NEW JERSEY INFORMATION NETWORK FOR PESTICIDES & ALTERNATIVE STRATEGIES

PROJECT PROGRESS FOR SUBCONTRACT NO. 2016-RU-USDA-9759: 2001 – 2003 AND PROPOSED PROJECT OBJECTIVES: 2004 - 2005

I. STATE NETWORK PROJECTS (SNPS)

A. Literature Review, Previous Work, and Related Experience

Under Northeast Integrated Pest Management Center Subcontract No.: 2016-RU-USDA-9759, Rutgers Cooperative Extension (RCE) of New Jersey created the New Jersey Information Network for Pesticides and Alternative Strategies (NJinPAS). It is part of a land-grant university collaboration of 'Mid-Atlantic Partners' of Delaware, Maryland, New Jersey, New York, and West Virginia. The 'Mid Atlantic Information Network for Pesticides & Alternative Strategies' (MAINPAS) state collaboration is designed to provide a structure to gather and transmit information on issues relevant to both current and transitional pest management strategies. Its purpose is to improve the level of knowledge, awareness, and understanding of local, State, regional, and national pest management practices. New Jersey stakeholders are instrumental in identifying State pest management issues; these are then outlined in crop profiles and strategy plans. It is also important to provide stakeholders with compliance advisories when necessary. The information gathered and distributed by NJinPAS is key to informed decision-making by Federal regulators on pest management issues that will impact New Jersey.

Coordination of MAINPAS - NJinPAS Project Director George Hamilton agreed to coordinate the activities of mid-Atlantic partners New Jersey, Delaware, Maryland, West Virginia, and New York. To facilitate project communication, NJinPAS set up a closed listserv for the MAINPAS as 'MAINPAS Partners' in March 2002; see **Attachment 1** for a list of participants. During this reporting period, members have used the MAINPAS Partners listserv to transmit meeting minutes; announce and coordinate pesticide surveys, crop profiles, and pest management strategy plans; as well as announce the monthly release of State newsletters like Delaware's 'Pesticide Briefs' and Maryland's 'Pesticide Notes'.

Coordination also included the set up of a home page for MAINPAS in March 2002 @ http://www.pestmanagement.rutgers.edu/NJinPAS/PesticideRegistration/MAINPAShome.htm. NJinPAS initially set up Section 18 and 24C web pages for each State with data from EPA's online database. Members have since opted to limit the scope of the MAINPAS web pages to providing links to different programs available from MAINPAS partners, and posting each State's Section 18 exemptions.

MAINPAS Project Directors met to update each other on objectives and procedures, and upcoming projects of their respective information networks on March 13, 2002, July 17, 2002, and August 11, 2003. Project Directors discussed projections for crop profiles (Delaware, Maryland, New York, West Virginia, and New Jersey) and Pest Management Strategic Plans (New Jersey, Maryland, Delaware, and West Virginia). Arrangements were made for the release

of the crop profiles and PMSPs to all interested MAINPAS members. Delaware, New Jersey, and Maryland have collaborated on 2 PMSPs as a result of this partnership: Lima Bean and Spinach. Rutgers Cooperative Extension Specialists reviewed and assisted in the development of New York's 'Crop Profile for Nursery Ornamentals'. Specifically, Dr. James Lashomb (Ornamental Entomology Specialist) and Dr. Ann Gould (Ornamental Plant Pathology Extension Specialist) have reviewed the document and submitted comments. Additionally, Extension Vegetable IPM Coordinator Joseph Mahar collaborated with Delaware's IPM Specialist Joanne Whalen to hold a meeting on optimizing wireworm management in vegetable and field crops in March 2003.

During the 2003 MAINPAS meeting, attendees discussed future RFA's and coordination across state lines. It was decided that the NJinPAS Project Director would continue to lead the MAINPAS. There is need for continued networking among the MAINPAS Project Directors to share resources across state lines. The next planned meeting of MAINPAS is October 2004 in Dewey Beach Delaware.

Coordination with Other Programs and Agencies - In addition to coordination with MAINPAS partners, we have coordinated with other regional integrated pest management (IPM) and IR-4 programs. As the IPM Coordinator, Project Director George Hamilton routinely communicates with the faculty and staff connected with the Blueberry, Nursery Tree Fruit, and Vegetable IPM programs. This has allowed the transfer of information between growers, staff, the Coordinator, and Extension Specialists.

NJinPAS coordinates projects with IR-4. Vegetable IPM Coordinator Joseph Ingerson-Mahar continues to work through our IR-4 liaison, Gerry Ghidiu to assess and formulate a pest management strategy for a continuing severe pest problem in carrot that first occurred in 2001. Further, two IR-4 specialists were members of the Peach PMSP Work Group and were instrumental in advising of new use candidates.

There is a strong partnership of the NJinPAS with the NJDEP and US EPA. Ann Waters, NJDEP Outreach Coordinator, and Thomas Kazcsorski, NJDEP Section 24C and 18 Coordinator, are routinely consulted for technical reviews as part of the process in publishing new webpages. Further, Thomas Kazcsorski provides the program with expedited notices of Section 18s and 24Cs for posting to the listservs. Audrey Moore, Regional Ag Policy Specialist for EPA Region 2 is a frequent contributor to the NJinPAS listserv, thus keeping our stakeholders in the Federal loop. We frequently consult with EPA's Office of Pesticide Program's Special Review and Reregistration Division on Federal Register Notices.

Statewide coordination of information is also facilitated by George Hamilton as a member of the New Jersey Governor's Pesticide Advisory Committee. This committee advises the Administrator of the NJDEP PCP on pesticide policy. Serving on the committee are representatives from growers, lawn care applicators, structural pest control applicators, pesticide registrants, aerial applicators, pesticide dealers, New Jersey Public Health, and the New Jersey Department of Agriculture.

Dr. Hamilton also has coordinated his activities with other regional Pesticide Safety Education Programs. At the July meeting of the 2002 Tri-Agency Meeting, he made a presentation entitled 'On-line Education: Virtual Pesticide Shed and Ecollege' to state lead agencies, Extension coordinators, and EPA.

Pesticide applicator training is also a vehicle to get compliance advisories and other pertinent information to many New Jersey stakeholders. Recertification training is conducted at approximately 200 county and statewide meetings each year in New Jersey. These meetings are attended by 30,000 to 40,000 applicators annually. During these meetings, we conduct presentations on FQPA and how applicators can input the regulatory process to retain critical pesticide uses. Flyers on the RCE web site and listservs are distributed. They are encouraged to visit the web site regularly.

We also promoted NJinPAS regionally and nationally at the 2002 national meeting of the Entomological Society of America in Ft. Lauderdale, FL. We prepared and presented a poster presentation entitled 'New Jersey Information Network for Pesticides & Alternative Strategies'.

Listservs - In 2001, NJinPAS set up and has since maintained an email listserv and mailing infrastructure for expedited delivery to New Jersey stakeholders of more timely pesticide-related information (such as regulation advisories or requests for comment). The listserv membership includes growers, crop consultants, pesticide users, public interest groups, environmental groups, and Extension faculty and staff; listserv enrollment statistics reflect the composition of the Advisory Committee. Currently 180 persons are enrolled in the listservs and of that there were 527 individual listserv enrollments. Listserv membership currently includes the following: Extension: (24%); agriculture and horticultural industry: (22%); State & local government: (19%); University researchers: (18%); environmental & public interest groups: (9%); and regional & national partners (7%).

Participants in any NJinPAS listserv automatically receive general announcements via the "NJinPAS Network" listserv. By design, we minimized mass mailings by making available eight additional listserv subgroups that would be used for more specific distribution, including regulation notices or pesticide advisories. Two new listservs were added in 2002. NJinPAS set up a listserv for 'NJinPAS Forests & Xmas Trees' in October 2002 at the direction of our Advisory Committee. The other addition was the 'School IPM' listserv made available in the winter of 2002. So, the total nine separate listserv categories for open enrollment are: Network; Institutions & Interiors; Mosquito; Fruit; Turf, Ornamentals, Greenhouse, & Nursery; Field & Forage Crops; Vegetables; School IPM; and Forests & Xmas Trees.

During 2002, timely announcement of non-routine pesticide actions (such as Section 18 Emergency Exemptions, Crisis Exemptions, and Section 24C Special Local Need Registrations) were made to the appropriate NJinPAS listservs. We are able to process these quickly due to the cooperation of the NJDEP.

Each pesticide action is then archived online chronologically, providing the only web-accessible listing of past and current pesticide registrations and exemptions granted for New Jersey. Specifically, we inaugurated a webpage on 'Listserv Postings' for access to an online archive of

all open listserv postings made since October 2001 @ http://www.pestmanagement.rutgers.edu/NJinPAS/listservpostings.asp. All postings to the open NJinPAS listservs that are archived online may be viewed by date, listserv, or topic. Three hundred twenty seven postings had been made to the listserv since its inception. See **Attachment 5** for the Listserv Archive sorted by topic from October 2001 through September 2003.

In November of 2001, the New Jersey Pesticide Control regulations were significantly revised, greatly impacting training and record keeping requirements for applicators in the State. By February, we had constructed web pages with training regulation guidance and revised record keeping forms in cooperation with the NJDEP PCP. Accordingly, we posted a series of four listserv updates on the regulations and the availability of this online help to the NJinPAS Network listserv. This was a significant contribution to New Jersey applicators as the NJDEP did not have the resources to revise their website similarly in such a timely manner. WebTrends page analysis report shows that approximately 1,105 pesticide report forms downloads have been made from the website this year.

Although the availability of the listservs and the Pest Management Office web site continues to be provided to all applicators that attend initial and recertification pesticide training, we have taken measures to increase in the number of stakeholders using these services. Specifically, NJinPAS set up online enrollment in the listservs at http://www.pestmanagement.rutgers.edu/NJinPAS/listservs.htm to make it easier to enroll. Additionally, we designed a flyer advertising the NJinPAS Listservs and how to enroll in them. Members of the Advisory Committee distributed more than 1,000 flyers on the listservs to their stakeholders. Distribution included: the Northeast Organic Farming Association of New Jersey, EPA Region 2, NJ Environmental Federation, New Jersey Nursery and Landscape Association, Rutgers Fruit IPM Scouting program, NJ Mosquito Control Association, NJ Department of Agriculture; Division of Plant Industry, Rutgers Agricultural Research and Extension Center, RCE Forestry program, NJDEP Pesticide Control Program, Vegetable and Fruit Working Groups, Vegetable IPM Scouting program, the NJ Pest Control Association, and NJ Farm Bureau. Articles on the NJinPAS Listservs, as well as the PMO webpage ran in the Cranberry; Fruit; Field and Forage Crops; Landscape, Nursery, and Turf ; Organic; and Vegetable Crops editions of the RCE 'Plant & Pest Advisory'.

In addition to the open listservs, NJinPAS has maintained four 'closed' listservs to facilitate transmission of information and discussion of issues that may impact NJinPAS tasks or stakeholders:

- NJinPAS Advisory Committee (for New Jersey State coordination).
- NJinPAS Crop Profiles (for New Jersey 'Crop Profilers').
- NJinPAS Peaches PMSP (for the New Jersey Peaches PMSP Work Group).
- MAINPAS Partners (for regional coordination including State partners and the NEPMC).

WebSite - In 2001, we had constructed the NJinPAS project home page @ http://www.pestmanagement.rutgers.edu/NJinPAS/NJinPASindex.htm. We developed many new pages in 2002 and 2003 to serve NJinPAS stakeholders. **Attachment 4** provides the site map for the RCE Pest Management Office (PMO) website which houses 48 NJinPAS web pages

plus the approximately 375 online individual listserv postings in the Online Listserv Posting Archive. Incidentally, the PMO Website is comprised of 810 pages; it has had 1,110,309 hits since inception in 2001. In 2000 there were 4,000 visits annually; in 2001 11, 000 visits annually; in 2002 34,000 visits annually; and in 2003 49,000 visits to date.

Advisory Committee - NJinPAS goals and objectives are guided by an Advisory Committee comprised of New Jersey stakeholders representing a diversity of perspectives and technical expertise. At project onset in 2001, NJinPAS compiled a list of suitable stakeholders of representatives from commodity groups, grower organizations, environmental and public interest groups, Rutgers Cooperative Extension (RCE), research faculty of the Rutgers University College of Agriculture and Environmental Science, the Pesticide Control Program of the New Jersey Department of Environmental Protection (NJDEP), the New Jersey Department of Agriculture (NJDA), and pesticide registrants. We issued 34 letters of invitation for membership in the NJinPAS Advisory Committee on October 12, 2001; there were 29 acceptances.

The NJinPAS Advisory Committee is now comprised of thirty-one New Jersey stakeholders representing a diversity of perspectives and technical expertise. Specifically, this Committee includes representatives from agricultural and horticultural industry (29%); Extension (23%); University researchers (23%); environmental and public interest groups (10%); and State and local government (16%). **Attachment 2** provides a revised list of organizations and individuals who now serve on the NJinPAS Advisory Committee. It is notable that 2 Federal advisors have joined the Advisory Committee, Ms. Tara Masters and Ms. Audrey Moore of US EPA Region 2.

Since NJinPAS inception in 2001, the Advisory Committee has participated in three meetings to guide the objectives of the project. These meetings were held on November 16, 2001, September 27, 2002, and September 17, 2003 at the Cook Campus Student Center in New Brunswick, New Jersey.

Recommendations of the NJinPAS Advisory Committee are documented and posted in Advisory Committee Meeting Minutes on a webpage created specifically to document the proceedings of the Committee; see http://www.pestmanagement.rutgers.edu/NJinPAS/Advisorycommittee.Htm. These documents are also distributed to the NE IPMC Directors and our mid-atlantic partner States and advisors. In addition to canvassing members for ideas, NJinPAS used the closed Advisory Committee listserv to copy all advisors on postings to the listserv for its first 3 years of operation. It became apparent that the Listservs were meeting Advisory Committee objectives and the practice of copying the Committee was ended in September 2003.

Use Surveys - NJinPAS gathers pest management data and input from researchers, growers, crop consultants, pesticide users, regulators, and Extension faculty and staff in New Jersey. Hamilton and Roy Meyer of the NJ DEP PCP have conducted pesticide use surveys of private applicators for 1985, 1988, 1991, 1994, and 1997. Hamilton has also participated in the survey of growers participating in New Jersey's Peach, Sweet Corn, and Field Crop IPM programs.

During the reporting period, NJinPAS developed a web page to provide web access to these previously published reports of surveys and analyses of agricultural and commercial pest management practices in New Jersey, including pesticide use. The most currently available pesticide use survey reports can be viewed at http://www.pestmanagement.rutgers.edu/

NJinPAS/pesticidesurveys.htm. The 25 surveys posted were either singly or jointly published by the New Jersey Department of Environmental Protection Pesticide Control Program and/or Rutgers Cooperative Extension as indicated. WebTrends page analysis report shows that approximately 4,239 pesticide use report downloads have been since posting.

Additionally, NJinPAS compiled and analyzed New Jersey pesticide survey of raw pesticide user survey data for 2000. This data was used in the preparation of crop profiles and PMSPs that will be utilized by government agencies making regulatory decisions.

During the reporting period, NJinPAS developed a survey on IPM recognition and practice for the public. The document was reviewed and discussed at length during the 2002 Advisory Committee meeting. Additionally, the draft survey was posted online on the NJinPAS Advisory Committee web page with the 2002 summary of the Advisory Committee meeting. As a result of the posting, Penn State University has used our draft IPM survey in compiling their own survey.

Crop Profiles - NJinPAS assesses impacts of changes in pesticide regulations on agricultural productivity in New Jersey. Crop Profiles are one of the key ways this information is shared with New Jersey stakeholders, other mid-Atlantic states, the NE IPMC, the EPA, and the United States Department of Agriculture (USDA). NJinPAS has demonstrated significant expertise in the preparation of Crop Profiles. Under other funding vehicles, Extension staff wrote Crop Profiles for the following 6 New Jersey commodities: alfalfa, asparagus, high bush blueberry, cranberry, peaches, and squash. These profiles were based upon NJDEP pesticide use data for 1997, and were published online in 2000 @ **http://www.pestmanagement.rutgers.edu/NJinPAS/CropProfiles.htm**.

Under NJinPAS in 2003, six of seven previously published crop profiles were reviewed and revised with 2000 or 2002 data (since pesticide usage data for 2000 became available from the New Jersey Department of Environmental Protection in mid-2002). The six profiles are asparagus (8), cranberry (12), forage alfalfa (6), peaches (15), spinach (17), and squash (19). The revision of the seventh profile (blueberry) is currently on schedule for submission by the close of contract in June 2004.

During the course of the NJinPAS project, five new crop profiles based on the 2000 NJDEP data or Fruit IPM pesticide use data were proposed for submittal. Three of these new crop profiles were all completed on schedule and included: apples (4), carrot (10), and field corn (13). The 'Crop Profile for Apple for New Jersey' was completed and technically reviewed ahead of schedule. The remaining two crop profiles based upon 2000 NJDEP pesticide use data of green pepper and eggplant are scheduled for completion by contract close in June 2004. Work has been initiated on both of the profiles and they are anticipated to be submitted on schedule.

Additionally, NJinPAS designed a webpage to provide online access to completed crop profiles for New Jersey: alfalfa (719 downloads), apples (991downloads), asparagus (1,117 downloads), blueberry (1,868 downloads), cranberry (1,473 downloads), field corn (381 downloads), peaches (1,931 downloads), spinach (603 downloads), and squash (1,252 downloads). These profiles can be viewed at http://www.pest management.rutgers.edu/NJinPAS/CropProfiles.htm. There have been 10,726 total downloads of Crop Profiles since their posting to the webpage.

Although not a New Jersey profile, Rutgers Cooperative Extension Specialists reviewed and assisted in the development of New York's 'Crop Profile for Nursery Ornamentals'. Specifically, Dr. James Lashomb (Specialist in Ornamental Entomology) and Dr. Ann Gould (Extension Specialist in Ornamental Plant Pathology) have reviewed the document and submitted comments.

We requested nominations for future crop profile candidates during the September 27, 2002 Advisory Committee Meeting. Vegetable IPM Coordinator Joseph Ingerson-Mahar agreed to do a crop profile for sweet potatoes with its significant oriental beetle problem. Other suggestions included a crop profile for honey bees and another one for turf. NJinPAS Project Director George Hamilton checked with NE IPMC Leadership to make sure these were suitable candidates for funding under NJinPAS. The New Jersey Department of Agriculture will be taking the lead on the Honey Bee Crop Profile. Additionally, Advisory Committee members that are representatives to the Fruit and Vegetable Working Groups were asked to canvass their respective groups for crop profile candidates. The NJ Vegetable Working Group nominated tomato for a future crop profile followed by pumpkin. The NJ Fruit Working Group made no nomination (understandably as crop profiles for peaches, cranberry, blueberry, and apples exist).

Pest Management Strategic Plans (PMSP)

PMSP for Peaches in New Jersey - An NJinPAS Work Group was assembled on April 11, 2002 to draft a **Pest Management Strategic Plan for Peaches in New Jersey**. It is notable that the PMSP Workgroup meeting was conducted three months ahead of schedule on April 11, 2002. The participants in the Work Group included sixteen commodity and technical specialists: growers, IR-4, researchers, County Agricultural Agents, and specialists in farm management, wildlife, and tree fruit entomology and diseases, weeds, and pest management. The Work Group was led by Dr. Peter Shearer, an RCE Specialist in Tree Fruit Entomology. Project Director George Hamilton and Work Group Leader Peter Shearer jointly conducted the Work Group proceedings, providing the Work Group with the Eastern PMSP for Peaches and USDA checklist materials and template for PMSPs.

Dr Shearer coordinated assignments within the Work Group. There was a post-meeting addition to the Work Group of Dr. David Drake, Extension Specialist in Wildlife, to address grower concerns highlighted during the meeting. A draft PMSP for Peaches in New Jersey was released as scheduled for Work Group review and comment in January 2003. Since no further amendments were suggested by the Work Group members, the 'Final Pest Management Strategic Plan for Peaches in New Jersey' was posted on the NJinPAS PMSP webpage @ http://www.pestmanagement.rutgers.edu/NJinPAS/PMSP.htm on February 20, 2003 for stakeholder review. There have been 402 downloads of this document since its posting online at the PMSP webpage. The Final Plan was concurrently submitted to our MAINPAS partner States, the NEIPMC, and the USDA. Additionally, availability of the Plan was posted to the entire membership of the NJinPAS Network listserv. It is notable that the 'Peach PMSP for New Jersey' was completed nearly 9 months ahead of schedule.

Lima Bean PMSP for Delaware, NJ, and the Maryland Eastern Shore - Collaborators from Maryland, Delaware, and New Jersey participated in the preparation of a regional PMSP for lima

bean. Led by Dr. Susan Whitney of University of Delaware, the workgroup for the Lima Bean PMSP first met in January 2003. Subsequent to review and comment on a draft Plan, the Work Group finalized the 'Lima Bean Pest Management Strategic Plan for Delaware, New Jersey, and the Maryland Eastern Shore'. It was released on April 10, 2003. The document is posted @ http://www.udel.edu/pesticide/finallimabeanPMSP. pdf.

It is significant that there was a great deal of involvement of lima bean growers and processors in this process, including New Jersey grower Henry DuBois of H & S Dubois, and Jersey processor Seabrook Brothers & Sons' Andrew Carpenter and Tom Godfrey. Other New Jersey members of the Work Group for this document included RCE staff, specifically Gerald Ghidiu, Vegetable Entomology Specialist; Kristian Holmstrom, IPM Program Associate; Joseph Ingerson-Mahar, Vegetable IPM Coordinator; Pete Probasco, Salem County Agricultural Agent; and Stephen Johnston, Vegetable Pathology Specialist.

Carrot PMSP for New Jersey - Carrot is the next candidate for a PMSP due to a significant carrot weevil problem. RCE IPM scouts have continued to work with local carrot growers in monitoring pest activity during the growing season. Extension Vegetable IPM Coordinator Joseph Ingerson-Mahar continues to work through our IR-4 liaison, Gerry Ghidiu to assess and formulate a pest management strategy for a continuing severe pest problem in carrot this that first occurred in 2001. This issue was brought to the attention of the Advisory Committee and it was unanimously agreed that carrot should be the next crop. Joseph Mahar completed a Crop Profile for Carrots for New Jersey as a precursor to the PMSP; it was posted to the Crop Profile webpage @ http://www.pestmanagement.rutgers.edu/NJinPAS/CropProfiles.htm on February 25, 2003.

Commodity IPM Working Groups - The NJinPAS Advisory Committee was briefed by Working Group members of current status during the September 2003 Advisory Committee meeting. Specifically, Jane Nogaki, founding chairperson of the NJ Environmental Federation reported status of the Greenhouses and Ornamental IPM (GOIPM) Work Group to the 2003 NJinPAS Advisory Committee.

Additionally, Peter Shearer, Extension Specialist in Tree Fruit Entomology reported for the regional Tree Fruit Commodity Working Group that they had solicited stakeholder input to document fruit research and Extension needs in the northeast region. He is the co-leader of that Group.

Pat Hastings, Extension Program Associate in Pest Management reported to the Advisory Committee that she recently became a member of the NE IPMC commodity group for Community IPM. She reported that we have been working with Extension Specialist Ann Gould on issuing revised recommendations for home grounds, and had finalized an introduction section discussing IPM. This revised document, 'Pest Management for Trees, Shrubs, and Flowers On Home Grounds', was released to the public on October 9, 2003. She also noted that we have put together a survey for the pesticides currently marketed to residents in New Jersey. She participated in a group conference call held on December 11, 2003.