Process until after they have received a response from the CP Committee Chair concerning their submitted Letter of Intent (LOI) – *refer to Item 2.*

Step 1: <u>Setting up User access to EPS System</u>: All PIs and Co-PIs submitting a proposed research project for the first time must complete this step in order to have access to the EPS System. Complete the user registration form at https://scabusa.org/user/register.
NOTE: This step must be completed before you can complete step 2. If you are unsure if you already have a user account, contact the NFO.

Step 2: <u>Proposed Research Form</u>: Information submitted on this form pertains to the proposed research being submitted. You must complete a separate form for each proposed research project being submitted. After logging in on the USWBSI's home page, click on the link below and then follow the instructions included on the form - https://scabusa.org/pre_reg.php.

Important Dates and Deadlines for the EPS System:

August 1:   Pre-registration Process begins. Upon successful completion of the pre-registration process, PIs and Co-PIs will receive their EPS access information via email on or within 48 business hours.
August 3:   EPS System Opens
August 31:   Pre-Registration Process ends.
Sept. 19:   Deadline for final submission of supporting documents.

4. PROPOSED RESEACH PROJECT (PRP)

Title of Proposed Research Project

The title of the project pre-proposal must be brief (**85-character maximum**), yet represent the major thrust of the project. Because this title will be used to provide information to those who may not be familiar with the proposed project, highly technical words or phraseology should be avoided where possible. In addition, phrases such as "investigation of" or "research on" should not be used.

Project Summary

Each project proposed research project must contain a completed Project Summary Page, which will be the second page of the proposed research project. The text for the project summary **should not exceed 400 words**. The project summary should include a description of the activity to be undertaken, and focus on the following (**all four bullets below must be addressed**):

- Overall project goal(s)
- Project Objectives (list in numbered format) and Expected Outcomes;
- Plans to accomplish project goal(s) within period of proposed work; and
- Statement of Mutual Interest (i.e. how will stakeholders/end-users benefit from this research).

The Project Summary should be concise and focused; specific details of the experimental design, materials and methods, etc. should be elaborated on in the Plan of Work.

Plan of Work

The Plan of Work should immediately follow the project summary. This plan must describe how your work specifically fits into the overall Coordinated Project and identify any linkages to other work plans that are part of the Coordinated Project. The Plan of Work should be formatted using Times New Roman, 12 point or higher with one-inch margins. **NOTE:** Bold formatting should only be used for

section headings or used minimally to emphasize importance or significance. <u>Conformance to the format requirements will be strictly enforced</u>.

The Plan of Work <u>should not exceed four (4) pages in length,</u> and should describe in clear, concrete terms the substance of your proposed research including the following:

- *Rationale and Significance.* It is understood that head scab is a devastating disease. **Acknowledgment of this fact should require no more than one sentence**. Concisely present the rationale behind the proposed research; identify the gaps in the knowledge base that your pre-proposal is trying to fill. Relevance of the project to the goals of the U.S. Wheat and Barley Scab Initiative with <u>specific reference to the priorities listed in the FY18-19 Program Descriptions and Research Priorities (PD-RP) should be clearly stated</u>
- *Research Materials and Methods.* Specifically, this section must include:
  o The hypotheses or questions being asked;
  o A description of the investigations and/or experiments proposed **in the sequence** in which the investigation or experiments are to be performed (<u>NOTE:</u> The Coordinated Project Coordinator will send the standard protocols to all PIs whose proposed research were accepted into the CP by August 23.);
  o Techniques and methodologies to be used in carrying out the proposed project, including the feasibility of the techniques. **(Describe in step by step fashion exactly what techniques, materials and methods will be used.)**;
  o Results expected;
  o Means by which experimental data will be analyzed or interpreted;
  o Means of applying results or accomplishing technology transfer, where appropriate;
  o Pitfalls that may be encountered;
  o Limitations to proposed procedures; and
  o A tentative schedule/timetable for conducting major steps involved in these investigations and/or experiments.

<u>NOTE</u>: Digital images inserted into the Plan of Work must only be included within the page limits (4 pages). The **maximum size of images** to be included should be <u>approximately 1200 x 1500 pixels</u> using 256 colors. Figures must be readable as printed on an 8.5" x 11" page at normal (100%) scale.

Budget Requests (Year 1 and 2)

Please complete the '**Proposed Research Project Budget Justification Form'** by following the instructions on the form. PI will also complete a budget using the '**Proposed Research Project Budget Form'**. In most cases, your proposed research project should include a 'Year 1' and 'Year 2' budget request. **NOTE:** In the majority of cases, the total for direct and indirect costs for <u>Year 1 and Year 2 should be the same amount</u>.

Tuition Remission: Tuition remission is **permitted** under USDA-ARS **extramural agreements** with any type of recipient organization (i.e. universities).   If tuition remission is budgeted as a direct cost, it should be included in the "Other Direct Costs" category of the Budget Page (Section H).

Indirect Cost (IDC) Rate Policy:

USWBSI: Because Fusarium head blight is such a severe problem for the U.S. wheat and barley industries, the USWBSI's review process focuses on the **competitiveness of total projects costs** (i.e. direct and indirect) to maximize total funding used for research.

USDA-ARS: Per U.S. Code Title 7, Chapter 64, Subchapter X, Section 3310: Limitation on indirect costs for agricultural research <u>shall not exceed</u> 22 percent of the total Federal funds.

<u>NOTE</u>**:** Indirect Costs are not applicable to ARS PIs (currently ARS PIs based in CA, KS, MN, MT, NY, NC, and ND are funded under the USWBSI).

Small Business Innovated Research (SBIR) Fee: In the event your proposed research is recommended for funding, the SBIR Fee will be assessed prior to the award made by USDA-ARS. The SBIR fee is mandated by Congress under Public Law 112-81, Subtitle A, SEC. 5102 (a) (1) (I) in support of the Small Business Act. The current rate for the SBIR fee is 3.2%.

This fee is charged to <u>only</u> projects that are funded through an <u>extramural agreement</u> with ARS (i.e. not applicable to ARS PIs). When applicable, PIs are advised to incorporate the Small Business Innovated Research (SBIR) fee into their budget request. Below is the formula to calculate the fee including an example:

    Step 1: Total of Direct and Indirect Costs X SBIR Fee % [e.g. 0.032] = SBIR Fee Amount.
    Step 2: Add the SBIR Fee Amount to the Total Amount for Direct and Indirect Costs to get the
             'Total Amount of Request.'

    Example: Direct and Indirect Total: 34,500
                    Step 1: 34,500 X .032 = $1,104 (SBIR fee amount)
                    Step 2: 34,500 + 1,104 = 35,604 (Total Amount of Requested)

Submission Deadline

Both the Coordinator of the Integrated Management Coordinated Project (IM-CP) **and** the NFO must receive the electronic version (via email) of the Proposed Research Project (PRP) by **September 19, 2017**.

5. SUPPORTING DOCUMENTS - ITEMS TO BE UPLOADED TO EPS SYSTEM

Curriculum Vitae and Publication List (CV/Pubs)
(Maximum four pages for CV with Publication List per Scientist)

To assist peer reviewers in assessing the competence and experience of the proposed project staff, all personnel who will be involved in the proposed project must be identified clearly. The items listed below should be included for all personnel (PI, Co-Investigators, and secondary scientists (i.e. post-docs, graduate students)) who are expected to work on the project in a significant fashion (e.g. expectation of co-authorship on ensuing publications), whether or not funds are sought for this support:

- *Curriculum Vitae (C.V.).* The C.V. should be limited to a presentation of academic and research credentials, e.g., educational, employment and professional history, and honors and awards. Unless pertinent to the project, do not include meetings attended, seminars given, or personal data such as birth date, marital status, or community activities.

- *Publication List.* A chronological list of all publications in refereed journals during the past five years, including those in press, should be provided for each professional project member for whom a Curriculum Vitae is provided. Non-refereed technical publications that have relevance to the proposed project may be included.

The C.V. and Publication List combined <u>must not exceed four pages per scientist</u>. C.V. and Publication Lists for collaborators or sub-contractors are not required.

Submission Instructions: PIs and Co-PIs are responsible for uploading their own CV/Pubs to the EPS System. <u>CV/Pubs for all secondary scientists should be included in the PI's file.</u> The CV/Pubs will only need to be uploaded one time whether or not the investigator is connected to multiple pre-proposals. File (PDF format) must be uploaded to the EPS System by **September 19, 2017**.

Current and Pending Support (CPS) Form
CPS form can be downloaded from the FY18-19 RFP web page at https://scabusa.org/research_rfp18-19.

All project pre-proposals must contain completed Current and Pending Support Forms for PI and all Co-PIs listing other current public or private support to which key personnel identified in the pre-proposal have committed portions of their time, whether or not salary support for person(s) involved is included in the budget. Analogous information must be provided for any pending proposals that are being considered by, or that will be submitted in the near future to, other possible sponsors, including other USDA Programs or agencies, and the USWBSI. Concurrent submission of identical or similar proposals to the other possible sponsors will not prejudice pre-proposal review or evaluation by the USWBSI for this purpose. However, a project pre-proposal that
duplicates or overlaps substantially with a **proposal already reviewed and funded (or to be funded)** by another organization or agency will not be recommended under this program. The third column ('Requested/Award Amount') on the 'Current and Pending Support Page' has been divided into two sub-columns: Total $ Amount and PI $ Allocation. For each grant/proposal listed, **include both the total ('Total $ Amount') and the amount you have or may receive ('PI $ Allocation')**.

Submission Instructions: PIs and Co-PIs are responsible for uploading their own Current and Pending Support Form to the EPS System. The CPS Form will only need to be uploaded one time whether or not the investigator is connected to multiple pre-proposals. The CPS form must converted to PDF format before uploading to the EPS System by **September 19, 2017**.

IMPORTANT DATES/DEADLINES

Pre-Submission

- PIs submit Letters of Intent (LOI)   **July 14, 2017**
- CP Coordinator respond to PIs regarding acceptance   **August 15, 2017**
  of LOIs into CP.
- CP Coordinator sends the standard protocols to all PIs whose proposed   **August 23, 2017**
  research was accepted into the CP.

Pre-Registration/EPS System

- STEP 1: Setup User access to EPS System *(First time submitters only)*
- STEP 2: Complete Proposed Research Form (<u>*NOTE*</u>*: This step should not be completed until you have received a response from the CP Coordinator to your Letter of Intent.)*

Pre-Registration Begins: **August 1, 2017**
EPS System Opens: **August 3, 2017**
Pre-Registration Ends: **August 31, 2017**

Final Submission of PRP

<u>PI Check-list</u> of Required Items for Proposed Research Projects
Submitted to the Coordinator of MGMT-CP

- Project Summary Form *(should not exceed 400 words)*
- Plan of Work *(should not exceed four pages)*
- Budget Justification Forms *(details required for all sections <u>and</u> subsections where funds are being requested)*
- Budget Page *(e-signature required)*

Submission Deadline - E-version received by CP Coordinator   **September 19, 2017**
and the NFO:

Submission of Supporting Documents

<u>Check-list</u> of Required Items to be uploaded to EPS System

- Curriculum Vitae and Publication List *(PI and Co-PIs)*
- Current and Pending Support Form *(PI and Co-PIs)*

Submission Deadline (uploaded to EPS System)   **September 19, 2017**

SECTION 3:

RESEARCH AREA INDIVIDUAL PROJECT PRE-PROPOSALS

Category 3: Individual Research Area Project Pre-Proposals

INTRODUCTION

If your research is in one the following research areas, and if the primary focus is <u>not</u> on Barley or Integrated Management Studies, or was rejected by one of the Coordinated Projects, you should complete your pre-proposal using the instructions and forms provided in this section of the FY18-19 RFP.

- ❖ FHB Management (MGMT)
- ❖ Food Safety and Toxicology (FST)
- ❖ Gene Discovery and Engineering Resistance (GDER)
- ❖ Pathogen Biology and Genetics (PBG)

PRE-REGISTRATION AND OVERVIEW OF THE ELECTRONIC SUBMISSION PROCESS

Individual Pre-proposals will be submitted using the USWBSI's Electronic Pre-Proposal Submission (EPS) System. Pre-proposal must be organized and saved as three (four if submitting a multi-PI budget) separate files for the purpose of uploading to the EPS System. Below are the steps you will take to complete and submit your individual project pre-proposal:

Step 1: <u>S</u>etting up User access to EPS System: All PIs and Co-PIs submitting a pre-proposal for the first time must complete this step in order to have access to the EPS System. Complete the user registration form at https://scabusa.org/user/register. NOTE: This step must be completed before you can complete step 2. If you are unsure if you already have a user account, contact the NFO.

Step 2: <u>Proposed Research Form</u>: Information submitted on this form pertains to the proposed research being submitted. You must complete a separate form for each pre-proposal you are submitting. After logging in on the USWBSI's home page, click on the link below and then follow the instructions included on the form - https://scabusa.org/pre_reg.php.

You will complete your pre-proposal by following the instructions provided in this RFP and using the forms which may be downloaded from the USWBSI's Website at https://scabusa.org/research_rfp18-19. Your final pre-proposal must be completed and organized as follows:

- **FILE 1** – **Body of Pre-Proposal** – Contains the following:
  - o Application for Funding Cover Page
  - o Project Summary
  - o Project Description
  - o References to Project Description
  - o Facilities and Equipment
  - o Collaborative Arrangements
  - o Letters of Intent from Collaborators and Co-Investigators–(*may be in the form of e-mail messages copied and pasted into your pre-proposal document)*
  - o Budget Justification Form
  - o Budget Page (**Note:** If you are using the 'Multi-PI Budget' (Excel format) in place of the Single Budget Page, please refer to the instructions on page 39).

- **FILE 2 – Curriculum Vitae and Publication List (CV/Pubs):** The PI and each Co-PI is responsible for uploading his/her own CV/Pubs file. CV/Pubs for secondary project personnel should be included in the PI's file.

- **FILE 3 – Current and Pending Support (CPS) Form:** The PI and each Co-PI is responsible for uploading his/her own CPS form.

Log in to the EPS System using the information received after successful completion of the 'Pre-Registration Process.' Following the instructions in the 'Help Document' (included in e-mail from the Networking & Facilitation Office), proceed to upload the files associated with your pre-proposal.

Because the USWBSI does not require signatures by the Authorized Organizational Representatives (AORs) on pre-proposals, institutional AOR's will not be granted access to the EPS System. If PI's institution requires approval from the Authorized Organizational Representative (i.e. Sponsored Programs Administration/Office) on 'pre-proposals', included in the RFP is a special form that can be used at the institutional level for obtaining approval by the PI's sponsored programs office. The form can be downloaded from the USWBSI's Website at https://scabusa.org/research_rfp18-19 under 'SPECIAL FORMS' on the FY18-19 RFP web page.

Important Dates and Deadlines for submission of Pre-Proposals via the EPS System:

August 1:   Pre-registration Process begins. Upon successful completion of the pre-registration process, PIs and Co-PIs will receive their EPS access information via email on or within 48 business hours.
August 3:   EPS System Opens
August 31: Pre-Registration Process ends.
Sept. 19:   Deadline for final submission of supporting documents.

INSTRUCTIONS

FILE 1: Body of Pre-Proposal

Application for Funding Cover Page

The pre-proposal must contain a completed 'Application for Funding Cover Page', which will be the first page of the application. In completing this form, please note the following:

- *Title of Proposal (Block 6).* The title of the project pre-proposal must be brief (**85-character maximum**), yet represent the major thrust of the project. Because this title will be used to provide information to those who may not be familiar with the proposed project, highly technical words or phraseology should be avoided where possible. In addition, phrases such as "investigation of" or "research on" should not be used.

- *Principal Investigator/Co-Investigators (Block 10).* List the name of the proposing principal investigator in block 10a. All other participating scientists should be listed as co-investigators in b-f. The co-investigators should be limited to those required for major scientific collaboration.

- *Research Area (Block 13).* Designate with an **'X'** <u>one</u> Research Area whose description and priorities your project is designed to address. Research Area Program Descriptions and Research Priorities (PD-RP) can be accessed through the USWBSI's Website at <u>https://scabusa.org/research</u> and are also included the FY18-19 Request for Pre-Proposals (<u>https://scabusa.org/research_rfp18-19</u>).
- *Research Area Specific Research Priorities (Block 14).* Your Project Pre-Proposal should be constructed to address one or more research priority of the Research Area designated in Block 13. List the relevant Research Priority(s) in this block. Refer to the <u>FY18-19 PD-RP</u>.

Project Summary Form

Each project proposed research project must contain a completed Project Summary Page, which will be the second page of the project pre-proposal. The text for the project summary **should not exceed 400 words**. The project summary should include a description of the activity to be undertaken, and focus on the following (**all four bullets below must be addressed)**:

- Overall project goal(s)
- Project Objectives (list in numbered format) and Expected Outcomes;
- Plans to accomplish project goal(s) within period of proposed work; and
- Statement of Mutual Interest (i.e. how will stakeholders/end-users benefit from this research).

The Project Summary should be concise and focused; specific details of the experimental design, materials and methods, etc. should be elaborated on in the Project Description.

Project Description

The Project Description should provide a clear statement of the work to be undertaken and must include: research objectives for the **period of the proposed work** and expected significance; relation to longer-term goals of the PI's project; and relation to the present state of knowledge in the field, to work in progress by the PI under other support and to work in progress elsewhere.

The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a **clear description** of experimental methods and procedures, and plans for preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and other related research and education products.

i. **Format:** Brevity will assist reviewers and USWBSI/NFO staff in dealing effectively with pre-proposals. **Therefore, the written text of the Project Description must be five pages or less (single spaced or equivalent); ten pages or less in total including figures and tables.** The Project Description should be formatted using Times New Roman (<u>Normal</u> type except headings and 12 point or higher) with <u>one-inch margins</u>. Digital images inserted into the Project Description must only be included within the page limits (10 pages total). The **maximum size of images** to be included should be <u>approximately 1200 x 1500</u> pixels using 256 colors. Figures must be readable as printed on an 8.5" x 11" page at normal (100%) scale.

   NOTE: Bold formatting should only be used for section headings or used minimally to emphasize importance or significance. <u>Conformance to the format requirements will be strictly enforced</u>.

ii. **Content:**

- *Title.* Same as Application for Funding Cover Page (*85-Character Maximum*).

- *Introduction.* A clear statement of the goal(s) and supporting objectives or research questions of the proposed project should be included. The most significant published work in the field under consideration, including the work of key project personnel on the current application, should be reviewed. The current status of research in this field of science should also be described **including, but not limited to, any ongoing USWBSI-recommended work currently underway**. **Preliminary data pertinent to the proposed research may be included in this section**. Present and discuss published literature that is directly related to, and supports, the proposed research (research objectives, materials and methods).

- *Rationale and Significance.* It is understood that head scab is a devastating disease. **Acknowledgment of this fact should require no more than one sentence**. Concisely present the rationale behind the proposed research; identify the gaps in the knowledge base that your pre-proposal is trying to fill. Relevance of the project to the goals of the U.S. Wheat and Barley Scab Initiative with <u>specific reference to the priorities listed in the FY18-19 Program Descriptions and Research Priorities (PD-RP) should be clearly stated.</u> If applicable, please indicate if the research proposed here could lead to successful acquisition of grant funds from other agencies.

- *Research Materials and Methods.* Specifically, this section must include:
  - The hypotheses or questions being asked;
  - A description of the investigations and/or experiments proposed **in the sequence** in which the investigation or experiments are to be performed;
  - Techniques and methodologies to be used in carrying out the proposed project, including the feasibility of the techniques. **(Describe in step by step fashion exactly what techniques, materials and methods will be used.)**;
  - Results expected;
  - Means by which experimental data will be analyzed or interpreted;
  - Means of applying results or accomplishing technology transfer, where appropriate;
  - Pitfalls that may be encountered;
  - Limitations to proposed procedures; and
  - A tentative schedule for conducting major steps involved in these investigations and/or experiments.

  <u>**NOTE:**</u> Failure to address each of the issues in the bullet list will diminish the likelihood of the success of your pre-proposal being recommended for funding.

References to Project Description

All references cited in the Project Description should be included in bibliographic format. Although there is no established page limitation for the references, this section must include bibliographic citations only, and must not be used to provide parenthetical information outside of the project description.

Facilities and Equipment

All facilities and major items of equipment available for use or assignment to the proposed project during the requested period of support should be described. In addition, items of nonexpendable equipment necessary to conduct and successfully conclude the proposed project should be listed (including dollar

amounts), and, if funds are requested for their acquisition, justification should be included in the Budget Justification.

Collaborative or Sub-contractual Arrangements

If the nature of the proposed project requires collaboration or contractual arrangements with other research scientists, corporations, organizations, agencies, etc., the applicant must identify the collaborator(s) and provide a **detailed explanation of the nature** of the collaboration. Evidence in the form of a letter of intent (may be in the form of an e-mail) from <u>all</u> collaborators <u>must</u> be provided to assure reviewers that collaborators or sub-contractors involved have agreed to render the indicated services. **The letter of intent must include specific details describing the services the collaborator will provide.**

Budget Requests

Please complete the '**FY18-19 Individual Project Pre-Proposal Budget Justification Form'** by following the instructions on the form. You must also complete a budget using either '**FY18-19 Individual Project Pre-Proposal Budget'** form or the '**FY18-19 Multi-PI Project Pre-Proposal Budget Worksheet'** (MS Excel file). If the 'Multi-PI Budget Worksheet' is used, please remove the budget form from File 1 before uploading to the EPS System. In most cases, your pre-proposal should include a 'Year 1' and 'Year 2' budget request. **NOTE:** In the majority of cases, the total for direct and indirect costs for <u>Years 1 and 2 should be the same amount</u>.

Tuition Remission: Tuition remission is **permitted** under USDA-ARS **extramural agreements** with any type of recipient organization (i.e. universities). If tuition remission is budgeted as a direct cost, it should be included in the "Other Direct Costs" category of the Budget Page (Section H).

Indirect Cost (IDC) Rate Policy:

USWBSI: Because Fusarium head blight is such a severe problem for the U.S. wheat and barley industries, the USWBSI's review process focuses on the **competitiveness of total projects costs** (i.e. direct and indirect) to maximize total funding used for research.
USDA-ARS: Per <u>U.S. Code Title 7, Chapter 64, Subchapter X, Section 3310</u>: Limitation on indirect costs for agricultural research <u>shall not exceed</u> 22 percent of the total Federal funds.

<u>NOTE</u>: Indirect Costs are not applicable to ARS PIs (currently ARS PIs based in CA, KS, MN, MT, NY, NC, and ND are funded under the USWBSI).

Small Business Innovated Research (SBIR) Fee: In the event your proposed research is recommended for funding, the SBIR Fee will be assessed prior to the award made by USDA-ARS. The SBIR fee is mandated by Congress under <u>Public Law 112-81, Subtitle A, SEC. 5102 (a) (1) (I)</u> in support of the Small Business Act. The current rate for the SBIR fee is 3.2%.

This fee is charged to <u>only</u> projects that are funded through an <u>extramural agreement</u> with ARS (i.e. not applicable to ARS PIs). When applicable, PIs are advised to incorporate the Small Business Innovated Research (SBIR) fee into their budget request. Below is the formula to calculate the fee including an example:

> Step 1: Total of Direct and Indirect Costs X SBIR Fee % [e.g. 0.032] = SBIR Fee Amount.
> Step 2: Add the SBIR Fee Amount to the Total Amount for Direct and Indirect Costs to get the 'Total Amount of Request.'

Example: Direct and Indirect Total: 34,500
                 Step 1: 34,500 X .032 = $1,104 (SBIR fee amount)
                 Step 2: 34,500 + 1,104 = 35,604 (Total Amount of Requested)

Multi-PI Budget Worksheet: The 'Multi-PI Budget Worksheet' was developed for use by PIs whose proposed research includes components at multiple institutions. In such cases, if a 'Multi-PI' pre-proposal is recommended for funding, the awards would go directly to the individuals' institution from USDA-ARS. This form should be used in place of the Single Budget Page, as it provides for both the individual budgets as well as the total requested amount for the proposed research. However, when using this form, separate Budget Justification Forms must be included for each individual budget request. The 'Multi-PI Budget Worksheet' and 'Budget Justification Form' can be downloaded from the USWBSI's Website at https://scabusa.org/research_rfp18-19 under the section 'SPECIAL FORMS' on the FY18-19 RFP web page. The file contains detailed instructions for completing the budget worksheets. It should be noted that the worksheets contain calculated fields (highlighted in yellow).

Instructions for submitting Multi-PI Budget Worksheet**:** The 'Multi-PI Budget Worksheet' must be converted to a single PDF file (must contain completed worksheets for both Year 1 and 2) before uploading to the EPS System. The Multi-PI Budget Worksheet must contain the Lead PI's signature.

FILE 2: Curriculum Vitae and Publication List (CV/Pubs)

Curriculum Vitae and Publication List (Maximum four pages for CV with Publication List per Scientist)

To assist peer reviewers in assessing the competence and experience of the proposed project staff, all personnel who will be involved in the proposed project must be identified clearly. The items listed below should be included for all personnel (PI, Co-Investigators, and secondary scientists (i.e. post-docs, graduate students)) who are expected to work on the project in a significant fashion (e.g. expectation of co-authorship on ensuing publications), whether or not funds are sought for this support:

- *Curriculum Vitae (C.V.).* The C.V. should be limited to a presentation of academic and research credentials, e.g., educational, employment and professional history, and honors and awards. Unless pertinent to the project, do not include meetings attended, seminars given, or personal data such as birth date, marital status, or community activities.

- *Publication List.* A chronological list of all publications in refereed journals during the past five years, including those in press, should be provided for each professional project member for whom a Curriculum Vitae is provided. Non-refereed technical publications that have relevance to the proposed project may be included.

The C.V. and Publication List combined must not exceed four pages per scientist. C.V. and Publication Lists for collaborators or sub-contractors are not required.

Submission Instructions: PIs and Co-PIs are responsible for uploading their own CV/Pubs to the EPS System. CV/Pubs for all secondary scientists should be included in the PI's file. The CV/Pubs will only need to be uploaded one time whether or not the investigator is connected to multiple pre-proposals. File must be uploaded to the EPS System by **September 19, 2017**.

FILE 3: Current and Pending Support (CPS) Form

CPS form can be downloaded from the FY18-19 RFP web page at https://scabusa.org/research_rfp18-19.

All project pre-proposals must contain completed Current and Pending Support Forms for PI and all Co-PIs listing other current public or private support to which key personnel identified in the pre-proposal have committed portions of their time, whether or not salary support for person(s) involved is included in the budget. Analogous information must be provided for any pending proposals that are being considered by, or that will be submitted in the near future to, other possible sponsors, including other USDA Programs or agencies, and the USWBSI. Concurrent submission of identical or similar proposals to the other possible sponsors will not prejudice pre-proposal review or evaluation by the USWBSI for this purpose. However, a project pre-proposal that duplicates or overlaps substantially with a **proposal already reviewed and funded (or to be funded)** by another organization or agency will not be recommended under this program. The third column ('Requested/Award Amount') on the 'Current and Pending Support Page' has been divided into two sub-columns: Total $ Amount and PI $ Allocation. For each grant/proposal listed, **include both the total ('Total $ Amount') and the amount you have or may receive ('PI $ Allocation')**.

Submission Instructions: PIs and Co-PIs are responsible for uploading their own Current and Pending Support Form to the EPS System. The CPS Form will only need to be uploaded one time whether or not the investigator is connected to multiple pre-proposals. The CPS form must converted to PDF format before uploading to the EPS System by **September 19, 2017**.

IMPORTANT DATES/DEADLINES

Pre-Registration/EPS System

➢ STEP 1: Setup User access to EPS System *(First time submitters only)*

➢ STEP 2: Complete Proposed Research Form

Pre-Registration Begins: **August 1, 2017**
EPS System Opens: **August 3, 2017**
Pre-Registration Ends: **August 31, 2017**

Check List of Required Items for Individual Project Pre-Proposals

➢ **FILE 1: Project Pre-Proposal**

- Application for Funding Cover Page

- Project Summary *(should not exceed 400 words)*

- Project Description *(five pages or less written text; ten pages or less in total including figures and tables)*

- References to Project Description

- Facilities and Equipment

- Description of Collaborative Arrangements

- Letters of Intent from each collaborator and/or Co-PI

- Budget Justification Forms *(details required for all sections and subsections where funds are being requested)*

- Budget Page *(e-signature required)*
  NOTE: Use either Individual Project Budget Page or Multi-PI Budget Worksheet forms. If the 'Multi-PI Budget Worksheet' is used, it should be upload separately (from File 1) to the EPS System.

➢ **FILE 2: Curriculum Vitae and Publication List** *(PI and Co-PIs)*

➢ **FILE 3: Current and Pending Support Form** *(PI and Co-PIs)*

Submission Deadline: **September 19, 2017**