Pollution Prevention in Agriculture:
Pesticide Use Reduction

Pacific Northwest
Pollution Prevention Research Center

Funded by the Idaho Division of Environmental Quality
The Pacific Northwest Pollution Prevention Research Center (PPRC) is a public nonprofit organization serving Alaska, Idaho, Oregon, Washington, and British Columbia. The PPRC sponsors research on pollution prevention, analyzes available technology, hosts forums, acts as an information clearinghouse, and serves as a link between public and private groups.

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Above all, the PPRC wishes to thank the roundtable attendees (listed in Appendix A) for their willingness to share the information, ideas and suggestions that form the basis of this report.

The opinions, findings, and conclusions or recommendations expressed in this report are those of roundtable attendees and do not necessarily reflect the view of the PPRC or its supporters.
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INTRODUCTION

The Pacific Northwest Pollution Prevention Research Center (PPRC) held a roundtable discussion on October 18, 1994, in Boise, Idaho, on pollution prevention issues in the Idaho agriculture industry as related to pesticide use. The purpose of the roundtable was to share pollution prevention experiences and to develop recommendations for future research or other projects. Participants included representatives from the grower community, government, public interest groups, universities and the agricultural chemical community. Support for the roundtable was provided by the Idaho Division of Environmental Quality.

Following a statement of the meeting goals and an introduction of the organizers and attendees, the roundtable participants discussed current practices in pesticide use, and opportunities and trends in pesticide use reduction. The attendees then formed smaller breakout groups that identified major barriers to pesticide use reduction and proposed potential solutions to overcome these barriers. The breakout groups reported back to the whole group. Then, all the participants made joint recommendations regarding future research or other projects that are needed to help growers reduce pesticide use while maintaining viable businesses.

This report includes a brief background section on pesticide use in the agriculture industry in the Northwest, a summary of the meeting, and recommendations for future research or other projects. It is important to note that with the exception of the background section of this report, the information presented was obtained from the attendees during the roundtable discussions. Therefore, from a reader’s perspective there may be gaps in the information presented due to the areas of expertise, areas of interest or opinions of the round table participants. For this reason, additional sources of information are presented in Appendix B. The list of roundtable participants is included in Appendix A.
NORTHWEST AGRICULTURE INDUSTRY

Background
Agriculture is a major industrial sector in the Northwestern United States. Thousands of jobs are provided by the industry, and the region is famous for its agricultural products, such as Idaho potatoes and Washington apples. Successful farm managers (growers) have a number of challenges they must overcome to maintain functional and profitable farms. One of the major challenges is preventing and controlling pest problems, which can partially damage or completely ruin growers’ crops.

While the most prevalent image of an agricultural pest is the insect, damaging pests can also include weeds, nematodes, plant and animal disease agents, and rodents. Plants, animals, and microbes become “pests” when they cause economic, health or aesthetic problems for humans (Beyond Pesticides - Biological Approaches to Pest Management in California).

Since the 1950s, most growers in the United States have preferred to use synthetic chemical pesticides to control crop pests. There have been several reasons for this preference. The efforts of pesticides on pest populations has often been immediate and dramatic. Pesticides have been relatively easy to obtain and use, and the environmental impacts and health concerns related to pesticide use were not well understood. Through the use of pesticides, growers have been able to simplify the management of large farms, extend growing seasons and produce more consistent, higher-quality products (Beyond Pesticides - Biological Approaches to Pest Management in California).

Since the 1970s, the trends in pesticide use have been mixed, with herbicide use increasing and insecticide use decreasing. According to estimates of the U.S. Environmental Protection Agency, pesticide use has begun to level off and may be showing a downward trend. Usage patterns are affected by changes in pest biology (including the development of resistance to pesticides), and legislative and regulatory action following the discovery of negative effects on water quality and the environment. As many pesticides were determined to be harmful to human health and/or the environment, and have in some cases become problematic by their presence in groundwater supplies, pesticides have come under more scrutiny and some have been banned by the government. In addition, the number of species resistant to major classes of pesticides has increased dramatically in recent years; some pesticides are becoming obsolete as pests develop genetic resistance to them. These factors have increased the need for alternative approaches to controlling pests.

To address this need, research projects and other activities have been undertaken to make a transition toward using less pesticides in pest control. This roundtable discussion, for example, was held to develop recommendations to assist researchers and others who are pursuing projects intended to help growers reduce their use of pesticides while maintaining profitable operations.

Current Practices, Projects, and Views
During the first part of the roundtable, participants were asked to talk about their current views, and the activities with which they are involved related to pesticide use reduction. A number of current issues, practices, and projects were discussed, and the main topics are summarized in this section.
Sources of Information for Growers
The roundtable participants were asked to discuss the sources of information growers use to assist them in making decisions related to agricultural pesticide use. According to participants, growers obtain information from a number of sources. Understanding these sources can assist researchers and others in their efforts to successfully disseminate research results and other types of information. Sources of information cited by participants include:

- **Other Growers ("Coffee Shop Discussions")** - The growers in attendance cited their peers (other growers) as one of their main sources of information regarding pesticide use, because information from fellow growers is typically based on actual field experience. However, one of the growers said that since growers may be in competition with each other, information that gives one grower a competitive edge may be withheld. In addition, one grower said he may view some of his peers as unorganized, not technically competent, or prone to exaggeration, and their recommendations regarding chemical usage are taken with reservations.

- **Agricultural Chemical Field Representatives and Other Vendors** - For many growers, agricultural chemical field representatives and other vendors, such as farm equipment suppliers, are a major source of information. Meeting participants said this is especially true for smaller farms, where budgetary constraints do not allow for the hiring of outside consultants or in-house technical staff. Some vendors at the meeting said they provide pest control assistance as a free service included with the purchase of their products. When growers find a vendor they trust, the vendor can become their primary source of technical information. One of the growers at the meeting acknowledged that the downside of vendor-provided information is the risk of doing business with a “snake-oil salesman” (getting poor advice). A U.S. Department of Agriculture representative said the USDA is responsible for regulating all agricultural chemical vendors, and has been reasonably successful at holding these vendors accountable for product performance.

- **Outside Consultants** - For many growers with large farms and growers who have a specific need and the available financial resources, consultants can be a significant source of information. According to an independent consultant at the meeting, independent consultants often work with a farmer to develop a pest-control strategy for his or her entire farm, and visit the farm on a regular basis. It was noted by one of the meeting participants that farms in the Midwest use consultants more often than farms in Idaho because there are many more large farms in the Midwest.

- **Grower Organizations** - In Idaho, organizations such as the Potato Growers of Idaho provide information to their members through meetings, and may fund research efforts intended to assist members. All meeting participants agreed that people interested in disseminating information to particular grower communities should coordinate closely with these organizations, and possibly make presentations at grower meetings. One example of coordination with grower organizations is the potato school and bean school that is delivered through the University of Idaho and the respective grower associations. These are typically three-day courses held once a year that teach growers effective farm-management approaches and growing techniques (for more information on potato school and bean school, refer to Appendix B).
Government Field Staff -- Extension agents from government organizations such as the University of Idaho Extension Service and the Soil Conservation Service provide regular technical assistance to growers on a broad range of issues, including pest control. Many of these extension services are based at and coordinate closely with university agriculture departments. Field staff representatives at the meeting said they are responsible for large geographic areas, and do not focus solely on pesticide use. Therefore, they are not always able to provide detailed pest control assistance. According to one extension agent, government field staff provide a generally neutral perspective regarding pest control alternatives and are available at no charge to the grower community, which makes them an important source of information for some growers.

Information Mediums Used by Growers
According to roundtable participants, the largest mediums for information exchange among growers remain verbal exchanges and printed materials, as opposed to obtaining information from computer databases or online services. Verbal exchanges take place in informal and formal discussions, meetings and classes. Printed information is sent to growers by the university extension services, vendors, field agents, consultants, and others. However, one grower noted that an increasing number of farmers are using personnel computers to access and retrieve online information (about one-third, according to the growers present). While this medium was not currently considered a primary mode of information transfer, most meeting participants agreed that it is rapidly becoming a increasingly important way for growers to access information.

Pesticide Use and Integrated Pest Management
For most meeting attendees, discussion of pesticide use reduction is essentially a discussion of integrated pest management (IPM). IPM is a decision-making process that can be used by growers to reduce pesticide use by evaluating the need for controls of pests on their fields and evaluating all available alternatives to controlling those pests. This definition is broad and is by no means “official,” but more a synthesis of the definitions presented at the meeting. Many of the attendees stated there is a need to agree on a definition of IPM, and communicate this definition to the stakeholders that work in the agriculture industry. Apparently, both farmers and field agents said many growers are intimidated by IPM because they believe it is an approach in which no pesticides are used. The general consensus among meeting participants was that IPM approaches do not eliminate the use of pesticides.

Projects
A number of regional activities that were recently completed or are currently underway were discussed, including:

IPM Forum in Idaho Falls -- This meeting was a regional potato growers IPM workshop that was organized by the National Foundation for IPM Education to provide an opportunity for potato growers and pest control advisors to share their perspectives on how to increase adoption of IPM practices through the identification of constraints and potential solutions. Information from the forum is being used to help develop a national strategy for IPM implementation. According to Ed Bechinski from the University of Idaho, who attended the IPM forum, the participants at the forum identified the main constraints to the widespread adoption of IPM, as well as solutions to the constraints. The top constraints and solutions include:
Constraints:
1. Grower’s economics (alternatives must be profitable).
2. Antagonism between growers, consumers, public interest groups, and the media.
3. Lack of consumer education about potential quality loss with IPM practices.
4. Misunderstanding of IPM and what its goals are by many parties affected or involved.
5. Lack of a holistic approach.
7. Insufficient research/extension funding for demonstrations.
8. Lack of incentives for increased implementation of IPM.
9. Loss of safer chemicals (due to government registration costs that inhibit the introduction of new chemicals).
10. No proven pesticide substitutes.
11. Lack of government support for IPM growers.

Solutions:
1. Eliminate/replace the Delaney clause of the Federal Food, Drug and Cosmetic Act (FFDCA) to allow for negligible risk. (The Delaney clause in section 409 of the FFDCA provides that no processed food tolerance may be approved for any chemical found to induce cancer in humans or animals.)
2. Have incentives for manufacturers to bring to market new materials for minor crops. Minor crops include fruits and nuts, vegetables, ornamentals, trees, and turfgrass.
3. Develop worldwide food standards that imports have to meet to level the playing field for domestic growers.
4. Educate regulators about current practices to provide a sound framework for policy development.
5. Have crop insurance for expanding/testing IPM to cover losses in farmers’ fields.
6. Educate the media about farming practices and IPM, and hold them accountable for accuracy in their reporting.
7. Institute change using good science that includes feasibility and profitability analysis.
8. Have growers be more proactive about trying alternatives to pesticides.
9. Have the agriculture industry as a whole become more proactive and take advantage of the opportunity that currently exists to help form future strategies for the industry.
10. Develop a dedicated national IPM extension system for growers, processors, and consumers.
11. Increase public education of IPM.
12. Expand research and development of alternative crops.
13. Label IPM-grown crops in a marketplace where they command a premium price.
14. Seek funding from public interest groups to help finance IPM.

The constraints and solutions identified at the IPM forum significantly overlap with barriers and solutions identified from the roundtable on which this report is based.

Grower Association-Funded Research Projects -- Associations such as the Idaho Potato Commission have funded research, including projects at the University of Idaho. Projects include investigation of chemical use reduction in storage of crops, drip irrigation, use of nematodes as
pest predators, erosion control, and irrigation/fertilizer monitoring. A grower association representative stated a need for long-term rotational research, which the association has been unable to get universities in Idaho to do. He also expressed a frustration with the failure of academic research to address real world needs. For example, tests conducted at localities convenient to researchers may not yield transferrable results to other areas. Researchers at the meeting said they are conducting a number of field-oriented projects, and have received and continue to receive support from grower associations.

- **Public Interest Group Coordinated Projects** -- There are a number of public interest groups in the region that are working on projects related to pesticide use. A representative from the Northwest Coalition for Alternatives to Pesticides (NCAP) described a project the organization is conducting in cooperation with potato growers in southern Idaho to identify barriers to pesticide reduction. Another public interest group, the Palouse-Clearwater Environmental Institute (PCEI), which was not present at the meeting, supports Farm Improvement Club projects that include cooperative research to develop improved cropping systems to reduce soil erosion, water and nutrient loss, and chemical inputs, as well as increase crop diversity. The meeting participants agreed that these types of cooperative projects between public interest groups and growers will have the most positive impact toward making progress in pesticide use reduction, as opposed to the often antagonistic approaches taken by some public interest groups.

**Issues for Organic Growers**
The number of independent organic growers in Idaho is relatively small, and there is no strong support network in place for these growers, according to one organic grower from Idaho. The organic grower said he looks for applied information (actual detailed, field-test results from other farmers) on pest management to use at his farm. This information, however, can sometimes be difficult to apply to his farm because pest control issues can be very site specific. The organic grower also said the market for organic products is not as large as some people may think; many of their products are currently shipped to California or restaurants through direct sales due to a lack of local consumer demand. At this time, he said, the overall vegetable and fruit market is more driven by demands for low price and consistent product than environmental concerns.

**CHALLENGES & RECOMMENDATIONS**
The main afternoon segment of the roundtable consisted of the participants organizing into multi-stakeholder breakout groups of five to six people to identify challenges and potential solutions related to pesticide use reduction. The solutions identified were then discussed by the group and a final set of recommendations were agreed upon. The key challenges and recommendations that were identified are listed in the order in which they were discussed at the meeting.

**Challenges**
Roundtable participants identified a number of barriers to continued pesticide use reduction. The main challenges include:
Confusion Related to the Definition and Goals of IPM
As discussed earlier in this report, most roundtable participants think of IPM as pesticide use reduction, but there was no clear consensus as to a definition of what IPM is. There is a concern by some growers that IPM means no pesticides can be used. Other growers who know this is not true worry that other stakeholders have this incorrect view. Roundtable participants agreed both “IPM” and the broader “sustainable agriculture” terms have become too politicized, which has lead to a polarization of stakeholders.

Incorrect Approach of Some Research and Development Projects
There were a number of criticisms regarding research. Specifically, growers expressed a dissatisfaction with some university research. According to participating farmers, university research does not focus enough on alternatives, is not goal-oriented, and does not take a holistic enough approach. It is too often done by researchers operating independently, and who have only occasional meetings with growers to provide project updates. Instead, participants stressed, researchers should be directly engaging growers and involving them in the projects. The other problem identified by growers is that economic analysis is not always considered early enough in the research process. While alternative approaches may prove to control pests as well as the use of chemical pesticides, growers will rarely implement the alternatives if they are not economically viable. According to the growers present, economic viability is essential because the farmers’ profit margins are very small.

Not Enough Consumer Education
Roundtable participants felt that consumers have a limited understanding of pesticide use issues, and do not have a good understanding of how each factor contributes to the cost of the food they buy. For example, one grower said that a $1 loaf of bread consists of $0.05 in wheat sales for the grower. The remaining $0.95 goes for processing, shipping, and packaging costs, as well as profits for processors and retailers. The $0.05 received by the grower is used to pay for land, equipment, fertilizer, labor, supplies, seed, taxes, insurance, repairs, and other expenses. One grower said that in a good year he receives $0.005 - $0.01 profit out of the $0.05. In a bad year, expenses are not covered and profits from good years must make up the losses. Participants expressed that if consumers understood how little profit goes to the farmers, they may put more pressure on processors and researchers to support agriculture research. An example mentioned by a grower was that McDonald’s makes millions in profits each year from selling french fries, but to his knowledge puts no funding toward agriculture research.

Lack of Protection for Growers Willing to Try Alternatives
The participants said that growers who are interested in trying alternatives to pesticides, including actual field trials of new approaches, are often unwilling because of the financial risks involved. If a new approach is tried that has less environmental impact but the crop is lost, the financial burden rests solely on the growers.

Negative Relationship Between Public Interest Groups and Growers
Growers said that because some public interest groups have taken a very “attack-oriented” approach to pesticide use reduction many growers have become very resistant to change. An adversarial approach was viewed by the participants as a barrier to pesticide use reduction. There was acknowledgment that some public interest groups have taken a partnership approach with growers, which has been very successful (see public interest group projects discussed on page 6).
**Lack of Funding for University Extension Agents and Other Government Field Staff**

The participants said that the limited resources of the field agents has led to little support for many growers, especially those who produce minor or specialty crops. Minor crops include fruits and nuts, vegetables, ornamentals, trees, and turfgrass.

**Difficulty in Registering New or Reregistering Previously Approved Chemicals**

The long, expensive process that companies must go through to get a chemical registered with the federal government for agricultural application as a pesticide has prevented improved products that are more environmentally benign from replacing existing products that are already registered. The 1988 amendments to Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) require that all pesticides and their uses registered prior to 1984 be reregistered by the end of 1997 and brought up to current registration standards. Reregistration means filling the data gaps that exist for most of the older pesticides. Because of the extensive testing required, reregistration will cost millions of dollars for most older materials. This has created a state of limbo for many materials as agrichemical companies decide whether it is economically feasible to reregister the pesticides they manufacture. Many uses of pesticides have already been lost, particularly for minor and specialty crops where the amount of pesticide sales does not justify registration costs (*Beyond Pesticides -- Biological Approaches to Pest Management in California*).

**Recommendations**

Based on the identified challenges, roundtable participants agreed on the following recommendations:

**Make Research Projects More Holistic and Inclusive**

There were no significant recommendations by roundtable participants for specific types of projects that should be done, with the exception of the need for more, long-term projects that look at crop rotation as a way to reduce pesticide use. The major recommendations related to how research projects should be approached and conducted. Participants said that research on pesticide use reduction needs to take into account the entire agriculture process and include the beneficiaries of the research (the growers) in the process from the start.

The participants felt that more projects are needed that are “field oriented” and conducted on growers’ fields, with oversight of the project being conducted cooperatively between the researchers and the growers. Results from these projects would be more directly useful and understandable for other growers. There was general support at the roundtable for taking a “team approach” to research projects because it was felt that buy-in by different stakeholders will lead to a greater chance of actual field implementation of the alternatives being investigated after the research is completed.

In addition, participants recommended that economic analyses of the alternatives being investigated be incorporated into the projects early in the process. Growers said that widespread adoption of pesticide alternatives will not happen voluntarily unless the economic viability of the alternatives is proven. This also supports the recommendation for field projects on growers’ farms because the economic data gathered will usually be more accurate than forecasted economics based on limited field tests.
Clarify IPM Definitions and Policy Through Education Projects
Attendees conveyed that there should be efforts to educate growers, consumers, and other stakeholders about IPM and the costs associated with an IPM approach. IPM best management practices need to be refined and disseminated to growers. It was suggested that growers be engaged through grower association meetings and that consistent information on IPM be presented during education programs already in place, such as the potato school and bean school that many growers attend at the University of Idaho. Meeting participants stated that consumer education about IPM and other pesticide use reduction needs to make consumers aware of the potential increase in cost (at least in the short term during a transition phase leading toward minimization of chemical inputs) of produce to allow for a more environmentally benign product.

Improve Communication and Collaboration Between Agriculture Industry and Public Interest Groups
It was agreed that more cooperation between the agriculture industry and public interest groups would increase the chances of both groups’ goals being achieved. It was suggested that each group make contact with the other, and look for opportunities to participate in meetings together and engage in discussions. Participants recommended that when contemplating anew research project, public interest groups should invite growers to participate in the project with them and obtain buy-in from growers to maximize the success of their projects. Grower projects should engage the public interest groups to avoid criticism of their efforts.

Promote Financial Incentives for Alternative Practices
The group felt that growers who are willing to be “trail breakers” (try unproven alternative approaches) should not have to bear all the risks of their efforts. It was agreed that as growers find alternative approaches that work and are economically favorable others will quickly follow their lead, but before an alternative becomes “proven” growers will not risk going bankrupt to reduce pesticide use. According to meeting participants, growers trying alternatives need tax credits or crop insurance to cover their losses if the approach is not considered effective and they lose all or part of their crop(s). Tax credits and crop insurance would promote innovation and a quicker transition to viable, alternative approaches to pesticide use.

Improve the Registration Process
The participants recommended that a more cost-effective pesticide registration process be implemented. This would allow more “environmentally friendly” pesticides to be brought to market cost-effectively.
Appendix A:  
Roundtable Attendees

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Appendix B:  
Additional Sources of Information

Pacific Northwest Agriculture Resources

Alaska

Alaska Consolidated Farm Service Agency  
800 West Evergreen, Suite 216  
Palmer, AK 99645  
907-745-7982  
The U.S. Department of Agriculture’s state office that coordinates many agriculture-related government programs and grants.

Cooperative Extension Service  
University of Alaska- Fairbanks  
P.O. Box 756180  
Fairbanks, AK 99775-6180  
907-474-7246  
This Cooperative Extension Service office coordinates all county extension agents that provide technical assistance to growers throughout the state.

Alaska Division of Agriculture  
P.O. Box 949  
Palmer, AK 99645-0949  
907-745-7200  
The division contains all the state agriculture registration and inspection programs.

School of Agriculture and Land Resources Management  
University of Alaska- Fairbanks  
P.O. Box 757140  
Fairbanks, AK 99775-7140  
907-474-7083  
The main University-based education and research program in the state.

Idaho

Idaho Consolidated Farm Service Agency  
3220 Elder St.  
Boise, ID 83705-4711  
208-334-1486  
The U.S. Department of Agriculture’s state office that coordinates many agriculture-related government programs and grants.
Cooperative Extension Service  
University of Idaho  
College of Agriculture  
Moscow, ID 83844-2338  
208-885-6639  
208-885-6654 (fax)  
This Cooperative Extension Service office, which is located at the University of Idaho, coordinates all county extension agents that provide technical assistance to growers throughout the state. This office can also provide information about the annual potato and bean school programs. The Cooperative Extension Program receives funding from and is associated with the U.S. Department of Agriculture.

Idaho Department of Agriculture  
P.O. Box 790  
Boise, ID 83701  
208-334-3240  
208-334-2170 (fax)  
The department contains all the state agriculture registration and inspection programs.

Idaho Division of Environmental Quality  
1410 North Hilton  
Boise, ID 83706  
208-334-5860  
208-334-0417 (fax)  
The Division of Environmental Quality oversees all state-level environmental issues, including water quality and toxics issues related to pesticide use and agriculture.

Idaho Fertilizer & Chemical Association  
500 West Washington  
Boise, ID 83702  
208-389-9502  
208-342-8585 (fax)  
This association represents the agricultural chemical suppliers in the state.

Idaho Potato Commission  
P.O. Box 1068  
Boise, ID 83701  
208-334-2350  
208-334-2274 (fax)  
The state organization that supports potato growers through marketing and education efforts.

Idaho Wheat Commission  
1109 Main St, Suite 310  
Boise, ID 83702  
208-334-2353  
208-334-2505 (fax)  
The state organization that supports wheat growers through marketing and education efforts.
Supports and participates in a number of environmentally-related agriculture activities. PCEI helps administer a Farm Improvement Club Grant Program. Small grants are made to farmers in Idaho through this grant program.

University of Idaho
College of Agriculture
Moscow, ID 83844
208-885-6681
208-885-6654 (fax)
The college of agriculture contains the agriculture research and education programs at the university, including a number of research projects related to pesticides.

Oregon

Oregon Consolidated Farm Service Agency
P.O. Box 1300
Tualatin, OR 97062
503-692-6830
The U.S. Department of Agriculture’s state office that coordinates many agriculture-related government programs and grants.

Cooperative Extension Service
Oregon State University
Ballard, Rm. 101
Corvallis, OR 97331-3606
503-737-2711
This Cooperative Extension Service office coordinates all county extension agents that provide technical assistance to growers throughout the state.

Oregon State University
College of Agricultural Sciences
Strand Ag. Hall, Rm. 126
Corvallis, OR 97331-2212
503-737-2331
The main university-based education and research program in the state.

Oregon Department of Agriculture
635 Capitol St. NE
Salem, OR 97310-0110
503-986-4550
The Department contains all the state agriculture registration and inspection programs.
Northwest Coalition for Alternatives to Pesticides (NCAP)
P.O. Box 1393
Eugene, OR 97440
503-344-5044
503-344-6923 (fax)
NCAP is a public interest group that supports efforts throughout the Northwest to use alternatives to pesticides in growing operations. NCAP conducts cooperative projects with growers to demonstrate the viability of sustainable agriculture practices.

Oregon Potato Commission
700 NE Multnomah, Suite 460
Portland, OR 97232-4104
503-731-3300
The state organization that supports potato growers through marketing and education efforts.

Oregon Wheat Commission
1200 NW Front Avenue, Suite 520
Portland, OR 97209-2800
503-229-6665
The state organization that supports wheat growers through marketing and education efforts.

Washington

Washington Consolidated Farm Service Agency
West 316 Boone Ave, Suite 568
Spokane, WA 99201
509-353-2307
The U.S. Department of Agriculture’s state office that coordinates many agriculture-related government programs and grants.

College of Agriculture and Home Economics
Washington State University
Pullman, WA 99164-6242
509-335-4561
The main University-based education and research program in the state.

Cooperative Extension Service
Washington State University
411 Hobert Hall
Pullman, WA 99164
509-335-2933
This Cooperative Extension Service office coordinates all county extension agents that provide technical assistance to growers throughout the state.
Washington Department of Agriculture
P.O. Box 42560
Olympia, WA 98504-2560
360-902-1800
The Department contains all the state agriculture registration and inspection programs

Washington Toxics Coalition
4516 University Ave NE
Seattle, WA 98105
206-632-1545
The Toxics Coalition is a public interest group that focuses on reducing toxic chemical use including pesticide use of the general public and private industry.

Washington Potato Commission
108 Interlake Rd.
Moses Lake, WA 98837
509-765-8845
The state organization that supports potato growers through marketing and education efforts.

Washington Wheat Commission
West 907 Riverside Ave
Spokane, WA 99201-1006
509-456-2481
The state organization that supports wheat growers through marketing and education efforts.

Other Resources

The Appropriate Technology Transfer for Rural Areas (ATTRA). The National Center for Appropriate Technology operates a toll-free service to help revitalize America’s farm sector and curb damage to the environment from American agriculture. The Appropriate Technology Transfer for Rural Areas (ATTRA) service ‘provides information free of change, and has on-staff personnel with advanced degrees in agricultural sciences and years of on-farm experience. The service is available by calling 800-346-9140 between 8 a.m. and 5 p.m. CST, Monday through Friday. The service is primarily designed to service farmers and other agricultural researchers.

Agribusiness Commercialization and Development Center. This center is a stepping stone for researchers who are interested in commercializing their agriculturally related technology, and serves as a regional focal point for industry seeking new technology. The center is located in the Port of Benton office complex in Richland, Washington, and is sponsored by the U.S. Department of Energy, Battelle, Port of Benton, and Washington State University. Technology focuses of the center are waste management, pesticide residues, water conservation, and food conservation for the agribusiness industry. For more information, contact Mike Brown or David Eakin at 509-372-4868.
Publications


Beyond Pesticides -- Biological Approaches to Pest Management in California, Division of Agriculture and Natural Resources, University of California, 1992. Available from ANR Publications at 510-642-2431.


Sustainable Agriculture Directory. A directory of more than 1,200 individuals and organizations with expertise in sustainable agriculture is available on diskette. The directory is a “yellow pages” of people involved in sustainable agriculture production, research, information dissemination, and agribusiness. It is available on 3.5-inch diskettes that are compatible with MS-DOS computer systems. To order the disk, send $14.95 to Sustainable Agriculture Publications, Hills Building, Room 12, University of Vermont, Burlington, VT 05405. Make checks payable to “Sustainable Agriculture Publications.”

Note: Additional sources of information are roundtable attendees, listed in Appendix A.