



U.S. Wheat & Barley Scab Initiative

FY11 Request for Pre-Proposals

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Note: All MGMT Coordinated Projects Pre-Proposal forms may be viewed and downloaded from the RFP Website: http://www.scabusa.org/research_rfp11

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Note: All Individual Pre-Proposal forms may be viewed and downloaded from the FY11 RFP Website: http://www.scabusa.org/research_rfp11

EXECUTIVE SUMMARY

FY11 Request for Pre-Proposals (RFP) - Quick Start

Read this First!

What is new for FY11?

- **One year pre-proposals** - All proposed research projects (MGMT-CP) and individual pre-proposals should be submitted as a one year request.
- **MGMT:** In FY11, pre-proposals submitted to MGMT will fall into one of the following:
 - Coordinated Projects:
 - 1) Uniform Fungicide and Biological Control Trials (UT) Coordinated Project – For more information, please turn to page 11.
 - 2) Integrated Management Studies (IM) Coordinated Project – For more information, please turn to page 11.
 - Biological Control: The USWBSI is soliciting only a single, collaborative pre-proposal – For more information, please turn to page 18.
 - Other stand-alone pre-proposals appropriate to MGMT (e.g., epidemiology studies) – For more information please turn to page 18.
- **GDER, FSTU and PBG:** The procedure is largely unchanged from FY09. However, research priorities and action plan goals may have changed. For more information, please turn to page 7 or view the action plan at http://scabusa.org/pdfs/uswbsi_action-plan_web.pdf.
- **Barley, Durum, Hard Winter Wheat and VDHR Coordinated Projects:** the USWBSI is NOT soliciting new pre-proposals for these coordinated projects in FY11 because they are in the middle of a 2 year funding cycle.

IMPORTANT DEADLINES

<u>RFP Category</u>	<u>Description of Item:</u>	<u>Deadline:</u>
FHB Management Coordinated Projects (MGMT-CP)	Letter of Intent (LOI) sent to CP Chair and NFO (electronic version acceptable)	July 30, 2010
MGMT-CP	CP Committees respond to PIs who submitted LOIs.	August 17, 2010
All Categories	Pre-Registration of Pre-Proposal(s) ends	August 31, 2010
MGMT-CP	Submission of FY11 Proposed Research Projects	September 17, 2010
All Research Area based Individual Pre-proposals	Submission of FY11 Pre-Proposal(s)	September 21, 2010
MGMT-CP	Submission of FY11 MGMT-CP Pre-Proposals	September 28, 2010

Help! As always, please contact Sue Canty or Dave Van Sanford if you have questions.

PREFACE

The FY11 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 develop as quickly as possible effective control measures that minimize the threat of Fusarium head blight (scab), including the reduction of mycotoxins, to the producers, processors, and consumers of wheat and barley.”** To read the complete action plans for all research areas go to http://www.scabusa.org/pdfs/uswbsi_action-plan_web.pdf.

FY11 Research Areas (RA)

Below are the Research Areas for which FY11 pre-proposals will be accepted:

- FHB Management (MGMT).
- Food Safety, Toxicology and Utilization of Mycotoxin-contaminated Grain (FSTU)
- Gene Discovery and Engineering Resistance (GDER).
- Pathogen Biology & Genetics (PBG).

FY11 Research Area program descriptions and research priorities for the four areas of research listed above are included in this document (Page 7), and may also be accessed at http://www.scabusa.org/research_rfp11. Proposed research should be based on the FY11 research priorities derived from goals of the Action Plan.

Request for Pre-Proposals (RFP)

The USWBSI has changed the annual research plan and budget process for FY11, including major changes to the Request for Pre-Proposal (RFP) process. **There are two distinct categories of FY11 Pre-Proposals: 1) FHB Management Coordinated Projects; and 2) Individual Pre-Proposals** submitted to MGMT, FSTU, GDER or PBG Research Areas. An overview of the two categories follows:

1) FHB Management Coordinated Project Pre-Proposals: If your proposed research fits into one of the FHB Management Coordinated Projects listed below, please follow the instructions and forms under Section 1 titled **“FHB Management Coordinated Project Pre-Proposals”** (instructions begin on page 11) to submit your proposed research.

- Uniform Fungicide/Biocontrol Trials (UT)
- Integrated Management Studies (IM)

2) Individual Research Area Pre-Proposals: If your proposed research is in one of the FY11 research areas listed above and is not associated with an FHB Management Coordinated Project, please follow the instructions under Section 2 titled **“Individual Research Area Project Pre-Proposals”**(instructions begin on page 18) to submit your pre-proposal. For FY11, the USWBSI is seeking a single, collaborative pre-proposal for any and all biocontrol research.

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 2: Individual Research Area Pre-Proposals.** In Box 16 of the Application for Funding Cover Page, select option 'None of the above'.

PIs are welcome and encouraged to interact with any of the contacts (listed on page 6) for the Research Areas or MGMT Coordinated Projects, or the Networking & Facilitation Office, to identify the appropriate area for their proposed work.

Electronic Submission of FY11 Pre-Proposals:

The Electronic Pre-Proposal Submission (EPS) System (web-based) must be used for the submission of all pre-proposals. General instructions for completing pre-proposals for electronic submission are included in the FY11 RFP.

The on-line submission process begins with the completion of a 'Pre-Registration Form'. The pre-registration period opens June 15, 2010 and must be completed no later than August 31, 2010. Information from this form will be used to setup PI-based accounts. The Electronic Pre-Proposal Submission (EPS) System will open on July 15. Information needed for accessing the EPS System will be distributed to PIs within 48 business hours of completing the 'Pre-Registration Form' (after after July 15). The USWBSI does not require signatures by the Authorized Organizational Representatives (AORs) on pre-proposals, so AORs will not require access to the EPS system.

Commodity-based and VDHR Coordinated Projects:

Pre-proposals for the following research categories are NOT being solicited in FY11:

- ❖ Barley Coordinated Project
- ❖ Durum Coordinated Project
- ❖ Hard Winter Wheat Coordinated Project
- ❖ Variety Development and Host Resistance - Northern Winter Wheat Region
- ❖ Variety Development and Host Resistance – Spring Wheat Region
- ❖ Variety Development and Host Resistance - Southern Winter Wheat Region

However, if you wish to submit a pre-proposal relevant to one of the coordinated projects listed above, please either submit to one of the FY11 research areas (MGMT, FSTU, GDER or PBG) if appropriate, or select 'None of the Above' in box 16 on the 'Application Cover Page' and follow the instructions for **Category 2 Pre-Proposals** (begins on page 18). The Networking & Facilitation Office will process the pre-proposal for appropriate review.

INTRODUCTION

After carefully reading the 'PREFACE' and 'FY11 Research Area Program Descriptions and Research Priorities', you are ready to create your pre-proposal(s). Below are a few helpful hints to guide you through this process:

1. First, determine the appropriate Research Area for your proposed research project. Again, you may contact any of the individuals listed in Table 1 (page 6) to help determine the most appropriate research area for your proposed research.
2. Next, determine the Pre-Proposal Category that best fits your proposed research: 1) FHB Management Coordinated Projects; or 2) Individual Research Areas.
3. Finally, follow the instructions in the corresponding section to complete your pre-proposal.

NOTE: Pre-proposals that do not fit into one of the research areas (listed on page 2) for which pre-proposals are being accepted for FY11 are also welcome.

PRE-PROPOSAL PREPARATION:

It is important that all pre-proposals conform to the instructions provided in the FY11 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 Director (dvs@uky.edu) or Manager (scabusa@scabusa.org).

COLLABORATIVE PROJECTS:

Even though two FHB Management (MGMT) Coordinated Projects have been established (Uniform Fungicide/Biocontrol Trials and Integrated Management Studies), 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 from USDA-ARS to you and your institution. **For FY11, the USWBSI will consider only a single, multi-PI pre-proposal for Biological Control Research.**

REVIEW AND FUNDING RECOMMENDATION PROCESS:

Please note that project 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. The Executive Committee then reviews the panels' recommendations and if necessary, modifies the awards so that they fit into the FY11 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.** The recommended comprehensive plan will be sent to USDA-ARS in the early months of 2011.

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 Director of the 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 (NFO) by phone at (517) 355-0271 ext. 1183 or by e-mail at scabusa@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:

http://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 (NFO).

IMPORTANT RFP DATES AND DEADLINES FOR FY11 PRE-PROPOSALS

<u>RFP Category</u>	<u>Description of Item:</u>	<u>Date/Deadline:</u>
1. FHB Management Coordinated Projects (MGMT-CP)	Electronic Pre-Proposals Submission (EPS) System opens	July 15, 2010
	PIs submit Letter of Intent (LOI) to MGMT-CP Coordinator	July 30, 2010
	Pre-Registration for EPS System ends.	August 31, 2010
	Submission (via e-mail) of Proposed Research Project to MGMT-CP Coordinator and NFO.	September 17, 2010
	Upload CV-Pubs and Current/Pending Support documents to EPS System.	September 21, 2010
	Submission of MGMT FY11 Coordinated Project Pre-Proposal to NFO.	September 28, 2010
2. Individual Research Area Pre-Proposals	Electronic Pre-Proposals Submission (EPS) System opens	July 15, 2010
	Pre-Registration for EPS System	August 31, 2010
	Submission of FY11 Pre-Proposal	September 21, 2010

Table 1. Contacts for Research Areas, FHB Management Coordinated Projects (MGMT-CP) and Networking & Facilitation Office (NFO).

RESEARCH AREAS		Contact	Email Address
FHB Management (MGMT)		Christina Cowger, USDA-ARS, NC	Christina.Cowger@ars.usda.gov
MGMT Coordinated Projects (CP)	Uniform Fungicides/Biocontrol Trials (UT)	Larry Osborne, SD State University	Lawrence.Osborne@sdstate.edu
	Integrated Management Studies (IM)	Pierce Paul, OH State University	paul.661@osu.edu
Food Safety, Toxicology and Utilization of Mycotoxin-contaminated Grain (FSTU)		Paul Schwarz, ND State University	Paul.Schwarz@ndsu.edu
Gene Discovery and Engineering Resistance (GDER)		Steve Scofield, USDA-ARS, IN	scofield@purdue.edu
Pathogen Biology and Genetics (PBG)		Frances Trail, MI State University	trail@msu.edu
<hr/>			
General Questions regarding the RFP Process		Contact	Phone Number/E-mail
		Dave Van Sanford, Director Networking & Facilitation Office	859-338-2409 dvs@email.uky.edu
		Sue Canty, Manager Networking & Facilitation Office	517-290-5023 scabusa@scabusa.org

FY11 Research Area (RA) Program Descriptions and Research Priorities (PD-RP)

FHB MANAGEMENT (MGMT)

FY11 Program Description:

The FHB Management (MGMT) research area supports research to develop effective and economical disease management practices that reduce FHB severity and DON in harvested grain 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, biological control agents, and application technologies for chemical and biological agents;
- 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, and factors accounting for high levels of mycotoxin in asymptomatic grain.

NOTE: Priority will be given to multi-PI, collaborative, integrated pre-proposals that address the research priorities listed below. Pre-proposals pertaining to uniform fungicide/biocontrol trials (UT) and integrated management studies (IM) will be developed as multi-PI, collaborative, integrated proposals. Coordinators for those integrated proposals are listed in Table 1 (page 6).

FY11 Research Priorities Derived from Action Plan Goals:

1. Validate integrated management strategies for FHB and DON.
2. Develop the next generation of management tools for FHB/DON control.
3. Develop a full understanding of specific environmental and biological factors influencing infection and toxin accumulation.
4. Enhance communication and end user education/outreach.

FOOD SAFETY, TOXICOLOGY AND UTILIZATION OF MYCOTOXIN-CONTAMINATED GRAIN (FSTU)

FY11 Program Description:

The Food Safety, Toxicology and Utilization of Mycotoxin-Contaminated Grain (FSTU) 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.

FY11 Research Priorities Derived from Action Plan Goals:

1. Provide analytical support for DON/trichothecene quantitation for Initiative's stakeholders.
2. Provide requisite information on DON/trichothecene safety issues to producers, millers, researchers, risk assessors, and regulators.

GENE DISCOVERY AND ENGINEERING RESISTANCE (GDER)

FY11 Program Description:

The Gene Discovery and Engineering Resistance (GDER) research area (RA) will focus primarily on the identification of genes from wheat and barley that can be used to increase FHB resistance and/or reduce DON accumulation, and on development of engineered strategies for FHB resistance or reduced DON levels. Gene discovery and transformation of non-cereal systems will be supported only for the purpose of rapidly screening potential anti-*Fusarium* genes.

FY11 Research Priorities Derived from Action Plan Goals:

1. Characterize the genetic function of existing and novel loci for FHB resistance.
2. Identify candidate genes for resistance against FHB and/or reduced DON accumulation.
3. Develop effective FHB resistance and/or reduced DON accumulation through transgenic strategies.

PATHOGEN BIOLOGY AND GENETICS (PBG)

FY11 Program Description:

Research in this area includes studies that address pathogen diversity and mycotoxin biosynthesis on plants, 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. Population surveys should be accompanied by studies of biological relevance. Successive yearly surveys cannot be supported by this program, as funding is limited.

FY11 Research Priorities Derived from Action Plan Goals:

1. Characterize genetic variation in the pathogen population with regard to aggressiveness toward plants, mycotoxin potential, and potential for pesticide resistance.
2. Characterize plant-fungal interactions in plant lines being developed by researchers in the USWBSI.
3. Develop new strategies for reducing impact of FHB disease and mycotoxin contamination in barley and wheat. Focus on research that seeks to demonstrate a reduction in FHB or DON in planta. Establish a protocol for transferring these new strategies into viable crop product through collaborative interactions with GDER.