Request for Proposals

Expansion of the Integrated Pest Management Pest Information Platform for Education and Extension (*ipm*PIPE) to Address New Crop/Pest Complexes of Importance to U.S. Agriculture – 2008

Proposals due December 7, 2007

I. SUMMARY

This is a call for proposals to address expansion of the *ipm*PIPE for additional crop/pest complexes of concern to U.S. Agriculture. Potential applicants are urged to review the *ipm*PIPE website at http://www.ipmpipe.org for more information on existing crop/pest complexes addressed via *ipm*PIPE.

Proposals must be submitted through a grants management website; details of the submission process and proposal format are described in section VI. Proposal Preparation. Electronic versions of the proposals must be received by **5:00 pm (Eastern) December 7, 2007**. In addition, one copy of the cover sheet signed by the Authorized Institutional Representative must be received by the grants manager, John Ayers, no later than **5:00 pm (Eastern) December 14, 2007**. [See section VII for details.]

II. FUNDING OPPORTUNITY DESCRIPTION

A. Background of the *ipm*PIPE: Millions of U.S. soybean acres would have received fungicide applications for soybean rust (SBR) in 2005 if not for information disseminated through the U.S. Department of Agriculture (USDA) Soybean Rust Information System website (http://www.sbrusa.net). The information provided by this highly trusted and widely adopted system (over 1 million hits in July, 2005) reduced production costs for U.S. soybean farmers by as much as $299 million (Economic Research Service estimate) while minimizing non-target exposure to applicators and the environment. These cost savings and the favorable environmental implications of preventing needless spraying of millions of acres with fungicides has demonstrated the value of a strategic, coordinated, real-time national pest management framework that evolved into the Integrated Pest Management Pest Information Platform for Extension and Education (*ipm*PIPE). The *ipm*PIPE is a partnership of the USDA Cooperative States Research Education and Extension Service (CSREES), USDA Risk Management Agency (RMA), the Regional Integrated Pest Management Centers, industry partners, and land grant universities. In 2006, the PIPE focused on soybean rust and aphids. In 2007, it was expanded to include these and other pests on other legumes. In this document, the term "pest" includes arthropods, nematodes, pathogens, vertebrates, and weeds.

This program will consider but not be limited to funding projects that address pests with the following attributes: invasive species; recurrent pest introductions via migratory pathways; pests with polyetic (multi-year) or endemic ebb and bloom driven by local conditions; pesticide resistant pest populations; and emerging strains of endemic pests.

Mission: The ipmPIPE is a dynamic, coordinated system facilitated by information technology that educates and provides information to IPM users to make informed decisions.

Strategy: The strategy for *ipm*PIPE is to enhance IPM decision support systems to include disease, insect, and weed pests of economically important crop plants. The *ipm*PIPE platform will address local, regional, and national interests; help growers document crop management practices for insurance claims; and provide a structure that can be quickly deployed in response to threats from exotic/invasive pests.

Initial focus: The initial focus will be on plant pests of agricultural and agroforestry systems; however, broader scope applications may be considered by the Steering Committee in the future. Many resources of the existing *ipm*PIPE system are expected to be useful in planning for and responding to outbreaks of pests other than SBR, including the following:
- national and regional communications and coordination,
- facilitators and coordinators,
- support for training and outreach tool development,
- flexible web-based information technology architecture,
- assistance in developing standardized procedures and approaches.

B. Call for New *ipm*PIPE Components: The IPM community, comprising research, extension, and public policy leaders, has interest in further expanding the *ipm*PIPE through a methodical approach that preserves the benefit components already realized while bringing those benefits to other suitable IPM crop and pest situations. Interested persons should review the *ipm*PIPE website (http://www.ipmpipe.org) for more detailed information.

Funding from the USDA/RMA is authorized by section 522(d) of the Federal Crop Insurance Act. The legislation provides funds for the purpose of the development and implementation of risk management tools for use by agricultural producers to assist them in mitigating risks inherent in agricultural production. For FY 2008, approximately $1,000,000 is available for enhancement and expansion of the *ipm*PIPE. The intent is to provide producers with a coordinated framework for monitoring and managing pests of their crops and documenting pest management activities at the farm level.

The *ipm*PIPE Steering Committee (described at http://www.ipmpipe.org/sc/) assigned management of this competitive process to the Northeastern IPM Center located at The Pennsylvania State University (Penn State) and Cornell University. Successful project proposals will be funded via a subcontract from Penn State. Project budgets of up to $900,000 may be submitted; however, budgets should be commensurate with the scope and projected program impacts. We invite proposals for projects of any size within the constraints of this limit. Project

cost alone is not a criterion for ranking proposals. Potential investment value in achieving beneficial impacts is an important criterion.

Projects that address the development of IPM risk management tools for producers of the following agricultural commodities will be given priority in this competitive process:

- Agricultural commodities covered by section 196 of the Agricultural Market Transition Act (7 U.S.C. 7333) (Non-insured Assistance Program (NAP)). Commodities in this group are commercial crops that are not covered by catastrophic risk protection crop insurance, are used for food or fiber, and specifically include, but are not limited to, floricultural, ornamental nursery, Christmas trees, turf grass sod, aquaculture (including ornamental fish), and industrial crops.
- Specialty crops. Commodities in this group may be covered under a Federal crop insurance plan and include fruits and vegetables, tree nuts, dried fruits, and nursery crops (including floriculture) (PL 108-465, Specialty Crops Competitiveness Act of 2004).
- Under-served commodities. This group includes: commodities that are covered by a Federal crop insurance plan but for which participation in an area is below the national average or there is inadequate crop insurance coverage.

The following criteria should be addressed in the proposal.

1. **Core criteria.** Priority will be given to projects that:
   - Provide real-time accurate risk management information and tools that bring education and extension messages to growers in the 2008 growing season,
   - Are practical and important to growers, functionally useful, with the potential for early pay-off,
   - Address a highly visible problem with the promise of quick and large benefits,
   - Enable improved management of heretofore unpredictable pest-related events,
   - Provide access to new information and changes in a situation that impacts management,
   - Provide pest management solutions with a realistic cost/benefit (impact/need) ratio,
   - Entail demonstrably high stakeholder interest.

2. **Other Criteria.** Within the context of the core criteria, other important proposal evaluation criteria include:

   a. **Crop/Pest Scope:** Priority will be given to projects with the following attributes:
      - Crop/pest complex of multiple state, regional and/or national importance,
      - Low-acreage crops qualify if the crop is high value and is under-served by crop insurance,
      - The focus of this Request for Proposals is on plant pests of agricultural and agroforestry systems. The term "pest" includes arthropods, nematodes, pathogens, vertebrates, and weeds.

b. **Importance of risk associated with pest management:** Priority will be given to projects that will most effectively address one or more components of risk from pests and pest management actions:

    i. **Economic risk:** Factors include but are not limited to:
- Economically important crops,
- High economic impact pests,
- Large-scale acreages,
- Under-served crops with need for new risk management tools.

    ii. **Environmental risk:** Factors include but are not limited to:
- Dependence on high risk (environmental or health) pesticides or pest management tactics,
- Pest outbreak causes or leads to ecological risks (e.g. invasive weeds),
- Large-scale acreages,
- Pest outbreak causes or leads to point-source pollution situations.

    iii. **Human health risk:** Factors include but are not limited to pest management tactics (e.g. pesticides) necessitate relatively high risk to humans, including but not limited to applicators, farm workers, and through food consumption.

III. OTHER ISSUES

It is anticipated that there will be a wide variety of project types submitted for consideration. Many of the following issues may have to be addressed depending on the project proposed.

A. Folding <u>existing</u> <u>programs</u> into *ipm*PIPE:
- Validated pest or disease risk predictive models are available (or nearly available),
- An already functional system is looking for a stable home,
- A possibility exists to build onto or scale-up working models to national implementation,
- Project incorporates on-going data collection efforts, e.g., Aphid suction trap network, migratory Lepidoptera traps, etc.,
- Project links with weather impact management tools and recommendation systems,
- Project incorporates other/ different weather data collection tools onto the *ipm*PIPE platform,
- Current infrastructure and support for the existing program is demonstrably untenable or at risk.

B. Information Technology (IT) Considerations:

1. **Minimum requirements for an IT provider:**
    *   Who will be the IT provider(s)? If it is not the current *ipm*PIPE IT provider, list the data acquisition, website development/maintenance, modeling, protocol development, training, and coordination activities for which the IT provider will be responsible.

2. **Data identification and description**:
    *   What type(s) of data collection system(s) will be used (e.g., model output, field observations, diagnostic laboratory results, etc.)?
    *   Describe primary and/or "third" party data sources.
    *   Describe the existing mechanisms for acquiring data. If data collection mechanisms do not currently exist, describe the approach that you propose to use to acquire data.
    *   Describe the existing storage structure(s) for these data. What type(s) of new structure(s) need to be developed?
    *   Indicate which data will be geospatially referenced (e.g., boundaries, global positioning systems, etc.).
    *   Describe the existing (or proposed) quality controls for these data.
    *   Identify ancillary data variables (e.g., land use variables, topography, weather, etc.) that will be used and indicate whether or not these data would be available to other components of *ipm*PIPE? If so, will these data variables be provided on demand (e.g., from a third party) or could they be stored centrally with other *ipm*PIPE data? Are metadata (data about the data describing content such as source of the data, format of the data, quality control of the data, etc.) available for these ancillary data?

3. **Website interfaces:**
    *   Restricted access website
        *   Describe the function or purpose of this website.
        *   Who are the intended users?
        *   What on-line tools will be needed? Which ones have already been developed?
        *   Describe the content of the website.

    *   Public access website
        *   Who are the intended clientele/users?
        *   Describe the content of the website.
        *   Identify sensitivities associated with making data public.

4. **Modeling development and implementation:**
    *   Describe the need for model outputs. Do these products exist and if not, what is necessary to develop them?
    *   Describe the inputs to the models, their availability, and the reliability of the source.
    *   Describe your plans for model evaluation.
    *   Weather variable fields are currently available on the *ipm*PIPE from the U.S. National Oceanic and Atmospheric Administration National Center for Environmental

Prediction (NOAA-NCEP) models including the Rapid Update Cycle Forecast, North American Mesoscale, and the Global Forecast System. Hourly precipitation data from the U.S. National Weather Service (NWS) NEXRAD Stage IV radar precipitation model and a variety of NOAA satellite imagery are used daily by the current *ipm*PIPE forecasting team. Which of these products, if any, would you use in your project?

C. Operational Plans

1. **Protocol development:** Describe the mechanism and timeline for reviewing existing and/or designing new protocols, such as:
    -   Field based monitoring and sample collection protocols,
    -   Sample handling and movement protocols,
    -   Laboratory analysis standard operating procedures (where needed),
    -   Data entry format standards and quality control,
    -   Extension message format/standards.

2. **Training:**
    -   Describe training needs related to the operations of the relevant protocols (field scouting, sampling and analysis, data entry, model interpretation, communications, etc),
    -   Describe training needs related to outreach to the intended client community,
    -   Identify who will be responsible for developing or compiling the technical content of the training materials.

3. **Coordination:**
    -   Identify who will be responsible for project coordination,
    -   Identify operational human resources (the people on the ground doing the work),
    -   Describe the mechanism/structure for conducting project coordination,
    -   Identify existing multi-state committees, active commodity-driven programs, etc. that will be integral partners and indicate how the project will coordinate with them.

4. **Maintenance and Support:** Applicants must discuss expectations to continue the maintenance, support, and delivery of the tool after this development phase concludes. If the applicant does not plan to directly support, maintain, and deliver the tool using non-award funds after the development period funded by this award is completed, then the proposal should identify a potential third party sponsor who will do so. For example, if a proposed tool would require constant updating of data and availability on a website in order to be utilized by producers, then a sponsor should be identified that would be able to provide the funds necessary to maintain and host the tool. Third party sponsors may include government agencies, grower organizations, industry organizations, private sector entities, etc. If the tool proposed does not require support, maintenance, updating or revisions to maintain applicability or value or does not require continued delivery to producers, the proposal should so state and provide the basis why such actions are not required.

IV. ELIGIBLE APPLICANTS

Proposals are invited from qualified public and private entities. Eligible applicants include colleges and universities, Federal, State, and local agencies, Native American tribal organizations, non-profit and for-profit private organizations or corporations, and other entities. Individuals are not eligible applicants.

Although an applicant may be eligible to compete for an award based on its status as an eligible entity, other factors may exclude an applicant from receiving Federal assistance under this program (e.g. debarment and suspension; a determination of non-performance on a prior contract, cooperative agreement, grant or partnership; or a determination of a violation of applicable ethical standards).

V. PROJECT DURATION

The proposal start-date should be January 1, 2008 although all subcontract paperwork probably will not be completed until March 2008. The termination date can be no later than December 31, 2010.

VI. PROPOSAL PREPARATION

A. Format

Proposals should be written clearly and succinctly, and must be

- (if not otherwise restricted by required electronic submission forms) formatted on 8.5" by 11" pages using a 12-point font and 1-inch margins;
- page-numbered (project description only), beginning with the Table of Contents;
- single-spaced text with two returns (one blank line) between paragraphs.

B. Order of Sections*

1. Proposal Cover Page (801Cover.pdf; a fillable PDF)
2. Project Summary (802Summary.pdf; a fillable PDF)
3. Project Narrative (803ProjNar.doc) [This document must be converted to a PDF file prior to submission.]
   a. Table of Contents
   b. Project Description
   c. Cooperation and Institutional Units Involved
   d. Key Personnel description, including CVs for project directors
   e. Collaborative Arrangements and Letters of Support
4. Budget (804Budget.xls)

5. Budget Narrative (805BudgNar.doc) [This document must be converted to a PDF file prior to submission.]
6   Current and Pending Support for each project director and co-project director (806CandP.doc) [This document must be converted to a PDF file prior to submission.]
7. National Environmental Policy Act Exclusions Form for each person (807NEPA.doc) [This document must be converted to a PDF file prior to submission.]
8. Conflict of Interest List (808Conflict.xls)

*Obtain the forms by download from http://www.ipmpipe.org/pmcprojects/ListRFAs.cfm

C. Page Limits

Limit your project description (see section D.3.b) to 20 pages.

D. Description of Sections

1. Proposal Cover Page

One copy of the Proposal Cover Page (801Cover.pdf)) must contain the pen-and-ink signature(s) of the Authorized Institutional Representative (AOR). The title should be no longer than 100 characters (letters, punctuation, and spaces between words).

2. Project Summary
The Project Summary (use Form802Summary.pdf) should provide a brief description of the problem or opportunity, project objectives, and a description of the effort in simple terms that can be understood by a diverse audience, including the general public, university personnel, various public and private organizations, and budget staff.

3. Project Narrative
Use Form 803ProjNar.doc for the project narrative, which consists of 5 sub-sections..

a. Table of Contents
For ease in locating information, each proposal must contain a Table of Contents. Place it at the start of the Project Narrative, enumerate the location items within the Project Narrative, and begin page numbering with this page. Show items located in other forms (for example, the budget form, the budget narrative) as "attached".

b. Project Description.
In this section you should describe the need for your project; expected impacts and how you will achieve them; and how you, CSREES, RMA, and the IPM Centers will know you have succeeded.

i.   **Problem, Background, and Justification.** Describe the importance of the problem and how widespread it is. Consider including the value of the crop,

importance of the pest(s), the economic ramifications, and how many people will actually use the system you propose.

Address the benefits of addressing the risk in economic, environmental, social, health, and safety terms.

Demonstrate that you are engaged with constituents on some level and that your project addresses their needs.

Specify who stands to benefit from your project.

Review ongoing or completed work (local/regional/national) that is relevant to your project, and include reference.

If possible, describe the potential applicability of the proposed approach to other crop/pest complexes.

ii. **Objectives and Anticipated Impacts.** Provide clear, concise, and logically numbered statement(s) of the specific aims of the proposed effort. You should address the criteria outlined in section II. Call for New *ipm*PIPE Components. Also describe the anticipated impacts that will result from your efforts.

iii. **Approach and Procedures.** Describe how each of the stated objectives will be reached in the same order as listed above in Objectives and Anticipated Impacts. These descriptions should outline the essential working plans and methods that will be used to attain each objective. You should show that the proposed work has the potential of providing data and information that will permit accomplishing the objectives. Construct a timetable for the start and completion of each phase of the project. For multi-organizational or multistate projects, describe how the project will be managed, i.e., who will coordinate the different organizations and states, and how.

iv. **Evaluation Plans.** In this section, briefly describe how you will verify that your project objectives have been met and how you will measure the extent to which any associated impacts have occurred.

c. **Cooperation and Institutional Units Involved**.
Clearly define the roles and responsibilities of the lead institution and each institutional unit or stakeholder group contributing to the project. If multi-institutional teams are cooperating on a proposal, a single budget should be submitted for that proposal.

d. **Key Personnel.**
Applicants must identify key personnel and their specific roles in the proposed project. Attach for each Project Director (PD) and co-PD a two-page CV that lists education, experience, and relevant publications.

e. **Collaborative Arrangements and Letters of Support.**
If the project includes consulting, collaborative, or subcontractual arrangements, such arrangements should be fully explained and justified in the budget and budget narrative. In addition, you should provide evidence (e.g., a letter of support or statement of work) that the collaborators involved, even if unpaid, have agreed to render these services.

Letters of support can strengthen your proposal. All such letters should be addressed to the PD and should show the name and affiliation of the sender (letterhead is preferred), the level of commitment or scope of work, and the individual's signature. Original, faxed, and electronically signed letters are acceptable.

4. **Budget.**
Each proposal must include a detailed budget form (804Budget.xls) for each year of requested support and a budget form that summarizes total project costs for the duration of the project. Follow the instructions accompanying the form. Indirect costs of up to 10% of the total direct costs can be requested. Tuition costs are not allowed.

The travel section of the budget should include enough funds for the primary PD to attend one meeting of the *ipm*PIPE Steering Committee to present the results of project.

5. **Budget Narrative**.
Include a detailed, self-explanatory Budget Narrative (Form 805BudgNar.doc). Follow the order of the budget form.

If consulting, collaborative, or subcontractual arrangements are included in the proposal, these arrangements should be fully explained and justified. Clearly identify the lead institution, all collaborators, and the role of each in your Budget Narrative. For collaborative arrangements, the transfer of substantive programmatic work, or the provision of financial assistance to a third party, provide letters of intent or other evidence that collaborators have agreed to render these services (such as a proposed statement of work and a simple budget for each arrangement).

6. **Current and Pending Support.**
A completed Current and Pending form (806CandP.doc) must be included for each PD and co-PD.

7. **National Environmental Policy Act Exclusions Form.**
A completed NEPA form (807NEPA.doc) must be included for each PD and co-PD.

8. **Conflict of Interest List.**
    A completed conflict of interest form (808Conflict.xls) must be included for each PD and
    co-PD.

VII. SUBMISSION DEADLINES AND CONTACTS

All proposals must be submitted by **5:00 pm (eastern time) December 7, 2007** using the
electronic submission procedures found at http://www.ipmpipe.org/pmcprojects/ListRFAs.cfm.
In addition, a single copy of the cover page signed by the institutional AOR must be received by
John Ayers no later than **5:00 pm (eastern time) December 14, 2007**.

Send to (overnight service recommended so you will have a receipt):

John E. Ayers
The Pennsylvania State University
Northeastern IPM Center
114 Buckhout Laboratory
University Park, PA 16802
814-865-7776
jea@psu.edu

For questions or problems with the electronic submission process, please contact:

James R. VanKirk
Southern Region IPM Center
NCSU Centennial Campus
1730 Varsity Drive, Suite 110
Raleigh, NC 27606-2194
919-513-8179
jim@sripmc.org

VIII. SELECTION CRITERIA

We will acknowledge the receipt of your proposal and will notify all applicants of funding
decisions by the end of February 2008. One review panel will judge the merits and technical
qualities of the proposals using the following table as a guideline.

Criteria	Possible Points
Project Justification • Project addresses the mission, strategy, and initial focus of the *ipm*PIPE • Multi-state, regional, or national interest/scope • Importance of the crop/pest system relative to risk (economic, environmental, and/or health) associated with pest management • Prospects of this project to positively address risk issues	30
Project Approach and Design • Proposal meets format, page limits, etc. • Logical approach • Appropriate mix of monitoring, data management, programming, and outreach • Fits into mission, strategy, and initial focus of the *ipm*PIPE	30
Potential for Success • Competent project team • Appropriate coordination plans • Appropriate commitment of resources (diagnostics, human, IT, etc.) • Strong plan/prospects for sustainability beyond the term of funding to this proposal.	30
Budget • Appropriate for the scope of the project • `Commensurate with potential impact	10
Total	100