



## Western Integrated Pest Management Center

### 2020 Annual Grant Program Request for Applications

While the 2020 Western IPM Center annual grant program and this RFA are similar to last years' announcement, there are some important changes. The electronic proposal management system applicants will use to submit proposals is new this year, and the application packet has been condensed into one document.

Grants available in this RFA include **Project Initiation, Work Groups, Outreach and Implementation, and Planning Documents.**

**Proposals are due by 5 p.m. Pacific Standard Time on Friday, December 6, 2019.**

Applications must be submitted electronically and all components must be in portable document format (PDF).

Applicants must register at <https://grants.ipmcenters.org> to download the document required for submission.

The amount available this cycle is approximately \$250,000.

If you encounter any problems or have questions, contact Western IPM Center Associate Director Matt Baur at (530) 750-1270 or [mebaur@ucanr.edu](mailto:mebaur@ucanr.edu).

#### Key Dates

October 1:	RFA released
November 7:	RFA Webinar (2 p.m. PST)
December 6:	Completed application due by 5 p.m. Pacific Standard Time

Details about the webinar are in the Center's October newsletter. Visit [www.westernipm.org](http://www.westernipm.org) and look under "Publication" to access newsletter issues.

## I. SUMMARY

The Western Integrated Pest Management Center (“The Center”) engages a broad diversity of stakeholders in the West to identify strategic directions and set priorities for integrated pest management (IPM) research, education, and extension for pest management in all settings. Through these activities the Center promotes the USDA Research, Education, and Economics Action Plan goals of effective, affordable, and environmentally sound integrated pest management practices and improved response to emerging or reemerging pests of high consequence. The Center supports the *National Roadmap for Integrated Pest Management* (<http://bit.ly/IPMRoadMap>)

The Center works to reduce the risks that pests and pest-management practices pose to people, the environment and the economy of the American West by supporting the development and adoption of integrated pest management. Our vision is a healthier West with fewer pests.

Center grants provide funds to complement other federal, state and private funding sources by supporting project initiation, outreach and implementation, work groups, and IPM planning document development. We encourage projects that extend IPM practices to stakeholders who will use IPM strategies to decrease the risks associated with pests and pest management while addressing Center goals.

**Available funds.** Funding of approximately \$250,000 is available for this competitive grant program. Budget limits per project type are in *Section VII: Types of Projects*. Budgets may include indirect charges of no more than 30% of Total Federal Funds (TFF).

**Who may apply?** Eligible applicants include private individuals and institutions, faculty and qualified staff of two- and four-year universities, businesses, commodity organizations, and governmental and non-governmental organizations. The project director (PD) must be in the Western Region, but co-project directors may be from outside the region. The Western Region includes the following states and territories: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, American Samoa, the Federated States of Micronesia, Guam, and the Northern Mariana Islands.

**Proposal submission.** All applications will be submitted through a secure online system in PDF format at <https://grants.ipmcenters.org>. **Proposal submission must be completed by 5 p.m. PST, Friday, December 6, 2019.**

**Proposal timeline.** Projects must start March 1, 2020 and end by February 28, 2021.

## II. GENERAL INFORMATION

### **Regional Importance and Center Priorities**

Stakeholders from the 17 Western states and Pacific Island territories identify priorities for the Western IPM Center, and the Center is committed to addressing those pest management needs. The following are regional priorities established by the Western IPM Center Advisory Committee and stakeholders, and proposals should specifically address one or more of these priorities:

The list below is not ranked and explanations are to illustrate concepts and for clarity and are not designed to be all-encompassing or exclusionary.

**Invasive Species** – Creating IPM responses to invasive pests and resurgent native pests disrupting IPM programs.

**Biological Control of Pests** – For insects, weeds, diseases and vertebrate pests

**IPM and Ecosystem Services** – Using IPM to protect and promote ecosystem services in managed and natural landscapes.

**Soil-Borne Pest Management** – Developing IPM tactics to manage soil-borne pests.

**Urban Pest Management** – Promoting IPM for homes, schools and communities, including the safe use of pesticides in homes and gardens.

**IPM for Indigenous, Insular and Isolated People** – Promoting IPM for underserved communities and audiences.

**IPM for Pest-Resistance Management** – Developing IPM tools and techniques to reduce pest development of resistance.

**New Technologies to Manage Pests** – Developing novel and non-traditional approaches to managing insects, weeds, diseases and vertebrate pests.

**IPM in New Places** – Promoting IPM to new, challenging and changing industries, such as animal agriculture, aquaculture, chemically intensive cropping systems, urban farming, indoor production, etc.

**IPM in Changing Landscapes** – Creating IPM tools and tactics for landscapes changed by natural forces, including climate and fire.

**IPM Culture and Capacity** – Enhancing the acceptance of IPM, strengthening the networks, structures and institutions that promote it, and developing new scientists to lead it.

While not required, proposals that actively involve potential end-users – farmers and ranchers, land managers, school or housing administrators, etc. – are encouraged.

All applications must document their relevance to the West by citing specific, documented, stakeholder-identified needs that the proposed project will address. Explicitly citing sources of stakeholder-identified needs is valuable to establish 1) the importance of the project and 2) the project directors are engaged with the stakeholder community. **General letters of support that do not indicate specific stakeholder support for the objectives of the proposed project DO NOT fulfill the requirement for demonstrating stakeholder involvement.**

### **III. MULTI-STATE / ISLAND / TERRITORY / TRIBAL NATION INVOLVEMENT**

A goal of the Center grants program is to support collaborations among states, islands, territories and tribal nations for purposes of efficiency, economy and synergy. (In this RFA, the term “states” is also meant to include individual islands within the state of Hawaii, as well as the Pacific Island territories and tribal nations.) Projects must have participants from multiple states or clearly demonstrate that the project will benefit more than one state. Exceptions are allowed when an applicant can document that the host/pest combination only occurs in one state.

### **IV. MATCHING FUNDS**

No matching funds are required.

### **V. LEVERAGING RESOURCES**

The Western IPM Center seeks to fund, where appropriate, applicants that build on or partner with other existing resources to support their proposed projects. Examples include leveraging data and products from prior Western IPM Center projects, or partnering with current Western IPM Center Signature Programs or Western Extension Research and Academic (WERA) multistate coordination.

#### **Use of Western IPM Center Signature Programs**

Western IPM Center Signature Programs provide support to foster collaborations. Applicants are encouraged to collaborate with the Risk Communication Signature Program, the Crop Pest-Loss and Impact Assessment Signature Program or the Protocols for Responding to Invasive Species in the West Signature Program, where appropriate.

A letter of collaboration from Katie Murray ([Katie.Murray@oregonstate.edu](mailto:Katie.Murray@oregonstate.edu)) must be included if planning to make use of the Western IPM Risk Communication Signature Program.

A letter of collaboration from Peter Ellsworth ([peterell@cals.arizona.edu](mailto:peterell@cals.arizona.edu)) must be included if planning to make use of the Western IPM Center Crop Loss and Impact Assessment Signature Program.

A letter of collaboration from Kassim Al-Khatib ([kalkhatib@ucdavis.edu](mailto:kalkhatib@ucdavis.edu)) must be included if planning to make use of the Western IPM Center Protocols for Responding to Invasive Species in the West Signature Program.

For more information on Signature Programs, see the Center Projects section of the [westernipm.org](http://westernipm.org) website.

#### **Use of Multistate Project Work Groups**

Multistate project work groups supported by the Associations of Agriculture Experiment Station Directors are formed to collaborate in projects that two or more states share as a priority. Western IPM Center-funded projects are encouraged to leverage resources from multistate project work groups. Some examples include:

W3008: Integrated Onion Pest and Disease Management

W4185: Biological Control in Pest Management Systems of Plants

W4186: Variability, Adaptation and Management of Nematodes Impacting Crop Production

WERA 11 Western Regional Turfgrass Research

WERA20: Virus and Virus-Like Diseases of Berries, Fruit and Nut Trees, and Grapevines  
WERA 77 Managing Invasive Weeds in Wheat  
WERA 89 Potato Virus and Virus-like Disease Management  
WERA 97 Diseases of Cereals  
WERA 1007 Curly Top Virus Biology, Transmission, Ecology, and Management  
WERA 1017 Coordination of IPM Research, Extension and Education in the West  
WERA 1021 Spotted Winged Drosophila Biology, Ecology and Management

Multistate project work group details are listed at <http://www.nimss.org/>.

## **VI. STRONG EVALUATION PLANS FOR ADOPTION AND IMPACT ASSESSMENT**

Applicants are strongly encouraged to develop concrete evaluation plans for adoption and impact assessment. Clear descriptions of anticipated impacts and plans to evaluate the success of the project in terms of IPM adoption and implementation are important. The Regional IPM Centers have developed a toolkit for assessing IPM adoption and impacts to support a good project evaluation. Access it at <http://ipmimpact.ucanr.edu/>

## **VII. TYPES OF PROJECTS**

The types of projects that may be funded through the Western IPM Center grants program are **(A) Project Initiation, (B) Work Groups, (C) Outreach and Implementation, and (D) Planning Documents.**

If you wish to submit applications for more than one project or project type, you must submit separate applications.

### **A. Project Initiation (up to \$30,000)**

Project Initiation proposals should test new IPM research ideas. Project Initiation activities are proof-of-concept, preliminary experiments focused on developing, facilitating or catalyzing novel IPM solutions to priority issues. Applicants should identify the benefits that could be realized if their researched IPM solutions prove to be successful.

### **B. Work Groups (up to \$30,000)**

Work Groups support bringing together diverse groups to collaboratively address a regional IPM priority. Multi-state work groups address information, resource and research needs in region-wide or broad-area categories and enhance communication and collaborations within the region. Work groups outputs often include proposals for future funding. Student participation, and participation by potential end-users (farmers and ranchers, land managers, school and housing administrators, etc.) is strongly encouraged.

Previously funded IPM work groups must apply for renewal each year and funding will be based on merit of the proposal and accomplishments from prior funding periods. Applications for work group renewal must be received by the application due date. They will be evaluated in competition with the other applications and will be reviewed according to the same criteria as new applications. Work group renewal applications must include a two-page progress report documenting accomplishments of the past year. The two-page progress report is in addition to the eight-page proposal narrative.

**C. Outreach and Implementation (up to \$30,000)**

Outreach and Implementation projects build on previous IPM research by providing outreach to stakeholders to encourage the adoption and implementation of IPM practices. Outreach and implementation grants may be initiated by someone involved in earlier research, or may be proposed by applicants based on the research done by another scientist or group. Examples include, but are not limited to workshops, demonstration projects, printed documents and online IPM resources. Projects that provide eXtension Communities of Practice with outreach and implementation tools are encouraged.

A goal of outreach and implementation projects should be the increased adoption of IPM practices in agricultural, community or natural settings. The target audience, distribution plan for project products, and evaluation plan to assess knowledge or behavior change among the target audience must be clearly articulated.

**D. Planning Document (up to \$15,000)**

Planning Document projects support development of Pest Management Strategic Plans, IPM practices evaluations, stakeholder needs assessments and priority-setting activities, or similar planning documents.

*Pest Management Strategic Plans (PMSPs)* are developed with a regional group of growers and other stakeholders to identify the pest management needs and priorities of a particular commodity or site. The plans document current pest management practices (chemical and non-chemical) and those under research and demonstration trial development. The plans also indicate priorities for research to fill knowledge gaps, regulatory changes, and education or training programs to support adoption of integrated pest management practices.

There are two current models for producing PMSPs, and either is acceptable.

Guidelines for producing a traditional PMSP can be found on the National IPM Database web site at [https://ipmdata.ipmcenters.org/pmsp\\_workshopguidelines.pdf](https://ipmdata.ipmcenters.org/pmsp_workshopguidelines.pdf)

Guidelines for producing an Integrated Pest Management Strategic Plan, an approach pioneered by researchers at Oregon State University, can be found at <https://catalog.extension.oregonstate.edu/em9238>

Whichever model is followed, PMSPs are not considered complete until they are approved by the Western IPM Center and posted on the National IPM Centers' database. Proposals to develop PMSPs for crops that do not have a plan, or to update PMSPs more than five years old, are encouraged.

*IPM practices evaluations* typically query growers or other pest management stakeholders to gather information about the current pest management methods on a particular crop or in a particular system or setting. This category includes projects that are entirely advanced sociological analysis – assessment of the economics, adoption and impact of IPM practices based on data from past evaluations – or a follow up evaluation to document change in IPM practices or condition since the previous survey. Tools developed by the Crop Pest-Loss and Impact Assessment Signature Program (*Section V*) may provide guidance for building information and data resources needed to do practice evaluations.

Applicants proposing stakeholder needs assessments and priority-setting activities should clearly explain the need for the proposed activities and how that data collected will address Western IPM priorities.

### **VIII. EVALUATION AND SELECTION CRITERIA**

A panel of reviewers will evaluate all applications. Most reviewers are from outside the Western Region, so when writing the proposal narrative and your biosketch, do not assume that reviewers will be familiar with Western crops, pest or conditions, or your program, abilities or past accomplishments.

The review panel will score applications using the Proposal Score Sheet below. Projects are evaluated and scored against all applications received, not just against proposals within a specific project type.

**PROPOSAL SCORE SHEET**

<b>Criterion</b>	<b>Project Initiation</b>	<b>Work Group</b>	<b>Outreach &amp; Implementation</b>	<b>Planning Document</b>
Preparation (10 points)	<ul style="list-style-type: none"> <li>Information is clearly presented</li> <li>Meets all format requirements with all required forms and components included</li> </ul>			
Problem and justification (20 points)	<ul style="list-style-type: none"> <li>Proposal addresses one or more regional priority areas (listed on Page 2)</li> <li>Proposal cites specific stakeholder priorities and needs</li> <li>Proposal documents multi-state collaboration or that the crop/pest combination only occurs in a in a single state. ("States" includes islands of Hawaii and the Pacific Island territories, and tribal nations)</li> </ul>			<ul style="list-style-type: none"> <li>*Fills gap in IPM Planning Document portfolio</li> <li>*Proposal addresses one or more regional priority areas</li> </ul>
Potential for Success (25 points) -Objective -Approach -Procedures	<ul style="list-style-type: none"> <li>Objectives logically target a solution to the problem</li> <li>Approach likely to result in novel, effective solutions to important IPM issues</li> <li>Procedures are linked to objectives and likely to result in clear evidence with respect to problem</li> <li>Timeline and scale of project reasonable</li> <li>Collaborators have agreed to participate through a letter of support</li> </ul>	<ul style="list-style-type: none"> <li>Objectives are either new or significantly expand a previous effort</li> <li>Composition of the work group has the potential to coordinate regionally and catalyze solutions to complex IPM issues</li> <li>Procedures linked to objectives</li> <li>Timeline and scale of project reasonable</li> <li>Collaborators have agreed to participate through a letter of support</li> </ul>	<ul style="list-style-type: none"> <li>Objectives logically focus on a solution to the problem</li> <li>Project clearly identifies the audience targeted by the outreach and implementation efforts</li> <li>Procedures are linked to objectives</li> <li>Target audience (stakeholders) have documented a desire for products and willingness to implement IPM solutions</li> </ul>	<ul style="list-style-type: none"> <li>PMSPs will use Regional IPM Center's standard format and procedures, or the Integrated PMSP approach</li> <li>Evaluations or other planning documents will meet accepted standards for stakeholder information collection and summarization</li> <li>Collaborators have agreed to participate through letter of support</li> </ul>
Anticipated Impacts and Evaluation Plan (25 points)	<ul style="list-style-type: none"> <li>Anticipated impacts link directly to project objectives and are reasonable for the type and scale of the project</li> <li>The evaluation plan logically links to the anticipated impacts and details evaluation objectives, measurement indicators and specific methods</li> <li>Evaluation plan either: (1) collects data to evaluate change in learning, action, or condition <u>OR</u> (2) collects baseline learning, action or condition data related to the same crop or pest system as the proposed project</li> </ul>			
Expertise & Participation (10 points)	<ul style="list-style-type: none"> <li>Curriculum Vitae indicate project directors and team have the expertise needed to successfully complete the project</li> <li>Project actively involves end-users (farmers and ranchers, land managers, school and housing administrators, etc.) and students, as appropriate</li> </ul>			
Budget (5 points)	<ul style="list-style-type: none"> <li>Budget is well-defined, reasonable for the proposed project, and within the project funding limits described in this RFA</li> <li>Budget follows guidelines described in the RFA and instructions on the budget form</li> <li>Budget narrative follows the order of the budget form and fully justifies budget items</li> </ul>			
Underserved population (5 points)	<p>Project specifically involves stakeholders or stakeholder groups who have not participated in or who have received limited benefits from USDA programs (for example, Limited Resource Producers, Small Farmers/Ranchers, Minority Groups, Pacific Islands, Alaska, Tribal Nations, and Women)</p>			

## **IX. APPLICATION AND SUBMISSION INFORMATION**

**Applications are due by 5 p.m. PST, Friday, December 6, 2019.**

Applications are submitted electronically in portable document format (PDF). Applicants will have to register at <https://grants.ipmcenters.org> to download the document required for submission.

**Point Size, and Margins:** Applications must be typed in a 12-point or larger font, single- or double-spaced, with 1-inch margins all around.

**Writing the Project Narrative:** The project narrative is limited to eight pages. (Two additional pages are allowed for the progress report for work groups requesting renewal.) The narrative should include:

### **Problem and Justification**

Provide a summary of the problem and how this project is expected to contribute to addressing it. Include explicit citations that document the stakeholder-identified needs addressed by the proposed project, and the regional priority area or areas the project addresses.

### **Objectives**

Include a concise, complete, logically arranged and numbered series of statements defining the objectives of the project. The nature of the project and its objectives will determine the ease of predicting success, but where feasible, indicate the likelihood of achieving the objectives in a specified length of time.

### **Procedures**

Include a numbered procedure statement corresponding with each numbered objective that outlines the working plans and methods designed to achieve each objective. The procedure statement must show that the proposed work has the potential to accomplish the objectives.

### **Project Evaluation Plan**

The toolkit for assessing IPM outcomes and impacts is available at <http://ipmimpact.ucanr.edu/>

The toolkit is a rich source of information and guidance for establishing a project evaluation plan. Please refer to this website or other similar sociological references and scientists as needed to assist you with this section.

Identify the project's expected outputs and outcomes, and how they relate to the goals of the Western IPM Center. **Outputs** are *activities, services, events or products that you develop*, such as field days, presentations, training materials, websites, services, data, meetings held, reports, papers and services. **Outcomes** are the *results or changes among individuals, groups, communities, systems or society* that may be influenced by your outputs. Outcomes are often divided into short-, medium- and long-term outcomes.

- **Short-term outcomes** are related to **learning**: Changes in awareness, knowledge, attitude, skills, opinions, aspirations, and motivations of the target audience.
- **Medium-term outcomes** are related to **actions**: Behaviors, practices, decisions made, policies affected or social actions taken by members of the target audience.
- **Long-term outcomes**, also called **impacts**, are related to **conditions**: Social, economic, or environmental conditions that change as a result of actions taken by end-users.

(Use of some of these terms can vary. For example, the IPM.gov website refers to all levels of outcomes as “Impacts.” But a true impact in the logic model-sense is something that happens beyond the scale of an individual.)

All proposals should identify the **evaluation objectives** and associated **indicators** to be collected. All proposals should describe the **specific methods** that will be used to evaluate the project outcomes. A timeline showing anticipated progress and anticipated outputs and outcomes would be helpful and could be used as a part of a future progress report to demonstrate satisfactory progress. See the “Toolkit for Assessing IPM Outcome and Impacts” (<http://ipmimpact.ucanr.edu/>) for further explanation of these terms and concepts.

Ideally, every funded project would include a plan to measure its own outcomes. That can be problematic with short-term, small-budget projects. Therefore, evaluation plans may be either:

- (1) A collection of data to evaluate change in learning, action, or condition,  
OR
- (2) A collection of baseline data that can be used later to measure future changes in learning, action or condition. The baseline data will be submitted to the Western IPM Center and will be available for later projects to use for comparison.

#### **Duration**

**Projects must have an end-date no later than February 28, 2021.**

#### **Cooperation of Key Personnel and Institutional Units Involved**

Identify key personnel and each institutional unit contributing to the project. In multiple-institution applications, each institution must be identified, and the lead institution designated.

Applications must clearly define the roles and responsibilities of each person and institutional unit of the project team, if applicable.

If the project includes consulting, collaborative, or sub-contract arrangements, such agreements must be fully explained and justified in the budget narrative. Evidence must be provided that the project co-directors and collaborators involved have agreed to render these services. Acceptable documentation for this purpose includes letters of intent or statements of work from the individual or organization. Copies of either letters or email messages from the project co-directors and collaborators will suffice for this purpose. Letters of intent or letters of support from stakeholders should be included in the Appendix.

**Work Group Progress Report – only for proposals to continue previously funded work groups (Two additional pages)**

Describe the work group's progress in completing the objectives and evaluation plan from the previous year's grant.

**All applications are submitted through a single form that includes:** an application cover sheet that must be signed by the authorized representative, a project summary that includes the project category and a brief statement of how the proposed project meets Western IPM Center priorities (see Section II), the project narrative, literature cited, biosketches for all project director(s) and any collaborators who will receive a portion of the budget, a budget and budget narrative, current and pending support and conflicts of interests for all project director(s), and any appendices such as letters of collaboration.

### **VIII. FINAL REPORT**

A final report must be submitted to the Western IPM Center no later than 60 days after the expiration of the project. The final report form can be found at [www.westernipm.org/index.cfm/center-grants/for-recipients/](http://www.westernipm.org/index.cfm/center-grants/for-recipients/)

### **IX. SUBMISSION OF APPLICATIONS**

Applications must be submitted electronically and in portable document format (PDF). Applicants will have to register at the site [grants.ipmcenters.org](http://grants.ipmcenters.org) to download the required submission document.

If you have questions or problems with the submission system, contact

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Phone: 530-750-1270 Email: [mebaur@ucanr.edu](mailto:mebaur@ucanr.edu)  
[www.westernipm.org](http://www.westernipm.org)

The Regional IPM Centers are supported by the USDA National Institute of Food and Agriculture and comply with the USDA-NIFA nondiscrimination policy ([www.csrees.usda.gov/about/nondiscrimination.html](http://www.csrees.usda.gov/about/nondiscrimination.html)).