

Project Summary/Abstract

The Western Integrated Pest Management Center (WIPMC) will continue to enhance communications between Federal and State integrated pest management programs in the western United States (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming and the Pacific Islands). The Center is the focal point for team-building efforts, communication networks, and stakeholder participation, and it provides a platform for addressing integrated pest management needs and issues. The Center promotes and fosters open exchanges of ideas and facilitates collaboration and integration of activities among individuals, institutions, states and regions. The Center brings together and helps to focus the institutional and individual expertise needed to successfully address the broad range of pest management issues (e.g., regulatory restrictions, development of pest resistance, invasive species, water quality, endangered species and biotechnology) confronting farmers, pest managers, and the non-agricultural public.

The WIPMC serves as an integrated pest management information network, designed to quickly respond to information needs of the public and private sectors. The WIPMC web site provides access to multiple integrated pest management web sites thus enhancing the accessibility of pest management information. The Center maximizes the availability of dispersed expertise, reduces duplication of effort, enhances interdisciplinary and multi-organizational efforts, and provides regional expert information, technology, and education upon which production agriculture, government agencies, and stakeholders (agricultural and non-agricultural) can draw. The Center also provides leadership in reporting the accomplishments and impacts of regional integrated pest management programs.

PROJECT DESCRIPTION

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Project Narrative

This proposal maintains continuity in the management of the current WIPMC and strives for continuing improvement in reaching the goals and objectives of the IPM Centers program. Our Center has a strong record in performing all of the objectives listed in the 2003 IPM Center RFA and we are already addressing most of the objectives listed in this RFA. All of the Regional IPM Centers participated in a national external review as required by the 2003 IPM Center RFA. This review was highly positive about the work performed, management and outcomes of the WIPMC. The overarching goals of the IPM Centers program are to increase the economic benefits of adopting IPM practices, reduce the environmental and human health risks associated with managing pests, and evaluate the progress of accomplishing these goals. These goals were established by the IPM Roadmap, and our Center will address them through competitive grants and other programs and projects. Our programs will address pest management needs for production agriculture, natural resources and recreational environments, and residential and public areas. The proposed structure of the WIPMC, with its stakeholder involvement, emphasis on partnerships, and financial flexibility will assure success in accomplishing this overarching goal. Please see Appendix 1 for letters that represent a sampling of our stakeholders' involvement and support.

The existing WIPMC has developed Vision and Mission statements with input from stakeholders in the western region. The stakeholders include our Steering and Advisory Committee members, IPM coordinators, Information Network participants, and others involved in pest management in the West.

Vision Statement

The Western IPM Center is a partnership of stakeholders that will facilitate integrated pest management for the region.

(1) Mission and Goals of the Western IPM Center

The mission of the Western Integrated Pest Management Center is to work with stakeholders to create collaborative relationships that identify and address critical pest management needs that are responsive to economic, environmental, and human health and safety concerns.

The WIPMC has four objectives:

(1) Establish and maintain information networks that engage Extension IPM programs and other IPM-related programs and expertise operating at the national, state, and local levels (IPM coordinators, PSEP, IR-4, SARE, Regional Water Quality, EPA Regional Agricultural Initiative program, eXtension Communities of Practice, etc.); (2) Build partnerships to address challenges and opportunities: Involve stakeholders in identifying needs and priorities for IPM in serving agriculture, food, and natural resource systems and focus resources on addressing the identified priority needs; (3) Evaluate and communicate successes: Support assessment and evaluation efforts to document the impacts of IPM implementation throughout the region and communicate positive outcomes to key stakeholders, funding organizations, and policy makers; and (4) Manage funding resources effectively.

(2) Center Staff and Host Institution

The structure of the Center will complement and strengthen IPM programs and activities conducted both regionally and nationally. This structure will allow the Center to serve as a focal point for IPM stakeholders and to facilitate collaborative efforts among IPM programs. There will be a single regional administration based at the University of California, Davis (2.25 FTEs) some support for other positions serving regional needs. These positions are diagrammatically represented in Appendix 2.

The University of California has been serving as the host institution for the WIPMC for the last four years as well as for the Western Pest Management Center three years previously. The University also served as host of the Western Region Pesticide Impact Assessment Program for more than eighteen years. In these capacities, the institution and proposed Center Director and staff have more than 25 years of experience with: managing a regional and state competitive grants program; responding to information requests from USDA/EPA and others; participating as a liaison among state and federal agencies, stakeholders, and others on regional pest management issues; and providing leadership within the western region. The University of California, Davis has supported this effort by providing facilities for program staff and accounting support necessary to administer regional competitive grants. The University of California, Davis is the host institution to the Western Region Plant Diagnostic Center; and the WIPMC Director, Rick Melnicoe, serves on its advisory board. The University of California, Davis campus hosts the University of California Statewide IPM Program. The University of California and the Davis campus are committed to continuing their support of the Center Director and staff, because they view this Center as an integral component of their commitment to agriculture and multi-state collaborative efforts. Since the University of California has shown both the willingness and ability to provide the infrastructure necessary (i.e., subcontract preparation, accounting, and extension resources), it is an excellent choice to serve as the lead university for the WIPMC.

The proposed Center management has 30 years of experience with the state of California's mandatory pesticide use reporting system, which provides real-world data on current pesticide use practices for over 190 agricultural crops and other agricultural sites. This information can serve as a basis for evaluating individual IPM systems within California and their direct relationship to the changes in pesticide use. The P.I. is also the Assistant to the Director of the University of California Statewide IPM Program, one of the largest state-supported IPM programs in the United States. This relationship provides a valuable link between the programs. In addition, he is the Pesticide Safety and Education Program (PSEP) coordinator for California. The Co-P.I. on this grant proposal is currently the Administrative Advisor to WERA-069 (Coordination of Integrated Pest Management Research and Extension/Educational Programs for the Western States & Pacific Basin Territories), which provides a direct link to the IPM research and extension community associated with Western States' Agricultural Experiment Stations and Cooperative Extension programs supported by federal 3 (d) funds. The Co-P.I.'s research areas of landscape-scale ecology of rangeland grasshoppers and Russian wheat aphid, particularly dispersal and migration; Russian wheat aphid biological control; integrated pest management in dryland cropping systems; development and implementation of computer-based decision support and information delivery systems, including World Wide Web; and application of Geographical

Information System technology to insect ecology and integrated pest management, complement the regulatory expertise found at the University of California, Davis.

Under this management structure, the WIPMC is uniquely qualified to address high priority integrated pest management issues and concerns within the western region and beyond. The current Center Director and staff have provided leadership and coordination for the Western IPM Center for the past 4 years and related activities for the past 15 years.

The WIPMC cooperators have sponsored and supported annual field workshops and tours for regulatory personnel. The Center has participated in collaborative efforts with many state, regional, and national programs and developed a leadership role in facilitating cooperative efforts throughout the west. These collaborative efforts include programs such as WERA-069, Region 10 Water Quality, EPA Regional Strategic Agriculture Initiative, Western Sustainable Agriculture Research and Extension Program, and many others.

The WIPMC has collaborated with the other three Regional IPM Centers and will continue to collaborate proactively in the future. These collaborations have resulted in national and multi-regional PMSPs, national Pest Alerts, the National IPM Center website, IPM PIPE program, and other efforts detailed under Objective 2 below.

The primary WIPMC staff will consist of a Director and Associate Director (1.75 FTE), one Writer (0.50 FTE), an IPM Regional Grants Manager (0.1 FTE with funding coming from the Western Region IPM grant program).

Director, Rick Melnicoe, will have overall leadership responsibilities for all activities of the Center. He will be responsible for managing communication with the Advisory and Steering Committees, organizing and moderating meetings of the Steering and Advisory Committees, and representing the Center to other agencies in the western region and elsewhere. He will be a member of the National IPM Coordinating Committee and attend at least one of their meetings annually. He is a member of the IPM PIPE Steering Committee, the Western Plant Diagnostic Network Advisory Council, the Western Sustainable Agriculture Research and Extension Advisory Council, and the National IPM Evaluation Group. Additionally, he is an *ex officio* member of the Arizona IPM Coordinating Committee. He will facilitate certain other meetings, such as PMSP workshops, as requested and available. He will prepare annual reports for USDA. Rick also oversees the responses to information requests by our regional comment coordinators and other state contacts.

Co-P.I. and Co-Director Tom Holtzer will assist the Director to achieve the objectives of the Center, but will receive no salary from the WIPMC budget. He will maintain liaison with the WERA-069 as the administrative advisor. He will be a member of the Advisory and Steering Committees. He will be a member of the National IPM Coordinating Committee and attend this committee's meetings.

Associate Director, Linda Herbst, will manage the daily activities of the WIPMC. She will have primary responsibility for oversight of all competitive grants programs managed by the WIPMC, except the Western Region IPM Competitive Grants program. She will be the regional

representative to the “National IPM Center Information Technology Committee.” She will provide direction to existing work groups and entities interested in developing work groups concerning WIPMC’s mission, goals, and objectives. She will serve as the liaison with work groups and information network cooperators. She will also provide information in response to requests, as required. She will assist the Director in facilitating the Advisory and Steering Committees, develop the Center budget, and provide recommendations to the Directors and WIPMC Steering Committee regarding budget allocations and disbursement. She will be a member of the National IPM Coordinating Committee and attend quarterly meetings. She will facilitate certain other meetings such as PMSP workshops, as her schedule permits. She is a member of the National IPM Evaluation Group as well a member of the National IPM Evaluation Subcommittee. She oversees the work of the regional PMSP Coordinator (Oregon State University).

Regional Comment Coordinators gather information for formal replies to USDA. They contact work groups, local experts, regulatory agencies, and others to write responses providing feedback to USDA. This feedback mechanism has been received with great enthusiasm by both stakeholders and federal agencies and was expanded along guidelines set by the Advisory Committee to cover the entire region. This concept ties directly to Objective 1

The Regional Pest Management Strategic Plan (PMSP) Coordinator organizes work groups within the region to identify PMSP needs, communicates with commodity groups the purpose and value of developing PMSPs, follows up with commodities that have completed them, and reports the impacts. He organizes PMSP workshops, creates the PMSP document, and submits it to the Center for editing and submission to USDA.

The Regional Writer edits PMSPs, writes and edits Crop Profiles, maintains the WIPMC web site, and produces the regional newsletters, the annual report, informational brochures, and other special documents relating to IPM.

General secretarial and bookkeeping support will not be charged to this grant.

(3) Western IPM Center Management Process

Management Process to Continue Advisory and Steering Committees

The current WIPMC Advisory Committee consists of a wide range of stakeholders and provides broad vision and guidance to the Steering Committee and Center staff (Appendix 3). As detailed in Appendix 3, the current membership of the Advisory Committee includes representatives from research and extension faculty, IPM coordinators, WERA-069, Sustainable Agriculture, Commodity associations, nonprofit organizations, and a member of an eXtension Community of Practice. The Advisory Committee is a key link between the Center and stakeholder needs and priorities for IPM programs. This committee provides two-way communication between other stakeholders and Center management. The Advisory Committee meets at least once per year. Regular communication is maintained between Center staff and the Advisory Committee via electronic means and teleconference calls. Members of this committee have either 2 or 3 year rotations that allow for diversity while insuring continuity.

The Steering Committee is the policy-setting body of the WIPMC. The Steering Committee makes final recommendations to the Director on administrative and financial issues. It is responsible for gathering input from stakeholders, determining broad policy goals and priorities, and directing Center staff in timely and effective Center management. Since the Steering Committee makes final recommendations to Center staff on priorities to include in Center Request for Applications (RIPM, PMAP, and other Center competitive grants), committee members are ineligible to apply for WIPMC funding. The Steering Committee meets at least once annually in conjunction with the Advisory Committee's annual meeting, with conference calls and electronic communication taking place throughout the year, as necessary, to conduct business.

Management Process to Involve Stakeholders and Partner Institutions

In the development of this proposal, we have shown a commitment to Objectives 1, 2, and 4 by involving stakeholders in identifying needs and priorities. Stakeholder input over the last 4 years has helped to focus this application for the WIPMC. Our Advisory and Steering Committees meet annually to evaluate the Center objectives and make recommendations for changes if they are deemed necessary. We will continue to actively encourage stakeholder input through our Center Advisory and Steering Committees, through focused calls for priority issues, and through participation in funded information networks and work groups. This will provide input on critical integrated pest management needs and concerns at the regional level. Stakeholders will be encouraged to continue serving as conduits of information about current integrated pest management techniques to various agencies, facilitating informed regulatory decisions. An important role for the Center, as emphasized in Objectives 1, 2, and 3, is to provide a mechanism for effective communication among government agencies, colleges and universities, agricultural communities, and both urban and environmental stakeholders, and to communicate the positive impacts of IPM implementation regionally and nationally.

Steering Committee members were an integral part of the development of the draft WIPMC Strategic Plan (Appendix 4).

(4) The Center enhances communication between Federal and State integrated pest management programs in the western United States (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, and the Pacific Islands). As discussed in Objectives 1 & 2, the Center will continue to be the focal point for team-building efforts, communication networks, and stakeholder participation, and it will provide a platform for addressing integrated pest management needs and issues. The Center promotes and fosters open exchange of ideas and facilitates collaboration and integration of activities among individuals, institutions, states, and regions. The Center brings together and helps focus the institutional and individual expertise needed to successfully address the broad range of pest management issues (e.g., regulatory restrictions, development of pest resistance, invasive species, water quality, endangered species, and biotechnology) confronting farmers, pest managers, and the non-agricultural public.

The WIPMC will continue to be highly integrated and interactive with other pest management programs (SARE, IR-4, PSEP, NRCS, NPDP, Regional Water Quality programs, Master Gardeners, etc.) within and across public and private entities and disciplines. Our organizational

structure and decision-making protocols will ensure that stakeholders (pest management program personnel, university faculty and staff, government agencies, farmers, crop consultants, nursery owners, park managers, non-government agencies, Tribal entities and the general public) will feel that they are significant participants in Center activities. Stakeholder participation is discussed throughout this proposal. The Center's structure will be flexible enough to be continually responsive to stakeholder and agency needs.

(5) The WIPMC serves as an integrated pest management information network, designed to quickly respond to information needs of the public and private sectors. The WIPMC Web site will continue to provide access to multiple integrated pest management web sites thus enhancing the accessibility of pest management information. The Center will maximize the availability of dispersed expertise, reduce duplication of effort, enhance interdisciplinary and multi-organizational efforts, and provide regional expert information, technology, and education upon which production agriculture, government agencies, and stakeholders (agricultural and non-agricultural) can draw. The Center will continue to provide leadership throughout the region and report the accomplishments and impacts of IPM. Assessment and evaluation of the impacts of IPM implementation is discussed in under Objective 3 below.

(6) Details to ensure a fair and open decision-making process for solicitation and selection of competitive grant opportunities through the WIPMC are detailed in Appendix 5. Requests for Applications (RFA) will be issued for competitive proposals on priorities that will be identified by the Advisory and Steering Committees, with stakeholder input. These RFAs will be issued to interested parties including commodity organizations, IPM coordinators, universities, and others who may have an interest in pest management. Underserved stakeholders and universities will be targeted. Particular care will be taken to separate the identification of priorities, writing of RFAs, and peer reviews to avoid any conflicts of interest or perceptions of conflicts of interest. The different components of the Center's competitive grant opportunities are discussed below.

Center Competitive Program Components

Western Region IPM Competitive Grants Program

The WIPMC manages the Western Region Integrated Pest Management competitive grants program. Currently, proposals are reviewed, evaluated, scored, and ranked by a peer review panel consisting of scientists who represent relevant research and extension areas. Reviewers are from regions other than the west. The review panel has consisted and will continue to consist of members from the pest management disciplines (entomology, nematology, plant pathology, and weed science) and an appropriate mix of scientists from production disciplines. Evaluation criteria are detailed in the annual RFA.

Pest Management Alternatives Program

Regional priorities for the Pest Management Alternative Program (PMAP) are gathered from stakeholders. Priorities that meet PMAP criteria are included in the regional component of the priority section of the PMAP RFA. Currently the WIPMC convenes a relevancy review panel (consisting of stakeholders in the West) to review PMAP proposals submitted by western region applicants. The Center Director is a member of the national panel and provides relevancy rankings to the technical review panel for final funding recommendations to CSREES.

IPM Issues

An RFA will be released annually from the WIPMC to fund projects addressing IPM issues and to provide leverage for additional resources targeted at priorities established by clientele.

Workgroups

Competitive proposals will be solicited from self-establishing workgroups to address information and resource needs in region-wide or broad area categories such as: cropping systems, non-crop areas, IPM measurement and evaluation, urban IPM, and other issues. Examples of potential proposal objectives include:

- Identify IPM resource needs and information needs
- Compile a comprehensive list of IPM resources related to the category addressed in the proposal.
- Develop resources and information to meet IPM needs, such as Crop profiles, IPM tactics surveys, and Pest Management Strategic Plans (PMSPs)
- Prioritize regional pest management needs or issues and make recommendations to the WIPMC Advisory Committee for possible inclusion in WIPMC RFAs.
- Develop proposals to address the priorities identified. Funding may be available from a number of sources such as PMAP, CAR, RAMP, WIPMC, Regional SARE or EPA, or Western IPM Center grants.

Information Networks

A RFA will be issued for competitive proposals to fund information networks to address the following:

- Serve as the primary information source for USDA regarding use of pesticides and other IPM tactics in all IPM settings of the state.
- Use meetings consisting of diverse groups of stakeholders interested in IPM to identify critical issues.
- Maintain a Web site for the network.
- Engage with appropriate work groups in gathering information such as IPM elements, resources, etc., and in developing recommendations for research and extension priorities.
- Facilitate effective engagement of IPM stakeholders with work groups and other components of the WIPMC.
- Aid in identification of appropriate individuals to whom to address IPM tactics use surveys, crop profiles, and PMSPs.

Networks will be encouraged to participate in the development of IPM tactics use surveys, crop profiles, and PMSPs. Participants in the networks are eligible for funds on a competitive basis from the WIPMC.

In addition, the Center Director (in consultation with the Co-Director) will have discretion to fund projects in the amount of up to \$5,000 to meet IPM needs related to emerging issues where timeliness is critical. The Advisory and Steering Committees will develop guidelines for the Director to use in deciding under what circumstances this process will be employed. The Director will report to the Center's Advisory and Steering Committees about the projects funded

through this mechanism and about the rationale for decisions to use this mechanism to provide funds to specific projects.

Regional Plan to Address Goals and Core Objectives and to Assess Progress and Accomplishments

This section lays out specific tasks, milestones, and outcomes corresponding to each of the four core objectives guiding the WIPMC. These tasks, milestones, and outcomes span all of the WIPMC's activities and serve as a plan for assessing progress and accomplishments. Also listed under each of the four objectives are corresponding accomplishments of the WIPMC's last 4-year cycle

Objective 1: Establish and maintain information networks that engage Extension IPM programs and other IPM-related programs and expertise operating at the national, state, and local levels (IPM coordinators, PSEP, IR-4, SARE, Regional Water Quality, EPA Regional Agricultural Initiative program, eXtension Communities of Practice, etc.) .

Task 1: Develop and issue an RFA for information networks.

Milestone: Funding by end of calendar year 2007 to successful applicants.

Outcome: Continuation of ability to rapidly respond to USDA information requests.

Outcome: Serve as resources for experts to participate on local, regional, and national projects.

Task 2: Continued oversight of Regional Comment Coordinators within the western region to maximize the efficiency of information flow between government agencies and stakeholders.

Milestone: Continue to develop techniques that will enhance the flow of information between stakeholders and government agencies.

Milestone: Continuation of Regional Comment Coordinators.

Outcome: Rapid and accurate responses to USDA inquiries across the West.

Outcome: Accurate information provided to ensure informed regulatory decisions.

Task 3: Participate in other existing regional integrated pest management program meetings, as appropriate.

Milestone: Facilitate communication and cooperation with existing regional and national pest management programs.

Milestone: Actively engage Tribal Nations to assess mutual needs.

Outcome: Greater cooperation and use of available resources among pest management programs.

Outcome: Greater service to underserved clientele.

Task 4: Continue active participation with state lead agencies throughout the region.

Milestone: Number of meetings attended by WIPMC participants and the issues discussed.

Milestone: Number of meetings attended by co-investigators.

Outcome: Maintenance of close communication with state programs in the West.

Outcome: Sharing of resources, where available, to address common concerns.

Outcome: Better awareness of clientele issues.

Accomplishments from previous 4-year grant:

- Competitive projects funded through the WIPMC are relevant to western IPM needs. (Appendix 6).
- Research and/or surveys conducted to address identified priorities.
- Comments provided by comment coordinators resulted in numerous specialty crops retaining uses, reasonable restricted entry and pre-harvest intervals. These underserved crops would have lost valuable pest control options, as the registrants do not always support this type of data gathering. In other situations, the uses were not important and were dropped, making room in the risk cup for needed uses.
- Comments submitted by the WIPMC comment coordinators regarding average acreage size for strawberry fields were included in the Health Effects Division of EPA to be used in recalculating worker Margins of Exposure.
- Comments submitted by the WIPMC comment coordinators clarifying use rates for 2,4-D on rangeland and pastures were used by EPA to revise the 2,4-D risk assessment.
- Development of IPM-approved tactics eligible for NRCS EQIP program and training of NRCS personnel in IPM tactics have provided opportunities for growers to receive financial incentives for adoption of IPM practices. NRCS is a state-based program, but Information Network participants from many of the western states have been involved.
- Developed new and strengthened existing multi-state communications and collaborations.
- Our Information Network participants provide a bridge for the WIPMC to state-based commodity groups that result in enthusiastic and committed participation in PMSPs and other WIPMC activities. They also provide linkages between the WIPMC and other regional programs such as 406 Regional Water Quality, state-based NRCS, and state-based Pesticide Environmental Stewardship Program.
- The Center has encouraged and provides opportunities for multi-state communication by supporting PMSPs and work groups and encouraging multi-state participation in our competitive grant programs.

Objective 2: Build Partnerships to Address Challenges and Opportunities: Involve stakeholders in identifying needs and priorities for IPM in serving agriculture, food, and natural resource systems and focus resources on addressing the identified priority needs.

Task 1: Continue to add representatives to our Advisory and Steering Committees that reflect the diversity of capabilities, institutions, and pest management issues found in the western region, and replace those who rotate off the Committees with such members.

Milestone: Continued broad stakeholder representation on the WIPMC Steering and Advisory Committees.

Milestone: Conduct a minimum of one meeting of the Advisory and Steering Committees per year.

Milestone: Continue discussions begun earlier with representatives of Tribal Nations to actively engage this sector.

Milestone: Add a member to the WIPMC Advisory Committee who represents tribal entities in the west.

Outcome: Increased communication among stakeholders and management of WIPMC.

Outcome: Recommendations to Center Director on regional priorities for competitive RFAs.

Outcome: Strengthened and more diverse advice in WIPMC..

Outcome: Ability to use a diverse group of stakeholders to set priorities for competitive funding and provide other guidance to the WIPMC.

Outcome: Increased communication among pest managers in the West.

Outcome: Better service to underrepresented sectors of western pest managers.

Outcome: Stakeholder priorities solicited and incorporated into WIPMC RFAs.

Task 2: Encourage individuals in states to join work groups representing their needs.

Milestone: Participation by all states, at some level, in work groups of the WIPMC.

Outcome: Greatest level of representation of stakeholders.

Outcome: Increased input to WIPMC on issues relating to integrated pest management.

Outcome: Greater service to stakeholders

Task 3: Develop and issue an RFA to fund work groups.

Milestone: Funding by end of calendar year 2007 to successful applicants.

Outcome: Serve as resources for experts to participate on local, regional, and national projects.

Milestone: Develop a work group RFA by end of calendar year 2007.

Outcomes: Work groups identify critical issues and contribute to the priority setting process for WIPMC RFAs. Their priorities are incorporated into the information provided to the Advisory Committee.

Task 4: Facilitate relationships with multiple government agencies.

Milestone: Provide leadership within the western region on a collaborative effort with the Department of Housing and Urban Development to provide IPM education/training workshops for government housing.

Milestone: Respond to questions from USDA and other stakeholders in a timely manner.

Milestone: Number of responses made to USDA and stakeholders and their effect on regulatory decisions.

Milestone: Serve as a member of the IPM PIPE steering committee.

Outcome: Greater cooperation on IPM education and training among government agencies with IPM priorities.

Outcome: Increased implementation of IPM

Outcome: Meeting the unique needs of western pest managers.

Task 5: Assume a leadership role in developing and maintaining constructive dialogs about IPM among multiple programs.

Milestone: Continue membership on the WSARE Administrative Council.

Milestone: Continue Administrative Advisory role to WERA-069.

Milestone: Co-Directors and Associate Director participate as non-voting members of the Center Advisory and Steering Committees.

Milestone: Continue participation on the IPM PIPE Steering Committee

Milestone: Continue participation on the Western Plant Diagnostic Network Advisory Committee

Milestone: Continue as a member of the National IPM Evaluation Group

Milestone: Continue membership on the National IPM Evaluation Subcommittee

Outcome: Enhanced communication and cooperation among pest management programs.

Task 6: Seek funding from EPA to support regional efforts to educate EPA personnel and other regulators on field issues.

Milestone: Organize classroom and field workshops for EPA staff as requested.

Outcome: EPA and other regulatory staff educated on pest management issues in the west.

Outcome: Stakeholder needs brought to the attention of regulators in a constructive manner.

Outcome: Stakeholders will feel that government agencies are listening and responding to issues of concern.

Task 7: Participate as a member of the National IPM Center Coordinating Group. Promote information flow between the regional center and the funding agency.

Milestone: The Co-Directors and Associate Director will participate in 3-4 meetings each year.

Milestone: Prepare WIPMC reports for 3-4 meetings each year of IPM Center Coordinating Group.

Outcome: Regional information and needs will be brought to the attention of USDA and the other IPM Centers.

Outcome: Coordination between regional IPM Centers on national issues.

Outcome: USDA and the regional IPM Centers will discuss current issues and make adjustments to programs, as necessary.

Task 8: Promote collaboration to minimize duplication of effort.

Milestone: Continue integration of Extension IPM (i.e., 3(d) supported) and IPM Center programs as much as possible at the state and regional levels.

Milestone: Successful integration and cooperation among pest management programs at the state and regional levels.

Milestone: Production of jointly written materials, posters, sponsored workshops, presentations, etc.

Milestone: Convene a symposium of regional agricultural and non-agricultural programs to promote collaboration within integrated pest management programs in the west and among the other IPM Centers.

Milestone: Participation in interregional projects such as PMSPs and Crop Profiles as well as emerging issues.

Milestone: Collaborate on IPM in Schools and pesticide risk reduction across the United States.

Milestone: Serve as national IPM Center liaison to IR-4.

Outcome: Greater depth and breadth of information shared through fewer outputs.

Outcome: Successful completion of symposium with resulting exchange of information.

Outcome: Greater representation of PMSPs and cost efficiencies.

Outcome: Increase in IPM adoption in schools.

Outcome: Increased communication with other national pest management programs.

Accomplishments from previous 4-year grant:

- Projects that are funded through WIPMC competitive grant programs are relevant to stakeholder needs in the West.
- The WIPMC requires all proposals to provide evidence of “stakeholder identified need.” This insures that the limited funds available are expended where the stakeholders perceive the need.
- Having a broad pool of stakeholders allows the WIPMC to focus the competitive grant program in areas that include production agriculture, natural resources and recreational environments, and residential and public areas.
- Stakeholders have direct input into regional and national priority-setting processes.
- Standardized reporting system for Regional EPA/SAI programs and IPM Centers with common indicators.
- National IPM Evaluation Committee with participants from USDA, EPA, and others developed 16 draft logic models that coincide with the National IPM Roadmap.
- Improved communication between USDA and EPA.
- The web-based OnePlan Nutrient Management module developed in Idaho is being implemented in Oregon and Vermont. This is an example of a multi-state and multi-region collaboration.
- Critical needs from PMSPs receive a high priority in the IR-4 annual priority setting process.
- The WIPMC has worked with the North Central IPM Center, which has taken the lead in developing Coordinated Pest Alerts. This is an example of a coordinated effort that reduces duplication.
- Multi-regional PMSPs.
- Collaboration between regional centers has eliminated duplication of efforts.
- A national IPM in Schools PMSP workshop was conceived in the west, funded by all 4 regions and CSREES and held in October 2006. The final PMSP will be completed in 2007. The major outcome is a plan “To implement high-level IPM in all K-12 schools nationally by 2015.”

Objective 3: Evaluate and Communicate Successes: Support assessment and evaluation efforts to document the impacts of IPM implementation throughout the region and communicate positive outcomes to key stakeholders, funding organizations, and policy makers.

Task 1: Include assessment and evaluation of the impacts of IPM implementation as a priority in our competitive grant RFAs.

Milestone: Funding of an assessment and evaluation study on the impacts of IPM implementation.

Milestone: Aggregate measurable indicators from projects that can contribute to the assessment of the impact of IPM throughout the region.

Outcome: A consistent dataset from funded projects and other data sources that can be used as indicators of IPM impacts.

Outcome: A documented study on the impacts of IPM in the region.

Outcome: Concrete methods developed to measure IPM impact.

Outcome: Increased justification for IPM programs

Task 2: Evaluate the use and efficacy of available pest management tools through further enhancement of Crop Profiles and Pest Management Strategic Plans (PMSP). Use these procedures increasingly to provide baseline data for the status of integrated pest management and issues related to integrated pest management and also as a means of measuring progress.

Milestone: Coordinate, develop, and revise Pest Management Strategic Plans.

Milestone: Issuance of RFA to solicit proposals for PMSPs and Crop Profiles.

Milestone: The Center will emphasize regional and sub-regional PMSP and Crop Profile coordination.

Outcome: PMSPs developed and made available to USDA based on priorities in the West.

Outcome: Stakeholders will have determined research, regulatory, and education needs for their commodities.

Outcome: USDA and EPA will focus research, regulatory, and education efforts based on these priorities.

Outcome: Continued support of the Regional PMSP Coordinator to coordinate the development of PMSPs on a regional/national basis.

Outcome: Contributed 198 (29%) of the 679 Crop Profiles completed nationally. Of the 116 pest management strategic plans on the national web site, 43 (37%) represent the western region.

Task 3: Promote and improve access to IPM information through targeted use of the Internet and printed material (e.g., newsletters and bulletins).

Milestone: Maintain and upgrade the regional web site that provides links to national, sub-regional, and state web sites.

Milestone: Publications of regional newsletters.

Milestone: Utilize eXtension Communities of Practice to assist in the delivery of IPM practice information to specific user groups.

Milestone: Continue the expansion of our regional Web site to provide links to established IPM programs.

Milestone: Increase the use of Internet-based resources that integrate and convey IPM information from multiple agencies to stakeholders.

Outcome: Increased availability of pest management information to the public and others.

Outcome: Reach a broader base of stakeholders

Outcome: Increased communication with stakeholders.

Outcome: Increased awareness of WIPMC and sense of participation.

Outcome: Cost efficient information to clientele.

Task 4: Communicate positive outcomes to key stakeholders, funding organizations, and policy makers.

Milestone: Participate in stakeholder meetings, workshops, and other venues to convey positive outcomes of the impact of IPM adoption on the environment, recreational areas, urban areas, and growers' arenas.

Outcome: Increase understanding by policy makers, funding organizations, and other stakeholders of the positive role IPM plays in pest management.

Task 5: Support development of a regional newsletter to report activities of the WIPMC.

Milestone: Publication of regional newsletters.

Milestone: Publication of annual reports

Outcome: Timely pest management information made available in the West.

Outcome: Greater recognition of WIPMC and resources available.

Accomplishments from previous 4-year grant:

- Demonstrated the ability and commitment of the western region to working with stakeholders in the production of PMSPs that can be used to support informed regulatory decisions and in the persuasive communication of research, extension, and education priorities.
- After the Rangeland Cattle PMSP workshop held in Bozeman, Montana in June 2005, the USDA Federal Crop Insurance Corporation (FCIC), through its Risk Management Agency (RMA) granted Washington State University \$385,425 to pursue Reduced-Risk Pest Management Strategies in Beef Cattle that included stakeholder priorities listed in the PMSP.
- Educated regulatory agencies as to the needs of growers.
- Published six editions of the *Western Front*, a newsletter of the WIPMC.
- Two annual reports published. (See Appendix 6 for latest annual report and www.wripmc.org for previous year's annual report)

Objective 4: Manage Funding Resources Effectively.

Task 1: Provide leadership for the WIPMC to ensure accountability and responsiveness to stakeholder needs throughout the western region.

Milestone: Continuation of WIPMC Advisory and Steering Committees

Outcome: Stakeholder input into the priority setting process for competitive RFAs.

Outcome: Continuation of a diverse management team.

Task 2: Conduct an annual review of all the Center's activities including subcontracts.
(Appendix 7)

Milestone: Provide a process for managing sub-awards that meets USDA/CSREES guidelines.
(See Appendix 7)

Milestone: Annual report submitted with application for continued funds each year.

Milestone: Review of Center accomplishments by the Center Steering Committee annually.

Outcome: Successful renewal of funds each year.

Outcome: Possible redirection as deemed necessary.

Task 3: Provide all required grant reports.

Milestone: Timely submission of required reports.

Outcome: USDA will have documents to support IPM programs.

Task 4: Manage regionally focused IPM grants program (funds remain at CSREES for distribution).

Milestone: Maintenance of the WIPMC competitive grants programs with input from WIPMC Steering Committee on priorities to include in the RFAs.

Milestone: Competitive RFAs issued and projects funded.

Milestone: Manage Regional IPM Competitive Grants program.

Milestone: Release an RFA annually to address IPM needs.

Milestone: Successful projects to address critical IPM needs funded.

Outcome: Funds made available to address priority issues.

Outcome: Successful resolution of priority issues.

Outcome: Stakeholders and potential problem-solvers made aware of emerging issues and given opportunity to work toward solutions.

Task 5: Recommend regional priorities for inclusion in the Pest Management Alternatives Program (PMAP),

Milestone: Conduct a relevancy review on PMAP proposals from the western region.

Milestone: Communicate the relevancy of PMAP proposals to the National PMAP Review Panel.

Outcome: Funding of PMAP projects that are relevant and reflective of western region priorities

Task 6: Maintain effective fiscal management of the WIPMC.

Milestone: Assure that funds are expended according to all CSREES funding conditions.

Milestone: Monitor and balance the expenditure of the WIPMC grant funds.

Milestone: Respond to information requests and questions from USDA or subcontract agencies regarding fiscal matters.

Accomplishments from previous 4-year grant:

- The WIPMC Weather Work Group successfully received funding in the amount of \$600,000 to expand a GIS system with weather-driven crop, disease, and pest models that will be useful in supporting IPM decisions at the field, regional, and national levels.
- Improved management practices through on-farm research and monitoring.
- Promoted registration of new control tactics.
- Identified alternative control measures to protect against the development of resistance.
- Collaboration between the WIPMC, PNW Work Group members, and the Region 10 Water Quality Program in developing a 2-day Training Workshop on the effects of pest management on water quality.
- The ability to respond to the varied needs and issues of our region is due to the fact that the PNW Work Group is geographically based, has multi-disciplinary and multi-institutional members, and provides a structure for constructive brainstorming, critique, and regional project design.
- The WIPMC Structural Pest IPM Workgroup group identified the top structural pests in each state or geographical area (WA, OR, CA, ID, NMV, AZ, HI) and developed the Structural Pest IPM curriculum. The WSU Structural Pest IPM Web site was developed and launched during this workgroup project period. The website (<http://structuralpest.wsu.edu>) provides information to clientele and stakeholders on education and resources for structural pest IPM.
- The WIPMC Small Fruits Work Group developed an insect/disease searchable database on the www.nwipm.com Web site. This is being used extensively and now has industry sponsorship to support its maintenance. The work group was directly responsible for organizing and recruiting participants in a successful WSARE Research and Education grant proposal entitled “Encouraging Sustainability in Small Fruits by Educating Producers on Scouting and Decision-making Parameters.” Lines of communication between publicly funded small fruit researchers and extension agents and the industries they serve have been greatly enhanced.
- In collaboration with scientists and stakeholders throughout the low desert areas of Arizona and southern California, the WIPMC Crop Insect Losses and Impact Assessment Work Group has provided a forum for discussion and development of crop insect loss and impact assessment in key economic crops of this region. Members of this work group were successful in their application for a multi-state USDA/RAMP grant in the amount of \$2,500,000 in 2006.

Waiver of the Matching Fund Requirement

The structure of the WIPMC, as presented in this proposal, does not provide financial support to any individual commodity; consequently, we are requesting a waiver of the Matching Fund requirement as presented in this request for application (RFA).



Integrated Plant Protection Center
Oregon State University, 2040 Cordley Hall, Corvallis, Oregon 97331-2915
Phone 541-737-3541 Fax 541-737-3080 www.ipmnet.org

13th March, 2007

Dear Rick and Linda,

I write in support of the renewal of the WRIPMC grant to UC Davis. The Western IPM Center has played an extremely important role in the evolution of the state IPM program in Oregon. It has greatly enhanced between-state and between-region cooperation, it has represented our interests to federal agencies and provided direct support for a number of key aspects of our program. I have also worked with the IPM Center as Chair of WCC-069 and as a member of the Center Advisory Committee.

Some examples of regional cooperation and coordination include the funding of regional working groups, including the Pacific Northwest IPM working group, and the Weather Workgroup, both of which I participate in. In both cases we have prepared for and obtained substantial federal grants with working group members for a regional IPM and water quality education program (iSNAP) from the USDA water quality program (\$193,000), and for multi-investigator weather forecasting and IPM decision support grant from the NRI (\$645,000).

Other examples of regional cooperation include the pesticide comments coordinator, based at WSU, who coordinates and delivers responses from our region concerning pesticide related questions that arise from federal agencies and the PNW PMSP coordinator, who is based within the IPPC. The support for continued development of PMSPs is pivotal to the success of our program, and our ability to meet IPM Roadmap goals. We have for example received \$715,000 in state, regional and federal IPM grants to date to support follow-up to the caneberry PMSP of 2002.

The IPM Center has provided direct support to Oregon, for development and delivery of our state IPM website (<http://ipmnet.org>), which has been accessed hundreds of thousands of times in its first year, and for the further development of the iSNAP regional IPM and water quality program, which now receives support from the USDA RMA.

We greatly appreciate the professionalism and efficiency of the IPM Center in coordinating grants programs and the advice that we receive. Having an unbiased, professional and reliable (i.e. timely, consistent and efficient) program that coordinates these funds greatly increases their attractiveness and encourages faculty in Oregon to apply for them.

I am very pleased to support the program and have enjoyed working with both of you in your efforts to deliver regional coordination and support for IPM.

Best wishes,

Yours sincerely,

A handwritten signature in blue ink that reads "Paul C. Jepson". The signature is written in a cursive style and is underlined with a single horizontal line.

Professor, Environmental and Molecular Toxicology and
Director, IPPC



Alaska
American Samoa
Arizona
California
Colorado
Guam
Hawaii
Idaho
Micronesia
Montana
Nevada
New Mexico
N. Mariana Islands
Oregon
Utah
Washington
Wyoming

Western SARE Program
Utah State University
Agricultural Science Building
Room 305
4865 Old Main Hill
Logan, Utah 84322-4865

(435) 797-2257
FAX (435) 797-3344
wsare@ext.usu.edu
<http://wsare.usu.edu/>

Host Institution:
Utah State
UNIVERSITY

February 26, 2007

Rick Melnicoe
Western IPM Center
One Shields Avenue
University of California
Davis, CA 95616-8588

Dear Rick:

I wanted to add my enthusiastic endorsement for your continuance as the Regional Integrative Pest Management Center.

I have been able to observe you handle the entire Western Regional program as one of your board members. I have seen you handle difficult situations with apparent ease. In addition, you always do so in a fair and equitable manner.

In my opinion, the most important element of handling a regional center (in my 12+ years of experience doing so) is that it must be handled fair and equitably. The director and the center staff must not have their own agenda. It is my feeling, in visiting with other members of the board, that you truly do manage the center without any personal agenda.

It is also apparent that you are an adept administrator, as everything is done in a timely and efficient manner. The newsletters that you produce are polished and well-crafted. You handle some very difficult situations in certain states without offending your constituency.

In addition, I have observed you as a member of the Western SARE Administrative Council. Selfishly, I would want to keep you involved as the director of the Western IPM Center because you are such a good board member for our SARE program, as well. Those same qualities of fairness and effectiveness come through in your duties as board member to the Western SARE Program.

Again, it is my wish that you continue in this position. If there is anything I can do to facilitate that, please let me know.

Sincerely,

A handwritten signature in blue ink that reads "V. Philip Rasmussen". The signature is fluid and cursive.

V. Philip Rasmussen, Ph.D., Coordinator
Western SARE Program

/jsk



DEL MONTE FOODS
DEL MONTE BRANDS

Steven S. Balling, Ph.D.
Director
Agricultural Services
Del Monte Technology Center
205 North Wiget Lane
Walnut Creek, CA 94598-2458
925-944-7377

March 7, 2007

Rick Melnicoe
Director, Western IPM Center
Department of Environmental Toxicology
One Shields Avenue
4249 Meyer Hall
University of California
Davis, CA 95616

Dear Rick:

I am writing to support your and Linda's continued leadership in directing the Western IPM Center. As a charter member of the WIPMC Advisory and Steering Committees, I've had the opportunity to watch the Center grow from a rough concept on paper to a fully functioning and vital part of the western pest management community. WIPMC has become an important nexus for information connecting growers, advisors, processors, university researchers, and government. You two have led this effort to serve as a true Center of information by being professional, thorough and hard working.

Continuity is critical to maintaining the ongoing good works of the WIPMC. Under your leadership, we have made great strides – building a strong and cohesive advisory team, expanding the network of contacts in the community, and implementing the vision for IPM. Because of the size and diversity of the Western Region, this has not been an easy task to accomplish. I strongly recommend that every consideration be given to you two as the continuing directors of WIPMC.

Sincerely,

Steven S. Balling, Ph.D.
Director, Agricultural Services

Forbes 301 • PO Box 210036 • Tucson AZ 85721-0036 • (520) 621-5308 • FAX: (520) 621-1314
cals.arizona.edu/extension

February 22, 2007

Rick Melnicoe
Director, Western IPM Center
Department of Environmental Toxicology
One Shields Avenue
University of California
Davis, CA 95616

Dear Dr. Melnicoe:

I am writing in support of continued management of the Western IPM Center by you and your staff. We have worked together in two venues - the Western Sustainable Agriculture Research and Education (WSARE) Program advisory council and the Arizona Pest Management Center (APMC) here at the University of Arizona. You have brought to both groups expertise in identifying critical and/or emerging pest management issues, and experience in working with agricultural producers and pest managers in dealing with these issues. Since you also serve as state pesticide coordinator, you have shared your experience in working with university and research faculty on the safe and legal use of pesticides as well.

You have been an integral member of WSARE and AZPMC. Your continued role as Director of the Western IPM Center will ensure our very productive relationship.

Sincerely,



Deborah J. Young, Ph.D.
Associate Director



Byron Phillips
IPM Consultant
P O Box 920 · Wenatchee, WA 98807
(509) 670-5402 byron@columbiafruit.com

February 23, 2007

Mr. Rick Melnicoe
Director, Western IPM Center
University of California Pesticide Coordinator
Department of Environmental Toxicology
One Shields Avenue
University of California
Davis, California 95616

Dear Rick,

This correspondence is in support of your proposal to continue management of the Western IPM Center.

It has been my pleasure to work with you these past few years through the WIPMC as I have served on grants relevancy review panels, the WIPMC Advisory Committee, and recently the WIPMC Steering Committee.

Through your leadership and insight, the WIPMC has successfully strengthened the connection between the USDA, production agriculture (stakeholders) and research and extension. You have guided the WIPMC to its current position as the leading source of IPM information and expertise for the highly diverse group of crop systems, disciplines, and climates in the broad Western Region that includes the geographic extremes of Hawaii and Alaska, the crop extremes of banana and dryland wheat, and the political extremes of California and Wyoming.

The unique challenges of the Western Region have been well served by the WIPMC under your leadership. A few examples of some very positive outcomes of the WIPMC include:

- The highly successful symposium *Water, Wildlife, and Pesticides in the West: Pest Management's Contribution to Solving Environmental Problems*.
- The establishment of effective workgroups that include stakeholders, such as the Pacific Northwest Workgroup and the Weather Systems Workgroup.
- The management of a grants program that has become very competitive, resulting in the submission of increasingly higher quality and more relevant research proposals.
- The WIPMC website is a powerful source of information and contacts regarding IPM issues, both specific to the Western Region and nationally.

Under your direction, the WIPMC has made significant strides in the advancement of sustainable IPM strategies in the region. This is in part because of the great job you have done in bringing diverse groups of stakeholders to the table as Advisory Committee members. It has been a valuable experience for me to sit on the Advisory Committee with other members who have different political and philosophical viewpoints, and work together toward the common goal of advancing IPM and addressing critical issues.

It has been personally rewarding for me to serve as a conduit of information between stakeholders and the research community, particularly when the diversity of each is so accurately represented by the membership of the Advisory Committee.

The future success of the WIPMC will largely be determined by its ability to continue to address emerging critical issues. Your demonstrated leadership and vision are invaluable assets in meeting future challenges.

I strongly support your endeavor to continue management of the Western IPM Center, and the continuity that represents.

Thank you,

A handwritten signature in black ink, appearing to read 'B. Phillips', with a stylized, cursive script.

Byron Phillips
IPM Consultant
Columbia Fruit Packers, Inc.
(509) 670-5402
byron@columbiafruit.com

NCAP

Northwest Coalition for
Alternatives to Pesticides



NCAP
PO Box 1393
Eugene, OR 97440
(541) 344-5044
(541) 344-6923 Fax
info@pesticide.org
www.pesticide.org

Jennifer Miller, Ph.D.
NCAP Field Office
5902 Brian Way
Boise, ID 83716
(208) 850-6504
(208) 433-1827 Fax
jmiller@pesticide.org

March 8, 2007

Rick Melnicoe
Department of Environmental Toxicology
One Shields Avenue
4249 Meyer Hall
University of California
Davis, CA 95616

Dear Rick:

I am pleased to work with you as a member of the Western IPM Center's Steering and Advisory Committees. I greatly appreciate your commitment to advancing IPM throughout the West and your careful and thorough management of the Center's activities.

I appreciated your outreach to the Northwest Coalition for Alternatives to Pesticides (NCAP), an environmental, non-governmental organization. It has been a rewarding experience to serve on the Center's Steering and Advisory Committees during the last three years. I have also appreciated the opportunity to strengthen connections with others committed to promoting IPM.

During this decade, pest management is undergoing a tremendous shift due to new direction from USDA and changing needs of the grower community. Your leadership has been a good match for the challenges of these times. You have successfully engaged many new voices, including ours, in discussions and decisions about pest management. In addition, your skill has helped the western region reorient how stakeholders work collaboratively on achieving common outcomes. Your leadership had produced noticeable progress in uncharted territory.

I regularly alert agricultural producers and researchers to the range of information the Western IPM Center provides. I was pleased to present the Center's funding opportunities at a water quality workshop this past fall in Idaho. In addition to serving on the Steering and Advisory Committee, I have valued my time participating in various grant review panels.

You have always been highly organized and effective in directing and managing the Center's activities, such as committee meetings and proposal review panels. I hope that we will be able to continue our very productive relationship with you as the director of the Western IPM Center.

Sincerely,

Jennifer Miller
Sustainable Ag Program Coordinator



IPM Institute of North America, Inc.

Harnessing Marketplace Power to Improve Health, Environment and Economics

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Chief Counsel, US
Senate Agriculture
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*2005 Children's
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Office of Children's
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*2005, 2004 Champion,
U.S. Environmental
Protection Agency,
Pesticide
Environmental
Stewardship Program*

*2003 Environmental
Protection Agency,
Region V, Award of
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Service to Schools in
Wisconsin and
Nationwide*

March 2, 2007

Rick Melnicoe
Director
Western IPM Center
Department of Environmental Toxicology
University of California
One Shields Ave.
Davis, CA 95616

Dear Rick:

This letter is in strong support for your application to continue leadership of the Western Region IPM Center. The Center has been extremely effective in the region and nationally.

Your efforts have been outstanding in the following areas where we have worked with you directly:

1. Linda Herbst and yourself have taken leadership roles in our project to develop a national school IPM strategic plan, including facilitating the development meeting in Las Vegas in October 2006. Your active participation in project team conference calls both before and after the development meeting have been key to keeping the project working efficiently and consistent with other PMSP efforts and with PMSP goals. The Center has also helped to fund this effort which will be key to achieving high-level IPM implementation in all school systems nationwide by 2015. The Center is also funding and participating in the new Western Region School IPM Working Group.
2. Active support for the SYSCO Sustainable Agriculture and IPM Initiative. The Center has contributed by participating in national briefings by SYSCO, contacting IPM Coordinators and SYSCO suppliers in the region and offering assistance, and taking a leading co-host role in the first program conference in California this month. This new and innovative program is impacting more than 400,000 acres of fruit and vegetable production nationwide and Center input and support will be critical to maximizing improvements in health,

1914 Rowley Ave., Madison WI 53726

608 232-1528, Fax 608 232-1530

ipmworks@ipminstitute.org, www.ipminstitute.org

environment and economics as we work with these food processor suppliers and growers to increase adoption of IPM and other Best Management Practices. Most suppliers have indicated they have not accessed USDA funding, technical support or other collaborative opportunities and Center involvement will be key to increasing awareness of and participation in these programs.

3. Financial support for the International IPM Symposium. The 2006 event was a great success with more than 650 participants from 23 countries participated. The 2009 event will be held in your region.

We congratulate you on your efforts and success. The region will benefit greatly from the continuity of having your leadership role renewed.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Green', written in a cursive style.

Thomas A. Green, Ph.D., C.C.A., T.S.P.
President



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

March 8, 2007

Rick Melnicoe, Director
Western Integrated Pest Management Center
4249 Meyer Hall
One Shields Avenue
University of California
Davis, CA 95616

Dear Mr. Melnicoe:

The US Environmental Protection Agency, Region 9 Agriculture Program has come to rely on our excellent working relationship with the Western Integrated Pest Management Center and the valuable services that your organization provides. Specifically, you and Linda Herbst as selection committee members for the US EPA Food Quality Protection Act Grant Program have helped steer our program funding towards pest issues and commodities that are truly in need of assistance, and have broadened our understanding of pest management challenges outside of California. We also value your relationship with the agricultural community and appreciate being able to call you when we need to work with a specific group of growers.

Our Agriculture Program finds the Western Integrated Pest Management Center to be an invaluable clearing house of information on integrated pest management issues, a trusted resource for us to send the public when we cannot answer integrated pest management questions, and a valued partner working towards our mutual goal of creating a more sustainable agriculture community.

I look forward to our continued working relationship.

Sincerely,

A handwritten signature in black ink, appearing to read "Cindy Wite".

Cindy Wite
Agriculture Program

UNIVERSITY OF HAWAII ' I A T M A N O A

College of Tropical Agriculture and Human Resources
Department of Plant and Environmental Protection Sciences

8 March 2007

Rick Melnicoe and
Linda Herbst
Department of Environmental Toxicology
One Shields Avenue
4249 Meyer Hall
University of California
Davis, CA 95616

RE: Letter of Support for Your Continued Management of the Western IPM Center

Dear Rick and Linda:

Thank you for giving me an opportunity to offer a letter of support for your continued management of the Western IPM Center. Our working relationship goes back to when you first became involved with the IR-4 and Pesticide Impact Assessment Program. It has given me a great deal of satisfaction watching you build on these two programs to create a very successful regional Pest Management Center. The success of the Western IPM Center I believe is due in part to the way you have guided the transition from the two earlier programs to the current one. You have been able to create and maintain excellent working relations with many other pest management related programs, public and private.

It has been my pleasure to work on both your Advisory and Steering committees. Although the committee members represent a wide range of interests, agencies and organizations you have successfully made all of us feel we have a vital part in seeing that the goals of the Western IPM Center are realized. As the "representative" of Hawaii and the Pacific Islands I want to thank you for your continued interest in helping us achieve our pest management needs. Our pest management issues could easily be overlooked given the relatively small size of our agricultural industries.

One area that I have been particularly impressed with is your tremendous support for our Comments Coordinator, Cathy Tarutani-Weisman. Pesticides have, and will continue to be an important part of our pest management programs. The loss of a key product could adversely affect IPM programs that have been carefully developed over many years. Providing data to EPA that helps them make informed decisions regarding use and potential impacts of cancelled uses is absolutely necessary. That service could not be provided by the regions other Comment Coordinator simply because she doesn't have the working relationships and contacts in the American Pacific, something that Cathy has developed over the past 25 years.

The Pacific Islands have also benefited from your leadership and involvement with the Pest Management Strategic Plans. For most of the crops grown in the Pacific, the PMSP process has given us our first detailed look at critical pest management needs for bananas, papaya, macadamia and watercress. Our experience with PMSP has allowed us to leverage nearly \$172,000 in funding from the Tropical Subtropical Agriculture Research program. This wouldn't have happened without your guidance.

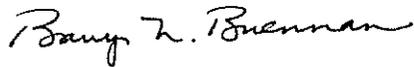
Page 2

Management is doing things right; leadership is doing the right thing (*Peter Drucker*). Rick, you and Linda have not only demonstrated leadership by doing the right thing, you have done things right and for that I thank both of you.

Although I will be retiring (again) at the end of this year, I feel very comfortable knowing that you, as Director and Associate Director of the Western IPM Center, will continue to support the pest management needs of Hawaii and the other Pacific Islands.

Best wishes for your continued success.

Sincerely yours,

A handwritten signature in cursive script that reads "Barry M. Brennan".

Barry M. Brennan
Extension Specialists Emeritus



Rick Melnicoe, Director
Western IPM Center
One Shields Avenue
University of California
Davis, CA 95616

March 1, 2007

Dear Rick:

This letter is to express our tremendous support for the Western IPM Center (WIPMC) and to encourage your continued efforts in the areas of pest management, crop production, and environmental stewardship.

The Western IPM Center has been a great asset to the California Specialty Crops Council (CSCC), our member commodities, and the growers we serve throughout the state. The activities of the WIPMC have been extremely complementary to our mission which is to provide technical representation for our member commodities and proactively participate in the transition to reduced risk pest management; the CSCC currently represents over 1 million acres of high-value horticultural crops grown in California. There are several specific examples of how we have benefited from the expertise and resources offered through the WIPMC:

- Facilitation and participation in the completion of 16 Pest Management Strategic Plans (PMSPs)
- Planned development of a PMSP for California apple production in 2007
- Annual 3-day Specialty Crops Tour (planning, input, participation)
- Re-registration and registration support for critical crop protection tools by our farmers
- Technical support on current and emerging issues for minor crops (e.g., FQPA transition)
- Funding – directly through the WIPMC grants program and/or brain-storming about outside financial resources
- Letters of support for grant activities and active involvement in our projects
- Participation in recent "Crossovers/ Sustainability" Workshop to link reduced risk pest management and natural resources conservation
- Networking through the IPM Center to coordinate with several institutions and agencies (UC researcher scientists, UC Cooperative Extension, USDA, EPA, CA Dept. Pesticide Regulation, IR-4, and others)

Our growers face significant challenges in order to be competitive in the domestic and world marketplace. These pressures are increasingly complex and we need to work as efficiently as possible with the people, information, and regulations that impact our growers and our operating environment. We view the Center as being key to creating synergies with other stakeholders in Agriculture. Please let us know if there is anything we can do to further support Western IPM Center. We sincerely look forward to continuing our very productive relationship.

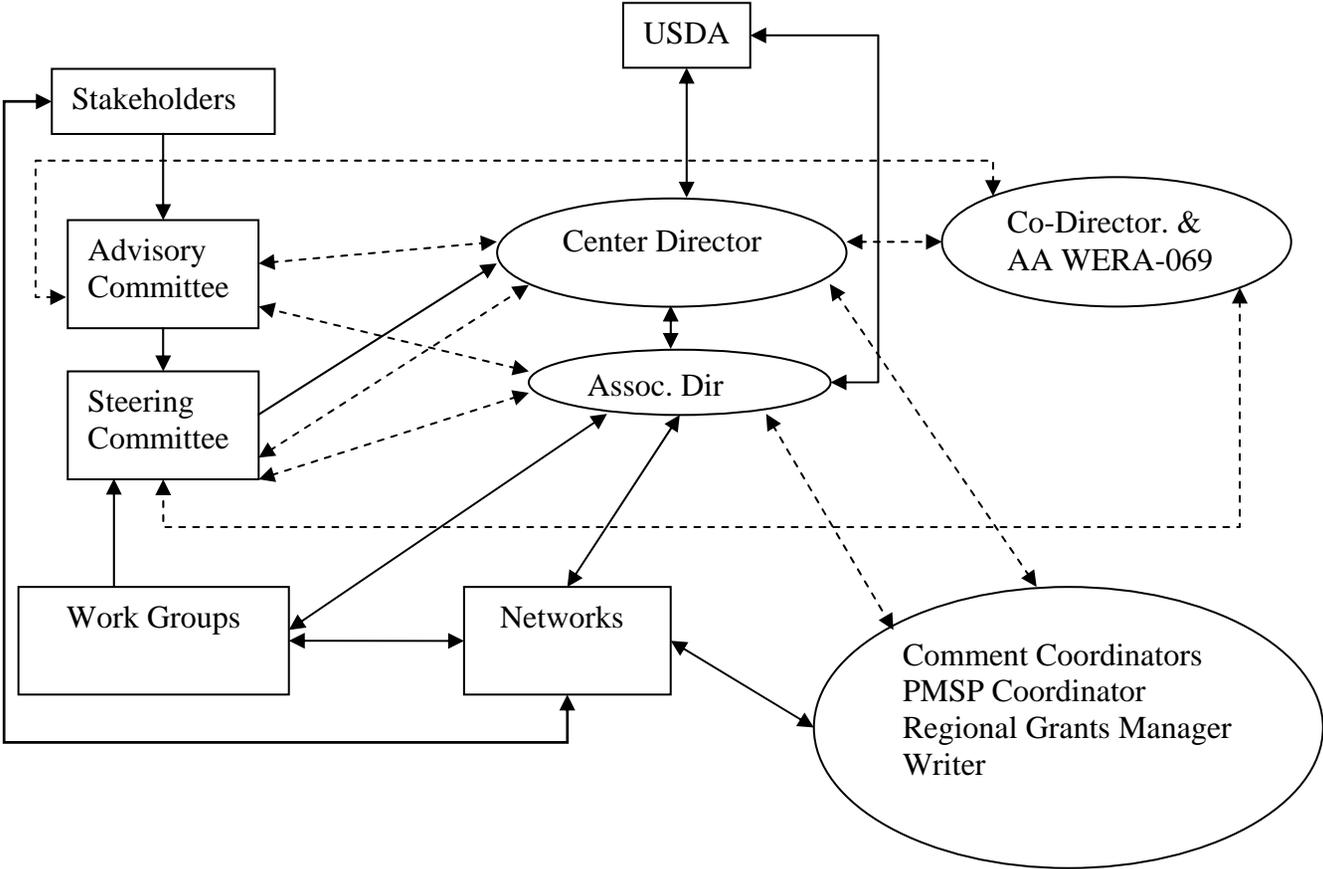
Best regards,

A handwritten signature in cursive script that reads "Lori Berger".

Lori Berger, Ph.D.
CALIFORNIA SPECIALTY CROPS COUNCIL
4500 South Laspina Suite 214
Tulare, CA 93274
Phone (559)688-5700
Fax (559)688-5527

Appendix 2

Western IPM Center Organization



Appendix 3 - Western Integrated Pest Management Center Advisory and Steering Committees

WIPMC Advisory Committee Membership (Membership Goal – 25/Current 25)
March 1, 2007

Representative	Affiliation	Focus
*Dr. Steve Balling	Del Monte Foods	Private Industry
*Dr. Barry Brennan	University of Hawaii	Pacific Rim
Dr. Charlotte Eberlein	University of Idaho	Extension Directors
Mr. Steve Ela	Ela Family Farms	Organic Producers
Dr. Al Fournier	Univ. of Arizona	IPM
Dr. Jennifer Ryder Fox	Cal Poly San Luis Obispo	Non-Land Grant
Ms. Dawn Gouge	Univ. of Arizona	IPM/Urban/ eXtension Community of Practice
Ms. Sandy Halstead	USEPA Region 10	EPA
*Dr. Michael Harrington	Colorado State Univ.	WR Ext. Dir./Exp Sta.
Ms. Linda Herbst	UC Davis (CA)	WIPMC, Assoc.. Dir.
*Dr. Tom Holtzer	Colorado State Univ.	WCC-69 Admin Adv.
Dr. Steve Hopkins	USEPA/OPP/BPPD	Federal Agency
Dr. Paul Jepson	Oregon State Univ.	State Contact/IPM/L-G
Dr. John Lloyd	University of Wyoming	Livestock/Non-crop
*Mr. Rick Melnicoe	UC Davis (CA)	WIPMC, Director
*Dr. Jennifer Miller	NW Coalition for Alternatives to Pesticides	Non-Govern Org.(NGO)
*Mr. Byron Phillips	Columbia Fruit Packers	Tree Fruits/Crop Consultant
*Dr. Philip Rasmussen	Utah State Univ.	University/Sustain. Ag.
Dr. Kristian Rondeau	USDA/APHIS	Pest Detection
Ms. Rebecca Sisco	UC Davis (WR)	University/WR IR-4
Ms. Carla Thomas	UC Davis (WR)	University/WPDN
Dr. Mandy Tu	The Nature Conservancy	Natural Areas
Dr. Doug Walsh	Washington State Univ.	University/WCC-69
Mr. Wilfred Burr	USDA/OPMP	<i>Ex Officio</i> /OPMP/USDA
Dr. Mike Fitzner	USDA/CSREES	<i>Ex Officio</i> /IPMC Proj. Leader/USDA

*Members of Steering Committee



DRAFT Western IPM Center Strategic Plan: 2007–2008

Mission	Goals	Strategies to Achieve Goals	Core Activities	Impacts
<p>The Western Integrated Pest Management Center will work with stakeholders to create collaborative relationships that identify and address critical pest management needs that are responsive to economic, environmental, and human health and safety concerns.</p>	<p>1. Identify and Prioritize IPM research, regulatory and outreach needs</p>	<p>A. Involve local and regional IPM stakeholders in identifying challenges and priorities</p> <p>B. Link the Western Region priorities to the IPM Roadmap to ensure that our priorities are consistent with national IPM goals.</p>	<ol style="list-style-type: none"> 1. Support the development of Pest Management Strategic Plans that describe current pest management practices and develop priorities that include non-agricultural settings. 2. Request priorities from WIPMC Working groups, WERA-069, Information Network project directors, and an extensive stakeholder email list. 3. Match Center RFAs to identified priorities and the National IPM Roadmap so that funded projects will meet stakeholder needs. 4. Fund information networks state/multi-states who collaborate and/or coordinate with a diverse group of stakeholders, including extension IPM coordinators, to identify critical issues. 	<p>Projects that are funded with WIPMC competitive grant programs are relevant to stakeholder needs in the West.</p> <p>Insure that the limited funds available are expended where the stakeholders perceive the need.</p>
	<p>2. Solve pest problems and reduce the risk of pest management practices</p>	<p>A. Awareness of IPM needs.</p> <p>B. Regionally focused priorities in WIPMC RFAs.</p> <p>C. Help with responses to new and emerging pest issues.</p> <p>D. Fund extension and outreach projects that motivate people to adopt IPM.</p>	<ol style="list-style-type: none"> 1. Support multi-state work groups to address information, resource, and research needs in region-wide or broad area categories including: specialty crops, major crops, non-crop areas, IPM metrics and/or impact assessments, urban IPM, cropping systems, geographical, School IPM and others. 2. Carry out the RIPM and IPM Issues grants programs: write and release the RFAs; convene the grants panels; make funding decisions. 3. Help national programs such as PMAP with grants programs. 4. Solicit proposals to bring together a group of people to address emerging issues such as a new pest, water issues, development of proposals for larger grants based on documented stakeholder needs, development of Pest Alerts. 5. Promote the development of information network web sites that provide IPM information. 	<p>Stakeholders have direct input into national priority-setting processes.</p> <p>Education takes place across state and regional boundaries.</p> <p>Improved management practices through on-farm research and monitoring.</p> <p>Promoted registration of new pest management control tactics.</p>

Mission	Goals	Strategies to Achieve Goals	Core Activities	Impacts
<p>The Western Integrated Pest Management Center will work with stakeholders to create collaborative relationships that identify and address critical pest management needs that are responsive to economic, environmental, and human health and safety concerns.</p>	<p>3. Strengthen the effectiveness of the Center & its responsiveness to regional needs</p>	<p>A. Plan strategically. Manage people and financial resources in ways that facilitate regional IPM activities and organizational efficiency.</p>	<ol style="list-style-type: none"> 1. Ensure transparency and accountability of Center processes, decision making (with stakeholders), and budgeting 2. Diversity and strengthen funding base. 3. Promote effective interaction and communication among staff and with associated groups. 	<p>WIPMC competitive grants foster collaborations and address the priorities of the National IPM Roadmap.</p> <p>Increased multi-state communication and collaborative efforts. The Center facilitates this through work groups and the development of multi-state/region Pest Management Strategic Plans.</p>
	<p>4. Develop Linkages between the WIPMC and other Regional and National Programs and Governmental Agencies</p>	<p>A. Collaborate regionally and nationally- among disciplines, states, governments, businesses, and organizations- to maximize effectiveness and minimize duplication.</p> <p>B. Support multi-state information networks, workgroups, research and extension projects to eliminate duplication of effort and guarantee efficient use of Center monies.</p>	<ol style="list-style-type: none"> 1. Maintain a representative advisory council of growers, consultants, researchers, Extension educators, governmental employees, and environmentalists. Hold annual meetings to assure the Center is addressing the needs of western region. 2. Participate in WERA-069 meetings and serve as a resource for funding opportunities and seek input in the regional priority setting process. 3. Serve on the SARE Administrative Council, which determines funded projects and creates policy, to better understand the grants process and contribute to shared goals for the West. 4. Serve on the Western Plant Diagnostic Committee to advise the Director on regional IPM Center priorities and understand the exotic pest and diseases that may be an issue in the west. 5. Participate in the National IPM Evaluation Committee that has representatives from several agencies and is involved in measuring IPM accomplishments. 6. Work with national partners to share successes and streamline efforts: Regional IPM Center Directors' meetings, conference calls, National IPM meetings, and Federal IPM Coordinating Committee. Serve on Center and national grant programs/ review panels. 7. Expand relationships with Region 10 Water Quality Program and state based NRCS programs. 	<p>Widened the WIPMC competitive grant program into areas that include agriculture but also urban and natural settings.</p> <p>Multi-agency development of logic models that address the IPM Roadmap and provide indicators for IPM accomplishments across agencies and IPM programs.</p> <p>Increased Collaborative efforts among states, regions, other regional programs and federal agencies have been formed and continue to thrive. Less duplication of efforts and maximizing funding.</p> <p>Standardized reporting system for several different agencies with common indicators.</p> <p>Improved communication between USDA and EPA.</p>
	<p>5. Share reliable information to promote sound IPM decisions</p>	<p>A. The Western Region has the highest level of specialty crop production in the U.S. and receives more requests for information than other regional center. Because of this we need to continue funding multi-state comment coordinators to respond to information requests received from USDA, EPA and other stakeholders.</p> <p>B. Development of a communication Plan that includes the web, email, publications and other media.</p>	<ol style="list-style-type: none"> 1. Fund comment coordinator positions the respond to information requests for multi-states and/or territories. 2. Fund Information Networks to serve as a resource for information about the importance of pesticides and other pest management tactics in local production systems and non-agricultural arenas. 3. Act as an information conduit between federal agencies and interested parties such as; information network participants, IPM coordinators, commodity groups, and regional comment coordinators regarding issues relevant to IPM in the West. 4. Work with information technology professionals from other IPM Centers and organizations to find automated methods of sharing IPM information. 	<p>Creating the PNW Comment Coordinator position has provided a prototype for a new and effective means of multi-state communication.</p> <p>Educated regulatory agencies as to the needs of growers.</p>

Appendix 5

Western IPM Center Competitive Funds Distribution Process

We will use the following process to distribute funds competitively through the Western IPM Center (WIPMC) during FY07-11.

Needs and Priorities (except for the Information Networks and Special Issues categories)

Needs and priorities will be determined through several methods. Needs will be brought to the WIPMC's attention through Crop Profiles, Pest Management Strategic Plans (PMSPs), Regional groups such as WERA-069, formal solicitations by the Director, growers, urban and natural systems managers, commodity organizations, university personnel and others. The WIPMC Advisory Committee will review needs and prioritize those that can be addressed through Center resources and make recommendations to the WIPMC Steering Committee. These needs and priorities will be emphasized in RFAs to be issued by the WIPMC. For needs and priorities for which Center resources are not available, other funding opportunities will be sought.

The WIPMC Steering Committee, a subset of the Advisory Committee, will develop the RFAs for all the categories listed in the Center's proposal to CSREES (Information Networks, Work Groups, Western IPM Issues and Special Issues). RFAs will reflect pest management needs within the Western Region with recommendations that have been identified by the above mentioned processes. Since Steering Committee Members are not eligible to apply for funding from any Center managed competitive grant and the process is completely confidential, this will eliminate any possibility of conflict of interest. The final draft of an RFA will be provided to Center co-directors for their approval and released by the WIPMC.

Dissemination of Funding Opportunities (except for Special Issues)

These RFAs will be direct mailed to a master list of email recipients that includes all land grant universities in the Western Region, State agricultural experiment station directors, State Extension directors, current state project leaders, commodity groups, IPM coordinators and other interested people. These individuals will be asked to further disseminate the RFA to the appropriate people within their state. It will also be posted on the WIPMC web site.

Review Process (except for Special Issues)

Review panels will review proposals for the Information Networks, Work Groups RFAs and Western IPM Issues RFA. Members of review panels will be selected from outside the Western Region depending on the expertise needed to evaluate the issues identified by the proposals. External peer reviews will be sought for any areas where expertise may be needed. These peer reviews will be part of the evaluation process during the review meeting. USDA CSREES Conflict of Interest policies will be strictly adhered to.

Review Process Criteria (except for Special Issues)

- Relevance to the Center RFA's priorities and regional IPM issues.
- Feasibility of completing the project objectives within the proposed time frame.
- Appropriateness and clarity of the requested budget.
- Backgrounds and qualifications of P.I.s, work group and network leadership in relation to the proposed objectives.

Information Networks - Needs and Priorities

The WIPMC will solicit proposals from individuals to serve as the WIPMC Information Networks. The responsibilities for this portion of our subcontract expenditures have been articulated in the Western Region grant proposal:

- Serve as the primary information source for USDA regarding use and usage of pesticides and other IPM tactics in all IPM settings of the state or states covered by the network. Respond to information request from USDA, EPA and others within a short time frame (1 day – 3 weeks).
- Utilize meetings of diverse groups of stakeholders interested in IPM to identify critical issues.
- Maintain a web site for the network. Standards for web sites will be developed by the Center and will include, at minimum, project contact information; links to the WIPMC and other appropriate entities; and a statement of sponsorship by the WIPMC.

Special Issues – Sole Source Awards

Approximately \$30,000 will be budgeted in this cost category. No single award will exceed \$5,000. This was approved by the WIPMC Steering Committee.

To allow flexibility within the WIPMC, this discretionary fund will be available to support regional issues. The Center Co-Directors will use these funds to address regional issues that require immediate response. The Co-Directors will use their expertise and experience to prioritize these issues. The Co-Directors have extensive experience in pest management within the region and will use this experience to determine appropriately qualified people to perform the task. This process will be fair, open and free of any conflict-of-interest.

Examples of possible projects:

- Regional pest alerts
- Special meetings needed to address regional and/or national issues previously not funded.

Sub Award Processing and Administration

After award selections are made for the above programs, subcontract agreements will be issued to provide funding for each project. The exception to this could be under the Emergency Issues category which may be handled by a Purchase Order as the awardees might be providing a direct service to the WIPMC. The University of California, Davis Office of Contracts & Grants Office (CGO) is responsible for the fiscal administration of grants and contracts received to fund sponsored

research and education projects at UCD. As part of these responsibilities, CGO will provide the following services to the WRIPM Center:

- Draft subcontract agreements for Project Director's (Rick Melnicoe) approval. Subcontract agreements are based on a boilerplate format in accordance with applicable laws and CSREES award terms and conditions.
- Negotiate acceptance of subcontract agreement terms and conditions with collaborating organizational representatives.
- Desk audit subcontract recipient requests for payment to ensure compliance with each subcontract agreement terms and conditions.
- Conduct reviews of subcontract recipient organization's A-133 audit reports in accordance with circular requirements.

Applications for all competitive proposals must include:

- **TITLE.** Should be brief, clear, and specific. The title must be limited to 100 spaces (letters, punctuation, and spaces between words).
- **ABSTRACT.** Must be a clear summary of the project, its objectives, and procedures for accomplishing the objectives. Include a brief statement of how the proposed project meets the RFA's priorities. This should appear on the first page and not exceed 1,000 characters or spaces in length.
- **OBJECTIVES.** A concise, complete, clear, logically arranged, and numbered series of statements defining the specific objectives of the project.
- **PROCEDURES.** There should be a numbered procedure statement to correspond with each numbered objective. These statements should outline the essential working plans and methods that will be employed in attaining each objective. Phases of the work to be undertaken concurrently should be designated. The procedure statement should show that the project needs and plans have been considered carefully and the proposed work has the potential of providing data and information that will permit accomplishing the objectives. Subcontractors must incorporate measurable goals and outcomes into their projects. This information will provide a basis for the Steering Committee's annual evaluation of the individual subcontracts.
- **CURRICULUM VITAE.** Submit curriculum vitae for the Principal Investigator and any co-P.I.s of no more than 3 pages including any relevant publications during the last 5 years.
- **PREVIOUS WORK AND PRESENT OUTLOOK.** Provide a brief summary discussing pertinent experience, the status of current work, additional information needed, and how this project is expected to contribute to this need. The nature of the project and its objectives will determine the ease of predicting success, but where feasible it is appropriate to indicate the likelihood of achieving the objectives in a specified length of time.
- **OUTCOMES.** Identify the expected results of the project and how it relates to the goals of the WRIPM Center as stated in this RFA.
- **LITERATURE CITED.** Only those publications cited should be listed in this section; 15 literature citations should be the maximum for most projects. To provide uniformity, the following format should be used: Author(s). Title. Journal. Volume. Pages. Year.
- **PROBABLE DURATION.** An estimate of the time that will be required to complete the objectives must be a component of all proposals and must be within the time limits specified in the RFA.

- **LENGTH OF PROPOSAL.** Proposals should not exceed [specified for each RFA] pages in length, excluding budgets and other attachments. Proposals must be typed in a 12 point font (Times Roman or Ariel) using 8 ½ by 11 inch paper, single-sided and single-spaced with one inch vertical and horizontal margins. Pages must be numbered beginning with the proposal narrative
- **BUDGET.** Form CSREES-2004 must be used for submitting the proposed budget. This form and others may be downloaded with the "Standard Application Kit" at: http://www.csrees.usda.gov/funding/forms_standard.html. A brief budget justification statement (i.e., Budget Narrative) is required and must provide details for each line item in the budget. Indirect costs of up to 20% of the total cost of the project can be supported by these funds. Additional details on budget issues are available, upon request, at the Western Integrated Pest Management Center office.
- **ATTACHMENTS.** Form CSREES-2002 (Proposal Cover Page) must be attached as a cover sheet. A completed form CSREES-2005 (Current and Pending Support) must also be included for each principal investigator and co-principal investigator. Both forms are available at: http://www.csrees.usda.gov/funding/forms_standard.html.
- **SIGNATURES.** Each proposal must be signed by the appropriate university/corporate officer.
- **PROGRESS REPORT.** A progress report to the Director will be due by [specified for each RFA].
- **FINAL REPORT.** A final report must be submitted to the Director by [specified for each RFA]. This report should provide the status of all the objectives in the funded project.



2006 Annual Report

Western Integrated Pest Management Center

WIPMC

Director's Comments

This is the second annual report of the Western Integrated Pest Management (IPM) Center. During the past year the Center has undergone an external review of the Regional IPM Centers, funded numerous projects, work groups, and information networks, and participated in international, national, and local meetings, workshops, and symposia.

The Western IPM Center is one of four centers in the United States. Each center is unique in the issues it addresses, but all follow the overarching guidance of the National IPM Roadmap, which identifies agricultural, urban, and natural systems goals. The Road Map is available at <http://www.ipmcenters/IPMRoadMap.pdf>. The goal of the National IPM Program is to improve the economic benefits of adopting IPM practices and to reduce potential risks to human health and the environment caused by pests or by the use of pest management practices.

Funding provided to the Western IPM Center comes primarily from the United States Department of Agriculture, Cooperative State Research, Education, and Extension Service (USDA-CSREES). This funding is used to support Center activities through several programs.

Information Networks. Information networks at the state or multistate level provide needed information about pest management needs and tactics at the local level. These networks respond to information requests from USDA and USEPA. Coordination of these requests often occurs via regional comment coordinators.

Pest Management Strategic Plans (PMSPs). Regional staff develop pest management strategic plans. These documents are used by industry and by state and federal authorities as they try to understand pest management uses and needs in agricultural settings.

Work Groups. Focused work groups are funded to address particular issues, such as pesticide resistance management, urban IPM, weather modeling and pest forecasting, and other topics. These work groups have been enormously successful in leveraging other funds to address issues identified as important in the West. Several large grants have been obtained by work group members as a result of the small support provided by the Western IPM Center.

Grants. As research and education needs are identified through the work groups and other stakeholders, the Western IPM Center is able to provide some funding via an annual grant program and through small startup grants. The small startup grants can be quickly funded to address newly emerging issues, such as diseases or other pest outbreaks.

Advisory and Steering Committees

Two standing committees guide the Center. The Advisory Committee provides vision and guidance. Its members represent a wide range of stakeholders that link the Center to stakeholder needs and priorities for pest management programs in the West. These advisors, integral to Center outreach, promote awareness of the Center's resources to their constituencies and beyond. The Steering Committee gathers input from stakeholders (including the Advisory Committee), determines broad policy goals and priorities, recommends Center budgets, and provides direction for timely and effective Western IPM Center management.

In the pages of this annual report, we highlight some of the activities and people that have made the Western IPM Center a success.

Highlights of WIPMC Grants Programs

Spatially Explicit Approaches for Measuring and Implementing Higher Level, Multi-Crop, Multi-Pest IPM

Principal Investigators: Peter C. Ellsworth and Al Fournier, University of Arizona, Maricopa; Yves Carrière, University of Arizona, Tucson; John C. Palumbo, University of Arizona, Yuma



(Photo by Jack Kelly Clark)

Problem: The investigators have developed IPM guidelines for cross-commodity management of whiteflies. These guidelines provide for sharing of important reduced-risk chemistries among major crops like cotton, vegetables, and melons to delay the development of resistance in pest populations. But adoption of these guidelines over large areas, often with multiple crops, will be required to ensure area-wide reduction in whitefly populations and to provide effective resistance management for major reduced-risk technologies.

Objectives: (1) Using newly developed spatially explicit analysis methods, quantitatively evaluate group adoption of the guidelines by Arizona growers; (2) through dialog with stakeholders, gain insight into the adoption of specific reduced-risk chemistries and other IPM behaviors in Arizona cropping systems; and (3) develop a better, more responsive approach to IPM guidelines generation, evaluation, and education.

Interim Results: Objective 1 required access to reliable insecticide use data linked to specific geographic locations for multiple agricultural crops, so the first phase of the project focused primarily on the development of these data. Partnerships established among University of Arizona Cooperative Extension, the Arizona Department of Agriculture, and USDA's Arizona office of the National Agricultural Statistics Service were instrumental in developing the data. Investigators gained access to five years of pesticide use reporting (PUR) data, including geographic references that, when combined with available geographic information system (GIS) maps, can link pesticide applications to specific areas. Investigators are developing

a database for testing spatially derived hypotheses about IPM practice adoption.

Ongoing dialog with growers and pest control advisors (PCAs) at Cooperative Extension meetings provided insights into barriers to IPM adoption (objective 2). To complete this objective, investigators will conduct further quantitative spatial analysis of the PUR data and follow-up interviews with PCAs and growers in the next stage of the project. Ultimately, the insight gained about potential adopters' IPM decisions will allow investigators to develop an improved approach to IPM guidelines generation, evaluation, and education (objective 3).

Development of an IPM Program for Arthropod Pests of Cool-Season Grass Hay Crops

P.I.s: Larry Godfrey, University of California, Davis; Doug Walsh, Washington State University



Problem: Hay from cool-season grasses, especially timothy (*Phleum pretense*) and orchardgrass (*Dactylis glomerata*), is an important crop in several western states. As the crop acreage, market demands, and importance to local agricultural economies all increase, the needs for and scrutiny of sound IPM practices have also increased in the crop.

Objectives: To investigate sampling protocols, decision thresholds, the influence of cultural practices on pest populations, and the incidence of biological control on sites in California, Washington, and Nevada, and to develop the data needed to design a baseline IPM program for major arthropod pests of cool-season grass crops.

Interim Results: Studies targeting two species of thrips and four to five species of mites were initiated in the fall of 2005 in California, Nevada, and Washington. Investigators quantified populations of these pests and the key natural enemies every 10 to 14 days in untreated timothy fields and evaluated the effects of these pests on timothy yield and on hay quality.



In Washington, mite populations have not reached numbers high enough to cause economic damage. At two locations in Nevada significant thrips populations developed but did not significantly impact hay yields; however, hay quality and visual appearance, which are of utmost importance in this market, were reduced by high thrips levels. Similar results were found in California. Investigators are evaluating methods to sample thrips populations and exploring control measures for thrips and mite pests. In a Washington timothy field, they conducted a dormant oil efficacy trial for spider mites, including winter oil, summer oil, four different insecticides/miticides, burning, and mowing. Spider mites were greatly reduced in post-treatment grass and soil samples in all treated plots, while mites increased in the untreated plots in the soil samples. Burning and mowing were just as effective in reducing spider mites as oils and pesticides. In California and Nevada, the efficacy of registered and experimental insecticides, including some organic options, was compared for thrips. Data are still being tabulated from preserved samples.

Integrated Control of Spotted Knapweed: Utilizing Spotted Knapweed-Resistant Native Plants to Facilitate Revegetation

P.I.s: Mark Paschke, Jorge Vivanco, and Laura Perry, Colorado State University; Ragan Callaway, University of Montana

Problem: Invasive plants are recognized as having severe ecological and economic impacts. Affordable long-term management methods are lacking for many of the most destructive exotic invasive plants, including spotted knapweed. Research on weed invasions has primarily focused on aboveground processes. However, it is now known that plant roots are unparalleled factories of diverse chemicals, and that the secretion of a phytotoxin by the roots of knapweed is a possible mechanism for its success in replacing native species. Understanding this below-ground chemical warfare can suggest completely new approaches to managing and restoring invaded landscapes.

Objectives: (1) To determine if plants that excrete high concentrations of organic acids into the rhizosphere (the soil region around a plant's roots) can be used to detoxify spotted knapweed soils and allow for the subsequent establishment of native vegetation. The native vegetation to be examined will include an arsenal of knapweed phytotoxin-resistant and knapweed phytotoxin-sensitive species that investigators have screened and characterized under previous funding; (2) to identify which of the knapweed phytotoxin-resistant plants identified under previous funding also produce high concentrations of knapweed phytotoxin-fighting organic acids.

Interim Results: Based upon the results of earlier greenhouse studies identifying knapweed phytotoxin-tolerant and knapweed phytotoxin-sensitive native plants, investigators have initiated two field experiments in knapweed infested areas of Montana to study the effects of different seed mixes on resistance to knapweed reinvasion. These field studies should result in recommended seed mixtures for reclaiming knapweed infested rangelands in the western United States.



Reduced Fungicide Use for Hop Downy Mildew Management

P.I.s: Cynthia Ocamb and Leonard Coop, Oregon State University; David Gent, USDA-Agricultural Research Service (ARS)

Problem: Hop (*Humulus lupulus*) is an economically important crop in the western United States, producing nearly the entire U.S. supply and greater than 30% of the world supply of hops. Hop downy mildew, caused by *Pseudoperonospora humuli*, is one of the oldest and most devastating diseases of hop and remains a serious threat to sustainable and profitable hop production. Current management relies heavily upon chemical inputs, with some growers using as many as 10 applications per season to suppress disease. The need to develop multi-tactic strategies that reduce unnecessary pesticide use is underscored by increasing production costs and concerns over food safety and environmental quality.



Objective: The overall objective of this project is to improve hop grower profitability and sustainability with reduced-risk pest management tactics that will protect hop plants against downy mildew and conserve environmental quality.

Interim Results: Investigators employed a downy mildew forecast model, developed in England, that predicts infection events in response to rainfall, hours of high relative humidity, and temperature. They found that fungicide applications applied according to this downy mildew risk index provided disease suppression similar to that of the standard grower (preventative) spray program, but with three fewer applications during 2005 and four fewer applications than the grower standard in 2006. Concentration of downy mildew spores in the air was measured with an air sampler, and weather variables were monitored. Preliminary analysis of the 2005 data suggests that of the weather variables investigated, duration of morning leaf wetness was the most accurate predictor of major infection events.

Potato IPM Scouting Manual (A Pocket Guide in English and Spanish)

P.I.s: Ronda Hirnyck and Wayne Jones, University of Idaho

Problem: There are currently no potato IPM manuals in English or Spanish that are specifically directed at field scouting.

Objectives: To develop, design, and publish a potato IPM scouting manual in English and Spanish that will fill unmet pest management needs in Pacific Northwest potato production. To provide training on the use of the manual to Cooperative Extension personnel, growers, and State Lead Agency representatives who will subsequently train farm laborers.

Interim Results: Using existing potato IPM publications and interviews with university specialists, investigators produced a preliminary outline for the Potato IPM Scouting Manual that includes a "wish list"

of pests (including insects, diseases, weeds, and nematodes) and details about when during the crop cycle each pest occurs, when scouting activities should occur, what part of the field and plant need to be scouted, and when damage is present. Investigators then compiled a preliminary inventory of photos that are needed in order to correctly identify each pest and its damage.

The group developed a sample manual and conducted a pilot workshop at the 2005 University of Idaho Potato Conference in Pocatello, Idaho. Information outlined in the sample manual included: a detailed scouting plan, a photograph identifying each pest and the damage it causes, graphics depicting where to scout for each specific pest, its economic threshold, and a place to record data. Attendees were asked to scout for the diseases outlined in the sample manual. Data recorded by the participants were collected and used to evaluate the utility and ease of use of the manual. Attendees also provided comments on how to improve the manual. Subsequent pilot workshops were conducted in Blackfoot, Grace, and American Falls, Idaho in June of 2005 utilizing the revised sample manuals.



(Photo by Reed Findlay)

Walnut Pest Management Alliance: A Research and Implementation Project

P.I.s: Carolyn Pickel and Joe Grant, University of California Cooperative Extension

Problem: Codling moth, since it is a key pest in walnuts, is the primary target for broad-spectrum insecticide use in walnut production. Water quality issues, more restrictions on certain pesticides used to control codling moth, and codling moth's increasing resistance to the most commonly used pesticides have all increased the pressure for alternative management strategies.

Objectives: The primary objective of the walnut Pest Management Alliance (PMA) is to reduce the use of pesticides in walnuts by continuing to refine the techniques for codling moth control using area-wide pheromone mating disruption (PMD).

Impacts: Special Issues

Application technology for pheromone-based mating disruption continues to evolve, and the walnut PMA is flexible enough to incorporate emerging technology.

Interim Results: In the last several years, the walnut PMA has successfully demonstrated codling moth management using PMD in a sprayable formulation applied at very low rates with a conventional orchard sprayer. In 2005, the PMA tested two different tactics for the application of PMD. The sprayable formulation was applied with a custom-made, ultra-low-volume applicator in order to reduce application costs. Also in 2005, two long-term, area-wide trials (total acreage greater than 700) were started using aerosol pheromone puffers. The aerosol puffer units are hung high in the tree canopy at a rate of one unit per two acres and are designed to emit pheromone all season. The two puffer trials continued in 2006 with the goal of reducing the use of insecticide supplements. Large-scale testing of pheromone laminate flakes was begun in 2006 at three locations. The flakes are applied with a helicopter using a custom-made bucket dispenser. The flakes stick in the tops of the trees and emit pheromone for 60–75 days.

The walnut PMA maintains a strong alliance among walnut industry representatives, University of California researchers and farm advisors, Community Alliance with Family Farmers Biologically Integrated Orchard Systems (BIOS) partners, California Department of Pesticide Regulation representatives, grower cooperators, and pest control advisors (PCAs). At the beginning of each year these groups meet to share trial results and to ensure the project is addressing current pest management issues, both locally and state wide. Insight from these partners helps the project to remain current in its focus. Input from end users, such as PCAs and growers, is especially important, as the PMA hopes to move toward wider adoption of reduced risk pest management systems.



See the Western IPM Center Web site, <http://www.wripmc.org/>, for further details about objectives, progress, and outcomes of WIPMC funded projects.

Special Issues Projects Yield Results

The Western IPM Center has an ongoing call for proposals to address special IPM issues in the West. Special issues funding may be requested to convene groups of people to address emerging issues such as new pests, water concerns, development of proposals for larger grants based on documented stakeholder needs, or development of Pest Alerts. The Western IPM Center has funded several projects under this program this year. The impacts of some of these small grants (up to \$5,000 each) are summarized below:

- Dialogue promoted between researchers and pest managers to identify future research needs for effective policy and pest management decision making.
- Teachers educated about the impacts of pesticides on watersheds and the reduction of pesticide use in and around schools. Educators received resources to implement IPM-based activities and lessons with their students and gained knowledge, tools, and incentives to incorporate activities into their curricula that improve water quality and reduce pollution.



- Long-term, sustainable pest management program developed in the Pacific Northwest for potato tuber moth (a new emerging pest). This program will be delivered to growers, extension agents, and crop consultants for immediate use.
- Leading researchers from different disciplines brought together to present information on the latest and best science related to tamarisk biology, ecology, impacts, control, and restoration.



Addressing Western IPM Issues

Newly Funded Critical Issues Projects

The Western IPM Center funded four critical issues projects, totaling \$93,475 in the fall of 2005.

The projects:

- Predator Control of Rodent Pests
Principal Investigator: Jacki Hastings, Polk Soil and Water Conservation District
- Research and Extension on Integrated Biological and Cultural Management of Canada Thistle
PIs: Fabian Menalled and Perry Miller, Montana State University; Sue Blodgett, South Dakota State University
- Development of a Yellow Starthistle Management Guide for the Western United States
PI: Joseph DiTomaso, University of California, Davis
- A New IPM Delivery Method to Increase Adoption Rates
PIs: Ronda Hirnyck, Edward Bechinski, and Steven Reddy, University of Idaho

Further information is online at <http://www.wripmc.org/>.



Collaborations

National IPM Evaluation Group

The National IPM Evaluation Group (NIPMEG) is a clear indication that collaboration is under way. Western IPM Center staff participate actively in this collaborative effort that includes representatives from EPA's Strategic Agricultural Initiative Project, the USDA/CSREES regional IPM centers, and the CSREES National Program Leaders. The work group first met at an October 2004 workshop to explore mutual EPA/USDA goals for measuring success and to create a long-term strategy for cooperation on IPM performance measurement and outcome reporting. Issues discussed included impact assessment of IPM and data sharing. NIPMEG met November 14–15, 2006 in Dallas, Texas to work together on three areas:

- to review sixteen draft logic models that were developed by the National IPM Evaluation subcommittee and to identify target outcomes and indicators by applying the logic model framework to the goals of the National Roadmap for IPM
- to evaluate the database developed by the Reporting subcommittee for reporting progress of funded projects toward those target outcomes
- to share experiences of successful collaboration with the Natural Resources Conservation Service on IPM training and implementation

NIPMEG's fourth meeting is scheduled for fall of 2007.

A Pest Management Strategic Plan for IPM in Schools in the United States

Henderson, Nevada was the setting for a national IPM in schools Pest Management Strategic Plan (PMSP) work group meeting on October 24–25. Sherry Glick, USEPA, arranged the meeting near her Las Vegas office.



(Photo by Rick Melnicoe)

During the two-day workshop, 31 participants drafted a strategic plan to meet the group's agreed upon goal of implementing high-level IPM in K–12 schools nationwide by 2015. High-level IPM implementation would include, among other

things, IPM education for everyone involved in schools, from students to administrators, and extensive use of non-chemical controls such as architectural design. Participants from public school districts, university extension, regulatory agencies, nongovernmental organizations, and industry came from all over the United States to participate in the workshop. Discussions revolved around such questions as:

- What are the pest problems?
- Where are they within a school?
- What are the management options?

- Who needs to address them?
- Who needs to be educated to achieve the goal of high-level implementation by 2015?

Tom Green, of the IPM Institute of North America in Madison, WI, is the lead principal investigator for this project. Tom anticipates completion of the strategic plan in 2007. Funding for the strategic plan workshop and publication came from all four regional IPM centers and directly from USDA-CSREES.

Pest management strategic plans were originally developed for cropping systems. They are now being expanded to address nonagricultural settings. This allows policymakers to receive input on pest management issues from the broadest array of stakeholders. The regional IPM centers recognize that supporting strategic plans, such as the IPM in Schools PMSP, brings together a wider range of experts in pest management. Our collaborations with other agencies (EPA, HUD, local governments, school districts, etc.) enhance opportunities to expand IPM.

Information Networks Solve Problems

Activities of the Western IPM Center's information networks have resulted in everything from added worker protection to retained pesticide uses for minor crops. Each information network is comprised of many people working on a variety of issues. The main functions of information networks are to:

- serve as resources for information about the importance of pesticides and other pest management tactics in local production systems and urban and natural systems covered by the network
- collaborate and/or coordinate with a diverse group of stakeholders, including extension IPM coordinators
- identify critical issues
- aid in identifying appropriate individuals to whom IPM tactics use surveys, crop profiles, and Pest Management Strategic Plans (PMSPs) should be addressed



(Photo by Rick Melnicoe)

The network participants are closely involved in many activities directly related to the mission and goals of the Western IPM Center. They serve as members of work groups; organize or assist on PMSP teams; and participate in peripheral programs such as the Interregional Research Project No. 4 (IR-4), water quality, Natural Resources Conservation Service, sustainable agriculture, and many others.

This involvement provides avenues for the Western IPM Center to understand and address stakeholder needs. Followup activities from PMSPs have resulted in several research projects, IPM manuals, pesticide registrations, and improved IPM in many crops.

New Staff

Diane Clarke Joins Western IPM Center as Writer

In August, Diane Clarke joined the Western IPM Center staff as an editor and writer for a variety of center publications, including the quarterly newsletter, annual report, Pest Management Strategic Plans, Crop Profiles, and Pest Alerts. Diane will also work on developing new informational materials and tools to support and further the Center's all-important communication component.

A University of California, Davis employee for more than 11 years, Diane began in 1996 as an administrative assistant for the Pesticide Safety Education Program (PSEP), part of the University of California

Statewide Integrated Pest Management Program. In 1998, Diane became a writer for PSEP and served in that capacity until 2004. Since then, she has worked in the International Relations Program as an academic advisor and the Office of Research as an intellectual property assistant.

Diane received her bachelor's degree in English from California State University, Fresno, and her master's degree from Fuller Theological Seminary.



Diane Clarke

Work Groups

Western IPM Center Sponsors Seven Work Groups

Western IPM Center funding currently supports seven issue-based work groups involving:

- Crop insect losses and impact assessment in California and Arizona cotton and other crops
- Western region school IPM implementation and assessment
- OnePlan IPM Planner: collaboration with Natural Resources Conservation Service (NRCS) in developing IPM guidelines as part of NRCS conservation plans
- Development of a technical work group that discusses and refines standards and protocols for the collection, analysis, and Web delivery of weather data for IPM purposes
- A Pacific Northwest small fruits work group to identify and prioritize IPM research projects
- A Pacific Northwest coalition that collaborates on a multitude of issues
- Development of a Structural Pest IPM Program and 2007 IPM Curriculum and prioritizing of research projects to be conducted at the new Structural Pest Research and Demonstration Facility at Washington State University, Puyallup



The eleven-member Structural Pest IPM Work Group includes a diversity of stakeholders from California, Colorado, Hawaii, Idaho, and Washington.

Impacts

OnePlan IPM Planner Work Group

Adoption and implementation of IPM practices to minimize environmental risks from pesticides have long been goals of pest management programs, and they are integral to the National IPM Roadmap. To attain these goals, producers must shift from traditional pesticide use to a more holistic consideration of all available IPM strategies. The OnePlan IPM Planner work group has identified that by using the USDA Natural Resources Conservation Service's (NRCS) Conservation Planning process and incorporating IPM guidelines into farm planning, growers have a planning tool they can utilize to help them make that shift. In addition, the work group helped to develop a process and system to begin incorporating these IPM guidelines into the NRCS protocols. The impacts of this work group are:

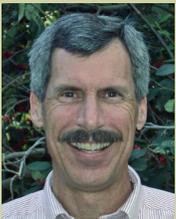
- Potential for reducing pesticide use and risk on farms.
- Input for the development of a quicker planning tool that will get farm plans promoting IPM on the ground in a more timely manner.
- Adoption of two pest management practices (green manures and field scouting) by Idaho NRCS for use with the Environmental Quality Incentives Program (EQIP). This is a first for the Idaho NRCS.

Structural Pest IPM Work Group

An eleven-member work group was established with a diversity of stakeholders from five western states (CA, CO, HI, ID, and WA). This group identified the top structural pests for each state or geographical area (AZ, CA, HI, ID, NV, OR, WA) to include in the Structural Pest IPM curriculum to be used for demonstration workshops and training programs at the Structural Pest Research and Demonstration Facility at Washington State University, Puyallup.

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Three Lead the Center



Rick Melnicoe

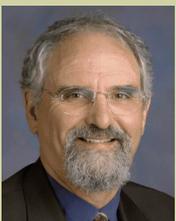
Rick Melnicoe, active in pest management issues for more than 25 years, serves as the director of the Western IPM Center (WIPMC), headquartered at Meyer Hall, University of California, Davis.

Co-director is entomologist Tom Holtzer of Colorado State University, Fort Collins, and associate director is Linda Herbst of UC Davis.

The WIPMC enhances communication between federal and state IPM programs in the western United States: Alaska, Arizona, California, Colorado, Hawaii and the Pacific territories, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

It serves as an IPM information network, designed to quickly respond to information needs of the public and private sectors.

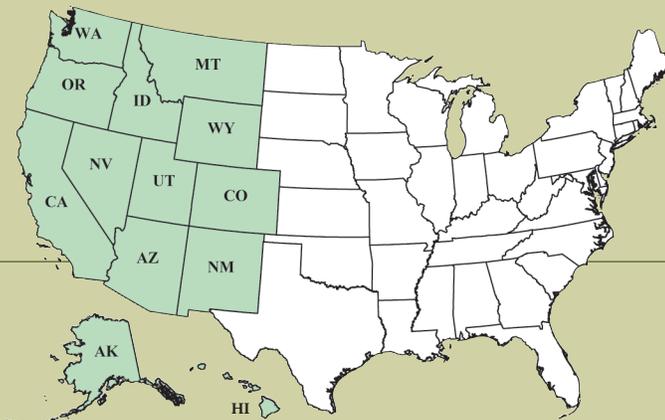
The contracted center staff includes regional comment coordinators, regional Pest Management Strategic Plan/crop profile coordinators, and an IPM regional grants manager, located throughout the region.



Tom Holtzer



Linda Herbst



Work Group Impacts—continued

Structural Pest IPM Work Group (continued)

The impacts of this work group are:

- A detailed education plan for the Structural Pest IPM Program was developed, and a two-day pilot Structural Pest IPM Workshop occurred at the Structural Pest Research and Demonstration Facility in October, 2006. There are four training programs planned for the facility during 2007 as a result of input from the participants of the pilot workshop.
 - The work group identified alternative control techniques as the top priority research need for structural pest IPM in the western United States. Alternatives to perimeter applications could reduce runoff and water contamination.
 - The curriculum developed by this work group stressed that IPM in the urban environment requires accurate identification of the pest, evaluation of the damage or health threat posed by such infestations, and a determination of conditions conducive to infestation.
- The WSU Structural Pest IPM Web site was developed and launched during this work group project period. The Web site (<http://structuralpest.wsu.edu>) provides information to clientele and stakeholders on education and resources for structural pest IPM.



Small Fruits Work Group for Oregon and Washington

The blueberry, raspberry, blackberry, and strawberry (referred to collectively as small fruit) industries in Oregon and Washington share many common pest management concerns and practices. The Small Fruits Work Group includes a balance of industry representatives, growers, and public researchers. It was formed to enhance the ability of these related crops and research institutions to make the most of their combined resources through the development of new communication tools, access to collaboration opportunities on projects, and better coordination of research priorities. The impacts of this work group are:

- Development of the insect/disease searchable database on the www.nwipm.com Web site. This is being used extensively and now has industry sponsorship to support its maintenance.
- *The Small Fruit Update* newsletter has provided a medium for disseminating the weekly input of work group members to growers, industry, and researchers.

- The work group was directly responsible for organizing and recruiting participants in development of a successful USDA Western Region Sustainable Agriculture Research and Education grant proposal entitled "Encouraging Sustainability in Small Fruits by Educating Producers on Scouting and Decision-making Parameters."
- Lines of communication between publicly funded small fruit researchers and extension agents and the industries they serve have been greatly enhanced.

Crop Insect Losses and Impact Assessment Work Group

Impact assessment is central to the evolution and evaluation of IPM programs. Quantifiable metrics on insecticide use patterns, costs, targets, and frequency; on crop losses due to all stressors that impact yield and quality; and other real world economic data (e.g., crop value) are the most objective tools for assessing change in IPM systems. Prior to formation of the work group, the investigators' efforts had been organized around cotton. This project has enabled formalization and extension of the process to melons and lettuce in Arizona as well as extension of coverage to the low deserts of California, and the project is beginning to serve as a model for establishing similar efforts in other crops, for other pest groups, and in other regions. The impacts of this work group are:



(Photo by Rick Melnicoe)

- In collaboration with scientists and stakeholders throughout the low desert areas of Arizona and southern California, work group investigators have provided a forum for discussion and development of crop insect loss and impact assessment in key economic crops of this region.
- The project serves as a clearinghouse for information and metrics on crop insect loss and impact assessment thus facilitating assessments of additional pest groups and in new areas of the West and beyond.
- These data and this work group serve to address any federal, regional, state, or local requests for information on the impact of insects or insecticides on key crops.
- This work group is directly measuring the intent of each insecticide input by asking stakeholders to identify the specific intent or intended target or targets of their management decisions and inputs.
- Members of this work group were successful in their application for a multi-state USDA Risk Avoidance and Mitigation Program (RAMP) grant in the amount of \$2,500,000 in 2006.

Western
IPM
Center

For more information on the
Western Integrated Pest Management Center, see
<http://www.wripmc.org/>

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Funded by U.S. Department of Agriculture, Cooperative State Research, Education, and Extension Service

WIPMC Projects Funded 2003 - 2007

2004

Network Projects

PI	PI - State	Project Duration	Title	Amount Funded
Jahns, Tom	AK	1 year	Alaska Information Network	25,000
Ellsworth, Peter	AZ	1 year	Arid Southeast IPM Network	25,000
McDonald, Sandra	CO	1 year	Mountain West IPM Network	25,000
Kawate, Mike	HI	1 year	Hawaii Information Network	25,000
Hirnyck, Ronda	ID	1 year	WRIPMC Idaho Information Network	24,974
Jenkins, Jeff	OR	1 year	Oregon Information Network	25,000
Daniels, Catherine	WA	1 year	Washington State Information Network	24,738
Subtotal of Network Projects				\$174,712

Workgroup Projects

Ellsworth, Peter	AZ	2 years	Crop Insect Losses & Impact Assessment WG	17,778
Jahns, Tom	AK	1 year	PNW Workgroup	13,862
Byrne, Patrick	CO	1 year	IPM Consequences of Herbicide Tolerant.....	10,000
Hirnyck, Ronda	ID	1 year	Incorp.of IPM Guidelines in NRCS Conserv. Planning	15,195
Creamer, Rebecca	NM	2 years	Curly Top Virus Biology, Transmission, Ecology WG	10,000
Jepson, Paul	OR	2 years	WRIPM Center Work group on Weather Systems	15,062
Peerbolt, Tom	OR	2 years	Small fruits Workgroup for Oregon & Washington	13,444
Hines, Rebecca	WA	1 year	The WR Urban Residential & Institutional IPM WG	9,873
Subtotal of Workgroup Projects				\$105,214

Special Projects

McDonald, Sandra	CO	N/A	West Nile Virus Pesticide Information Website	4,350
Sisco, Becky	CA	N/A	IR-4 Travel to Food Use Workshop	3,000
White, Allen	TX	N/A	of the USFWS	2,200
William, Ray	OR	N/A	Connecting practices, Priorities, and Strategic Directions	5,000
Schwartz, Howard	CO	N/A	2004 Onion IYSV - Emerging IPM Issue	5,000
Subtotal of Special Projects				\$19,550

PMSP Projects

Kawate, Mike	HI	N/A	Watercress PMSP	11,101
Jepson, Paul	OR	N/A	OR/WA Snap bean PMSP	4,864
Melban, Ken	CA	N/A	CA Potato PMSP	10,553
Hirnyck, Ronda	ID	N/A	ID,WA,OR,UT,CO, MT Sugarbeet PMSP	23,863
Subtotal of PMSP Projects				\$50,381
Total Funded Projects in 2004				\$349,857

2005

Network Projects

PI	PI - State	Project Duration	Title	Amount Funded
Blodgett, Sue	MT	1 year	Montana Pest Information Network	29,976
Daniels, Catherine	WA	1 year	Washington State Information Network	25,000
Hirnyck, Ronda	ID	1 year	Idaho Information Network	46,876
Jahns, Thomas	AK	1 year	Alaska Information Network	25,627
Jenkins, Jeff	OR	1 year	Oregon Information Network	25,000
Kawate, Mike	HI	1 year	Hawaii Information Network	26,055
McDonald, Sandra	CO	1 year	Mountain West IPM Information Network	31,778
Subtotal of Information Network Projects				\$210,312

Workgroup Projects

Byrne, Patrick	CO	1 year	Workgroup on herbicide tolerant & insect resistant crops	11,942
Hirnyck, Ronda	ID	1 year	OnePlan IPM Planner Workgroup	8,123
Jahns, Thomas	AK	1 year	PNW Workgroup	24,516
Subtotal of Workgroup Projects				\$44,581

IPM Issues

Alvarez, Juan	ID	2 years	Determination of Alternatives for Controlling Wireworms	72,039
Barbour, James	ID	2 years	Id of a sex pheromone of <i>Prionus californicus</i> , use in hop	44,047
Blodgett, Sue	MT	2 years	Microbial biopesticides for small grain & potato wireworm	59,968
Hirnyck, Ronda	ID	1 year	OnePlan IPM Planner	34,043
Hirnyck, Ronda	ID	2 years	Potato IPM Scouting Manual (English & Spanish)	44,814
Pickel, Carolyn	CA	2 years	Walnut Pest Management Alliance	59,292
Schwartz, Howard	CO	2 years	IYS Risk Index to Predict Virus & thrips in Onions	58,716
Jepson, Paul	OR	2 years	BMPs to Protect Water Quality	53,444
Vossen, Paul	CA	2 years	Monitoring & mass trapping olive fruit fly in California	59,281
Subtotal of IPM Issues Projects				\$485,644

Special Projects

Will Lanier	ID	N/A	IPM for Museums	5,000
Silvia Rondon	OR	N/A	Biology & Biological Options for Management	5,000
Dennis Searle	ID	N/A	Green Manure/Controlling Cyst Nematode in Sugar Beets	4,657
Robert Hayes	ID	N/A	Support for Mosquito Control Seminar/WNV	3,000
Subtotal of Special Projects				\$17,657

PMSP Projects

Blodgett, Sue	MT	N/A	MT, OR, WA, ID, UT, CO, AK Rangeland Beef PMSP	19,311
Hirnyck, Ronda	ID	N/A	AK,OR,WA,UT,CO,MT Forage PMSP	18,812
Hirnyck, Ronda	ID	N/A	ID,OR,WA Organic Potato PMSP	4,135
Hirnyck, Ronda	ID	N/A	PNW Revised Potato PMSP	8,515
Berger, Lori	CA	N/A	CA Garlic PMSP	5,000
Subtotal of PMSP Projects				55,773
Total Funded Projects in 2005				\$813,967

2006

Network Projects

PI	PI - State	Project Duration	Title	Amount Funded
Daniels, Catherine	WA	1 year	2006 Washington State Information Network	25,000
Hirnyck, Ronda	ID	1 year	Idaho Pest Mgmt. Center Information Network 2006	53,505
Jahns, Tom	AK	1 year	Alaska Pest Mgmt. Program Information Network	25,000
Kawate, Mike	HI	1 year	Hawai'i Information Network	45,658
Ellsworth, Peter	AZ	1 year	Arid Southwest IPM Network	25,000
Jepson, Paul	OR	1 year	Oregon Information Network - FY 2006	25,000
Subtotal of Information Network Projects				\$199,163

Workgroup Projects

Daniels, Catherine	WA	1 year	2006 PNW Workgroup on Agricultural IPM Issues	12,631
Foss, Carrie	WA	1 year	The Western Region Structural Pest IPM Workgroup	9,750
Ellsworth, Peter	AZ	1 year	Crop Insect Losses & Impact Assessment Working Group	9,000
Peerbolt, Thomas	OR	1 year	Small Fruits Working Group for Oregon & Washington	7,000
Mahaffee, Walter	OR	1 year	Western IPM Center Workgroup on Weather Systems	10,000
Subtotal of Workgroup Projects				\$48,381

IPM Issues Projects

Hastings, Jackie	OR	1 year	Predator Control of Rodent Pests	20,000
Menalled, Fabian	MT	2 years	Management of Canada Thistle	47,126
DiTomaso, Joe	CA	1 year	Yellow Starthistle Mgmt. Guide for the Western U.S.	24,000
Hirnyck, Ronda	ID	1 year	A New IPM Delivery Method to Increase Adoption Rates	26,325
Subtotal of IPM Issues Projects				\$117,451

Special Projects

Searle, Dennis	ID	N/A	Green Manure/Controlling Cyst Nematode in Sugar Beets	4,927
Daniels, Catherine	WA	N/A	Table Beet Seed Crop Profile	450
Daniels, Catherine	Wa	N/A	Cabbage Seed Crop Profile	450
Baker, Paul	AZ	N/A	Arizona Cotton Production Pesticide Use Project	5,000
Subtotal of Special Projects				\$10,827

PMSP Projects

Jepson, Paul	OR	N/A	OR, WA, ID Grass Seed PMSP	8,875
Ellsworth, Peter	AZ	N/A	CA/AZ Desert Cotton	11,996
Green, Tom	WI	N/A	National IPM in Schools PMSP	10,000
Subtotal of PMSP Projects				\$30,871
Total Funded Projects in 2006				\$406,693

2007

Network Projects

PI	PI - State	Project Duration	Title	Amount Funded
Bierman, Peter	AK	1 year	Alaska Pest Mgmt. Program	25,750
Blodgett	MT	1 year	Montana Pest Information Network	24,228
Daniels, Catherine	WA	1 year	2007 Washington State Information Network	25,000
Ellsworth, Peter	AZ/NM/NV	1 year	Arid Southwest IPM Network	25,000
Hirnyck, Ronda	ID	1 year	Idaho Pest Mgmt. Center	46,648
Jenkins, Jeff/Paul Jepson	OR	1 year	Oregon Proposal in Support of the USDA WIPMC	25,000
Kawate, Mike	HI	1 year	Hawaii Information Network	41,300
McDonald, Sandra	CO/WY	1 year	Mountain West Information Network	35,000

Subtotal of Information Network Projects \$247,926

Workgroup Projects

Daniels, Catherine	WA/OR/ID/MT/UT	1 year	2007 PNW Workgroup on Agricultural IPM Issues	10,210
Ellsworth, Peter	AZ/CA	1 year	Crop Insect Losses & Impact Assessment Working Group	14,000
Gouge, Dawn	AZWA,OR,MT	1 year	Western Region School IPM Work Group	10,000
Mahaffee, Walter	CA/OR/WA	1 year	Western IPM Center Workgroup on Weather Systems	10,000

Subtotal of Workgroup Projects \$44,210

IPM Issues Projects

Gervais, Jennifer	OR	5 months	Developing a monitoring strategy for voles in agriculture	16,330
Kemple, Megan	OR	1.5 years	IPM Strategies for Parks Maintenance Staff in the PNW	29,850
Krebs, Jennifer	CA	1 year	BMPs for Local Government IPM Contracting Toolkit	60,000
Peerbolt, Tom	OR	1.5 years	Monitoring Pgr. for root weevils/blueberries & strawberries	49,678
Pickel, Carolyn	CA	1.5 years	Walnut Pest Mgmt Alliance	58,217

Subtotal of IPM Issues Projects \$214,075

Special Projects

Hirnyck, Ronda	ID	N/A	Joint Meeting of PNW Workgroup and Regional Water Quality	3,625
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Subtotal of Special Projects 3,625

Total Funded Projects in 2007 \$509,836

Total Funded Projects 2003 - 2007 \$ 2,080,353