

## **Oklahoma Pest Management Communication Network Project Summary**

The Oklahoma Pest Management Communication Network will be housed in the Oklahoma Pesticide Safety Education office and be the primary contact for pest management related issues. This network will answer pest management and pesticide related questions that deal with regulatory issues. Being housed in the Pesticide Safety Education Program office allows for a central contact point for Oklahomans with pesticide and pest management questions.

The Oklahoma Pest Management Communication Network will work closely with the IR-4 liaison, Pesticide Coordinator, IPM Coordinator, state research & extension specialists, state commodity groups, and state pesticide applicator groups in forming a stakeholder network to set priorities for Oklahoma.

The Oklahoma Pest Management Communication Network will manage all crop profiles and pest management strategic plans produced for Oklahoma.

The Oklahoma Pest Management Communication Network will also attend the Southern Region States meetings and provide a web site to the Southern Region IPM Center guidelines on the Oklahoma Pesticide Safety Education Program web site. A Pest Management newsletter will be produced to keep Oklahomans in touch with changing guidelines in pest management.





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Oklahoma State Contact Project Proposal

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## **Literature Review, Previous Work and Relate Experience**

Oklahoma Pest Management Communication Network (OPMCN) has a long history of supplying pesticide and pest management information to growers and trade groups throughout the state since the implementation of the NAPIAP program.

OPMCN has completed and submitted reports on pesticide management for numerous crops in Oklahoma. Four crop profiles and one Pest Management Strategic Plan have been completed for Oklahoma. Two more are pending and should be completed in 2004.

The completed profiles are: Alfalfa Crop profile completed in 2002.

Greenhouse Crops Crop Profile completed in 1999.

Pasture/Rangeland Crop Profile completed in 2003.

Watermelon Crop Profile first completed in 1999 and updated in 2003.

Stored Wheat Pest Management Strategic Plan completed 2004.

Wheat Crop Profile completion 2004.

Cotton Crop Profile completion 2004.

The need for Crop Profiles, PMSP's, and use surveys are greater than ever. Oklahoma has very diverse agriculture crop production but is often overlooked when decisions are made for a crop due to the smaller acreages. Oklahoma Agricultural Statistics lists fourteen crops and four livestock enterprises for Oklahoma in their annual statistical bulletin with many minor use crops not being reported. Without the crops profiles and surveys there is no accurate way to measure Oklahoma's pest management needs. Also without an exact measure of use data for Oklahoma through pesticide use surveys and/or crop profiles there is no way to capture that data for Oklahoma and maximum use rates could be assumed for Oklahoma agriculture in risk assessments.

EPA in its assessment of whether a pesticide may cause an effect or not in relation to the Endangered Species Act is utilizing Agricultural Census production data at the county level. Based on this county production data, EPA then defaults to the maximum rate and the maximum number of applications allowed on the label. This can often lead to an overestimate of pesticide use resulting in potential label restrictions to protect an endangered species. Similar uses of data are being utilized by EPA in assessing worker risks to pesticides under the Worker Protection Act as pesticides go under deregistration and FQPA review.

Collection of pest management data would assist states in providing EPA information on not only pesticide use but pest management tools utilized by growers. This information would also assist USDA in meeting the documentation of IPM implementation and the IPM Road Map.

OPMCN has a good working relationship with state applicator groups and pest management professionals. OPMCN attends regular meetings and annual conventions of the Oklahoma Agricultural Aviation Association, Oklahoma Pest Control Association, Oklahoma Vegetation Management Association, and the Oklahoma Turfgrass Foundation.

OPMCN has released information to county extension personal, commodity groups, applicator groups, and state producers on the changes to diazinon, chlorpyrifos, CCA, and other cancellations of interest to these groups.

Oklahoma has also played an important role in the phosphine and chlorpyrifos-methyl reviews. In 1998, reports were submitted on pesticide management for Oklahoma sod production and pasture and rangeland pesticide management. OPMCEN also initiated an alfalfa pesticide management survey to compliment one conducted in 1988. The results were presented at the 1997 Entomological Society of America's annual meeting as a poster. OPMCEN in cooperation with Texas A&M University conducted a peanut pesticide management survey with the final report published. OPMCEN in cooperation with Kansas included specific questions on the 1999 National Agricultural Statistic survey on wheat production. This resulted in specific information being obtained for both states and providing USDA with a deeper insight into wheat management practices in Kansas and Oklahoma. These results have been used often by USDA-OPMP.

Vital registration, cancellation, and use deletion information was provided to grower associations and applicator groups through direct mail, e-mail, programs, and the *Pesticide Report* newsletter. Close cooperation with the Oklahoma Department of Agriculture Food and Forestry resulted in submissions by the state a number of 24-C and Section 18 requests to EPA.

OPMCEN has submitted pesticide use data requested by the National Center for Food and Agricultural Policy (NCFAP) on: wheat, corn, peanuts, cotton, spinach, peach, apple, sweet corn, grain sorghum, watermelon, oats, barley, potatoes, pecans, tomatoes, pasture and hay, green beans, and alfalfa.

OPMCEN has attended the National and Southern Region IR-4 and PAE meetings and submitted Pesticide Clearance Request forms for the use of various pesticides on minor crops, primarily vegetables and made presentations to the Southern Weed Science Society and Entomological Society of America on its work.

Pesticide Use: Peanut Storage Facilities - OK & TX, 1993

Data has been collected summarized. Completed April, 1996.

Agricultural Chemical Use on Field Corn in Oklahoma, 1994

Data collected and analyzed. Completed May, 1996.

Pesticide Use on Oklahoma Wheat, 1994

Chlorsulfuron, metsulfuron-methyl and 2,4-D were the three most reported pesticides with 1,709,000; 960,200; and 655,200 acres treated respectively. The major insecticides reported were dimethoate (406,000 acres), methyl parathion (239,900 acres), and chlorpyrifos (122,100 acres).

Pesticide Management on Rangeland and Pasture, 1996

With the cooperation of OASS and the Agronomy Department, a rangeland and pasture mail survey was conducted in 1996. Results indicate this group of producers rent a larger percentage of the acres under their control for grazing than they own. As expected, rangeland was the primary grass type followed by the improved grasses - bermudagrass and fescue. No insecticides were identified as being applied to rangeland and pastures in 1996. Herbicide application was the primary management practice on rangeland while fertilization was the primary practice identified on pastures. The most commonly used herbicide was 2,4-D followed by picloram+dicamba. Western ragweed (*Ambrosia psilostachya*) and cocklebur (*Xanthium spp.*) were the two most often listed species among the top five common and difficult to control weeds. Most growers utilized boom or cluster sprayers when making applications. Aerial and/or custom application represented major acreages treated for rangeland and bermudagrass. Burning and mowing represented notable management tools in certain areas of the state. Results from this work were presented at the 1996 Southern Weed Science Society of America Meeting. Report submitted 1997.

#### Pesticide Management on Oklahoma Sod Farms, 1996

Survey design was initiated in 1995 and completed in 1996 with input from the Departments of Horticulture, Entomology, and Statistics. The survey was mailed on March 12, 1997 to 62 sod producers. Twenty usable responses were received. Results indicate no fungicides and limited insecticides are used on sod production in Oklahoma. The major herbicides applied included 2,4-D and glyphosate. Report submitted 1997.

#### Pesticide Management on Alfalfa in Oklahoma, 1997

The Alfalfa IPM team determined the need for a pest management survey and targeted 1997 as the year to implement the project. NAPIAP-OSU participated and funded the project in order to obtain newer, state pest management use information. Results from survey was presented at the 1997 Entomological Society of America Meeting. Report submitted 1997.

#### Peanut Pests and Pesticide Survey 1997

With the cooperation of Texas A&M, a peanut pest management use survey was conducted in 1997. This survey was conducted in Oklahoma and Texas. Results indicated Tamspar 90 was the primary peanut variety planted. Pigweed accounted for 30% of the acres treated with herbicide. Prowl was used on 47% of the acres for pigweed control. Insect and disease problems were isolated to one specific pest. Thrips were reported being treated on 66% of the acres treated with insecticide with Orthene the most used insecticide. Leaf spot was reported on 57% of the acres treated with fungicide. Bravo was used on 71% of the acres for leaf spot control. Results were presented at the American Peanut Research and Education Society meeting. Report submitted.

#### On-Farm Wheat Storage, 2000

Results indicate producers storing wheat in excess of 14 days have an average storage capacity of 11,000 bushels. Only 33% of the 2000 wheat crop was stored on-farm and the vast majority of that was stored in steel bins. Sixty-three percent of the producers utilized an empty bin spray with 38% spraying the entire inside and 70% of those applications were made from the inside the bins being treated. Approximately 55% of the producers fumigated and the majority used phosphine. Farmers could not adequately identify target pests. Fumigations were primarily done in June, a time OSU does not recommend for fumigation. Very few protectants were reported used. Those reported the most were chlorpyrifos-methyl and malathion. Report submitted.

#### Pasture Management, 2001

OPMCN in cooperation with an Area Agronomist and research and extension personnel in Plant & Soil Sciences and the Oklahoma Agricultural Statistics Service conducted a pasture survey in 2001. Much of this survey was directed at pasture/grass management issues. Eighty-four percent of the hay is produced in large round bales and these producers seldom sell their hay, yet 33% purchase additional hay each year. Producers are using different grass and legume types to spread out the grazing season, however, they are not following soil fertility recommendations. Producers are utilizing rotational grazing (49%) and stockpiling grass (40%) for winter grazing. These management practices affect weed infestation and management decisions. Cluster sprayers are the primary application equipment utilized with 15% of the respondents using handguns. Responses indicate that producers are over stocking their pastures. This creates weed management problems due to poor grass production. It also creates erosion problems and concern for sediment, fertilizer and herbicide runoff into drainages. Report Submitted.

#### Stored Product IPM Team

This IPM team has worked intensively with Kansas and Texas elevator businesses and grain producers. They also cooperate with the Arkansas, Louisiana, and Mississippi Pesticide Applicator programs to provide education and information on grain fumigation. They also work with Kansas and Texas research/extension programs and the USDA-ARS Grain Marketing Laboratory in Manhattan, KS.

The Stored Product IPM team has led the way in grain management research and extension in the Great Plains. They cooperate closely with Purdue University's Stored Product team and the USGML and others across the U.S. They were involved in the phosphine risk mitigation as well as the chlorpyrifos-methyl process.

#### Peanut IPM Team

The Peanut team works closely with the Texas peanut team. Both are very closely associated with the peanut growers and peanut commissions in each state. There is a joint meeting each year in southern Oklahoma. OPMCEN worked with



the IPM Coordinator and Peanut IPM team in updating the peanut production manual.

#### Wheat IPM Team

OSU's wheat team works closely with the Oklahoma Wheat Growers Association and Oklahoma Wheat Commission. They also have close contacts and cooperative programs with Kansas, Texas, and Colorado research/extension personnel. These involvements include work in weed, insect and disease management programs as well as variety development and production management.

#### Watermelon Management Team

This team has consistently worked very closely with growers and USDA-ARS in both Oklahoma and Texas. They have worked to address current and future situations related to pest management and potential problems associated with the watermelon industry. OPMCN worked with the IPM Coordinator and Cucurbit IPM team in updating the cucurbit production manual.

#### Great Plains Diagnostic System

OPMCN works directly with OSU Plant Disease, and Insect Diagnostic Laboratory as part of the Great Plains Diagnostic System. OPMCN communicates directly with the diagnostic lab on issues such as Soybean rust and other important issues.

#### Presentations and Publications

Measuring Adoption of IPM Practices in Oklahoma Alfalfa-Socioeconomic Implications for Growers. OCES L-315 2003.

Insecticide Use on Oklahoma Peanut Production. M.G. New, J.T. Criswell, and M. Richardson. Southwestern Branch Entomological Society of America, Ft. Worth, TX. February 2000.

Survey of Weed Control in Oklahoma Alfalfa. M.G. New, J.F. Stritzke, and J.T. Criswell. Southern Weed Science Society Meeting, Greensboro, NC. January 1999.

Pests, Pesticide Use & Management Practices in the Southwestern Peanut Industry. D.T. Smith, M.G. New, and J.T. Criswell. Texas A&M University. Technical Report 98-08. December 1998.

Results of the 1998 Oklahoma Lawncare/Landscape Pesticide Applicators Survey. Martin, D.L., M.G. New, M.S. Richardson, J.T. Criswell, and G.E. Bell. American Society of Agronomy, Baltimore, MD. October 1998.

Pesticide Use in Southwestern Peanuts. Smith, D., M.G. New, and J.T. Criswell. Presentation at American Peanut Research and Education Society Meeting, Norfolk, VA. July 1998.

Results of the 1996 Oklahoma Sod Production Pest Control Survey. Martin, D.L., M.G. New, and J.T. Criswell. Southern Weed Science Society Meeting, Birmingham, AL. January 1998.

Pesticide Use on Oklahoma Rangeland and Pastures, 1994. New, M.G., J.T. Criswell, J.F. Stritzke. Southern Weed Science Society Meeting, Houston, TX. January 1997.

Bermudagrass Tolerance to Postemergence Herbicides. New, M.G., J.F. Stritzke, and J.T. Criswell. Southern Weed Science Society Meeting, Charlotte, NC. January 1996.

## **Objectives**

Objectives for OPMCN are:

1. Assign staff member to coordinate all SR IPM Center information and be the state contact liaison.
2. OPMCN will coordinate with state specialists, state commodity groups, and state applicator associations to provide input on what pest management needs need to be addressed.
3. OPMCN will coordinate and prioritize all crop profiles and PMSPs for Oklahoma with input from stakeholder groups.
4. OPMCN will develop a pest management newsletter and web site for pest management and pesticide information related to Oklahoma in a central site.
5. OPMCN will send a representative to the SRIPM Center meeting to participate in the centers meeting and update the SRIPM Center on OPMCN progress.

## Procedures

1. PSEP staff will be assigned SRIPM Center duties pending grant funding. This person will coordinate IR-4, Pest Management duties and provide state information to the center.
2. OPMCN will meet with state research & extension specialists, commodity groups, and agricultural trade groups to prioritize Oklahoma needs and concerns when it comes to pest management. This will be done in cooperation with the IPM Coordinator to set priorities.
3. All crop profiles and PMSP will be coordinated through the OPMCN office with help from state research & extension specialists and outside groups. OPMCN will manage the information needed for these publications and coordinate their completion. The need for this information increases as EPA uses this data for worker exposure and endangered species on maximum use rates.
4. A pest management web site and newsletter will be created at the Pesticide Safety web page at <http://pested.okstate.edu> according to center guidelines and linked to the OSU IPM web page at <http://www.entopl.okstate.edu/IPM/index.html>.
5. OPMCN contact will travel to the Southern Region IPM Center meeting to attend regular meetings and update on OPMCN progress.

Literature Cited

Oklahoma Agricultural Statistics, 2002 Annual Bulletin.

EPA/BEAD Crop Profile Priorities

### **Probable duration**

The duration of the OPMCN project will be one year and continue contingent on funding from the center. July 1, 2004- June 30, 2005

### **Evaluation Plans**

Throughout the year OPMCN will track pest management and pesticide related contacts. This will be done by tracking the number of phone calls, emails, web site hits, and meetings attended. Also a report will be generated on the progress of all OPMCN projects and submitted as of the status of crop profiles, pmsps, Sec. 18 and 24c registrations and other center projects.

### **Cooperation and Institutional Units Involved**

State Pesticide Coordinator PSEP program, State IPM Coordinator, IR-4 liaison, State Crop/Livestock Specialists, State Weed Specialists, State Entomologists, State Plant Pathologists, State Horticulturists other state research & extension faculty.

Cooperation by units outside Oklahoma State University will be Oklahoma Department of Agriculture, Food and Forestry, Oklahoma Agricultural Aviation Association, Oklahoma Agriculture Retailer Association, Oklahoma Pest Control Association, Oklahoma Vegetation Management Association, Oklahoma Turfgrass Foundation, Oklahoma Wheat Commission, Oklahoma Peanut Commission, and Oklahoma Cattlemen's Association.

## **Key Personnel**

Jim Criswell Pesticide Coordinator (Project Director) overall supervision of OPMCN.

Charles Luper (Project Leader) responsible for crop profiles, pmsp, and distribution of information to interested parties. Charles will be responsible for web page(s), newsletters, email lists, and other contact lists to inform stakeholders and university personnel of any pest management or pesticide news. Charles will also be the main contact for OPMCN to communicate with the state IPM Coordinator and this will ensure proper communication between these two programs.

Pat Bolin IPM Coordinator will serve as an advisory role in determining pest management needs. She will help set priorities for pest management and coordinate some meetings.

## Budget

This program is applying for funding for one year.

<b>Category</b>	<b>1 Year Funding</b>
1. Salaries and Wages Personnel 1. Staff	12,900
2. Fringe Benefits Personnel Staff (40.88%)	5,274
<b>Total Salaries and Benefits</b>	<b>18,174</b>
3. Non-Expendable Equipment	0
4. Materials and Supplies	0
5. Travel	1,825
6. Publications/Page Charges	0
7. Computer (ADPE)Costs	0
<b>Total (Items 3-7)</b>	<b>19,999</b>
All Other Direct Charges	
Communications	0
Photocopying	0
Subcontracts	0
Consultants	0
Service or Maintenance Contracts	0
Conferences/Meetings	0
Speaker/Trainer Fees	0
Honorariums	0
Office Rental	0
Land-Use Charges	0
Other/Miscellaneous	0
<b>Total All other Direct Charges</b>	<b>0</b>
<b>Indirect Charges (.25)´</b>	<b>5,000</b>
<b>Total Amount of this Request</b>	<b>24,999</b>

## Budget Narrative



Salaries & Wages for other professionals.

The \$12,900 assigned here will cover part of the staff member's salary whose responsibility will be to run the State information network and produce the SR IPM Center information.

Fringe Benefits

\$5,274 is the cost of benefits at Oklahoma State University pays to the employee assigned the wages to work on this project. Oklahoma State University charges 40.88% of the salary for fringe benefits.

Travel

\$900 will be budgeted for the Oklahoma representatives to travel to the annual IPM Center to report Oklahoma's progress in the center. This will be to cover the cost of airline tickets, ground transportation, lodging, and per diem for the employees to attend the annual Center meeting. \$925 will be used for personal to travel to state and regional applicator, producer, and pest management meetings relating to OPMCN issues.

Indirect Costs

Oklahoma State University requests Indirect Costs from all grants. We are using the figure of 25% (\$5,000) for this grant.

**BUDGET**

ORGANIZATION AND ADDRESS				USDA AWARD NO.		
PROJECT DIRECTOR(S)				DURATION PROPOSED MONTHS: <u>12</u>	DURATION PROPOSED MONTHS: _____	Non-Federal Proposed Cost-Sharing/ Matching Funds (If required)
				<b>Funds Requested by Proposer</b>	<b>Funds Approved by CSREES (If different)</b>	
<b>A. Salaries and Wages</b> .....		<b>CSREES-FUNDED WORK MONTHS</b>				
1. No. Of Senior Personnel		Calendar	Academic	Summer		
a. ____ (Co)-PD(s).....						
b. ____ Senior Associates .....						
2. No. of Other Personnel (Non-Faculty)						
a. ____ Research Associates/Postdoctorates .....						
b. <u>1</u> Other Professionals.....		12			12900	
c. ____ Paraprofessionals .....						
d. ____ Graduate Students .....						
e. ____ Prebaccalaureate Students.....						
f. ____ Secretarial-Clerical.....						
g. ____ Technical, Shop and Other.....						
<b>Total Salaries and Wages</b> ..... →						
B. Fringe Benefits (If charged as Direct Costs)				5274		
<b>C. Total Salaries, Wages, and Fringe Benefits (A plus B)</b> →				18174		
D. Nonexpendable Equipment (Attach supporting data. List items and dollar amounts for each item.)						
E. Materials and Supplies						
F. Travel				1825		
G. Publication Costs/Page Charges						
H. Computer (ADPE) Costs						
I. Student Assistance/Support (Scholarships/fellowships, stipends/tuition, cost of education, etc. Attach list of items and dollar amounts for each item.)						
J. All Other Direct Costs (In budget narrative, list items and dollar amounts, and provide supporting data for each item.)						
<b>K. Total Direct Costs (C through J)</b> ..... →				19999		
<b>L. F&amp;A/Indirect Costs</b> (If applicable, specify rate(s) and base(s) for on/off campus activity. Where both are involved, identify itemized costs included in on/off campus bases.)				5000		
<b>M. Total Direct and F&amp;A/Indirect Costs (K plus L)</b> →				24999		
<b>N. Other</b> ..... →						
<b>O. Total Amount of This Request</b> ..... →				24999		
<b>P. Carryover -- (If Applicable)Federal Funds: \$</b>			<b>Non-Federal funds: \$</b>		<b>Total \$</b>	
<b>Q. Cost-Sharing/Matching (Breakdown of total amounts shown on line O)</b>						
Cash (both Applicant and Third Party) →						
- Non Cash Contributions (both Applicant and Third Party)						
AME AND TITLE (Type or print)				SIGNATURE (required for revised budget only)		
<b>Project Director</b>						
<b>Authorized Organizational Representative</b>						
Signature (for optional use)						