

# Integrated Pest Management

Integrated Pest Management

## V(A). Planned Program (Summary)

### 1. Name of the Planned Program

Integrated Pest Management

## V(B). Program Knowledge Area(s)

### 1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
216	Integrated Pest Management Systems	100%		100%	
	<b>Total</b>	100%		100%	

## V(C). Planned Program (Inputs)

### 1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	23.0	0.0	13.0	0.0
<b>Actual</b>	5.0	0.0	7.6	0.0

### 2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 126184	1890 Extension	Hatch 807312	Evans-Allen 0
<b>1862 Matching</b> 452187	<b>1890 Matching</b> 0	<b>1862 Matching</b> 260362	<b>1890 Matching</b> 0
<b>1862 All Other</b> 128688	<b>1890 All Other</b> 0	<b>1862 All Other</b> 501242	<b>1890 All Other</b> 0

## V(D). Planned Program (Activity)

### 1. Brief description of the Activity

#### Research

- Develop new and novel techniques for pest management and pest detection

#### Delivery

- Provide IPM information to a wide variety of stakeholders
- Employ new methods for delivery IPM information

#### Education

- Conduct IPM educational programs for stakeholders
- Conduct IPM educational training for university students
- Conduct IPM educational training for Vo-Ag and FFA students
- Conduct IPM public awareness campaign
  - Work with communities, schools, businesses to help them meet their regulatory responsibilities on pesticide application
  - Help growers develop scouting programs to identify pest populations before significant plant damage occurs.
  - Develop pest management options to be used in an integrated or rotational program.
  - Identify indicators to help growers anticipate pest problems.
  - Develop monitoring techniques and population damage thresholds for selected pests.
  - Provide scientifically sound advice to state regulatory bodies on pest management and pesticide issues
  - Create a multidisciplinary program comprising of faculty, staff, volunteers, industry partners and government officials
  - Investigate IPM methods to help growers produce top quality crops, limiting or reducing production costs.
  - Evaluate all pest and crop management practices into a set of commercially used methods. These include the use of: pesticides, economic/aesthetic threshold levels, resistant cultivars, optimum horticultural practices, environmental monitoring, pest scouting, and fertility monitoring and recommendations.

### 2. Brief description of the target audience

•Municipalities •Pesticide applicators and their employers •Commercial pesticide applicators •State Dept. of Environmental Protection •Staff and students who gain valuable scientific experience •Industry partners in agriculture and related commodities •Consumers •NJAES Faculty and Staff involved in pest management research/outreach •Farmers

- Commodity groups
- New Jersey citizens
- School faculty, staff and children
- NJAES researchers
- Secondary and university students
- Governmental agencies
- Environmental organizations
- Agricultural, landscape, fine turf and other related industries

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	300	1000	10	100
2007	1500	2000	0	0

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

**Year Target**

**Plan: 0**

2007: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	2	8	10

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

Field experiments, grower field days, newsletters and articles, peer reviewed publications, production guides, educational symposiums, field visits, extension fact sheets, website development and maintenance.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	{No Data Entered}	0

**V(G). State Defined Outcomes**

O No.	Outcome Name
1	<p>Short Term</p> <ul style="list-style-type: none"> <li>• Develop improved IPM delivery methods</li> <li>• Develop detection, monitoring and sampling methods that reliably predict pest levels</li> <li>• Develop novel management methods for a wide variety of pests</li> <li>• Develop IPM training for secondary and university students</li> <li>• Improve public awareness about IPM</li> <li>• Determine the effectiveness of pheromones for mating disruption of pests</li> <li>• Greater understanding of entomopathogenic nematode species' effects on pests</li> <li>• Evaluation of the effectiveness of natural pesticides and crop management to reduce pests</li> <li>• Determine which types of plants attract pests to be used as a pest control method</li> </ul>
2	<p>Medium Term</p> <ul style="list-style-type: none"> <li>• Research and educational programs, and public awareness campaign increased adoption of IPM in traditional and non-traditional systems</li> <li>• Research findings used to develop new projects</li> <li>• IPM training of students creates new IPM interns, professionals and researchers</li> <li>• Knowledge of various natural insecticides and their effectiveness on pests</li> <li>• Determining the best time and application method for IPM products</li> <li>• Greater understanding of pest biology and ecology</li> <li>• Greater understanding of entomopathogenic species biology and ecology</li> </ul>
3	<p>Long Term</p> <ul style="list-style-type: none"> <li>• Protect commodities, homes and communities from pests</li> <li>• Increased abundance of high quality food and fiber products</li> <li>• Increased acreage in New Jersey grown under IPM practices</li> <li>• Reduced environmental problems associated with current pest management practices</li> <li>• A comprehensive understanding of best management practices for IPM that are economically viable and environmentally safe</li> </ul>
4	<p>Short Term * Develop improved IPM delivery methods * Develop detection, monitoring and sampling methods that reliably predict pest levels * Develop novel management methods for a wide variety of pests * Develop IPM training for secondary and university students * Improve public awareness about IPM * Determine the effectiveness of pheromones for mating disruption of pests * Greater understanding of entomopathogenic nematode species' effects on pests * Evaluation of the effectiveness of natural pesticides and crop management to reduce pests * Determine which types of plants attract pests to be used as a pest control method</p>
5	<p>Medium Term - Research and educational programs, and public awareness campaign increased adoption of IPM in traditional and non-traditional systems. Research findings used to develop new projects. IPM training of students creates new IPM interns, professionals and researchers. Knowledge of various natural insecticides and their effectiveness on pests. Determining the best time and application method for IPM products. Greater understanding of pest biology and ecology. Greater understanding of entomopathogenic species biology and ecology.</p>
6	<p>Medium Term - Research and educational programs, and public awareness campaign increased adoption of IPM in traditional and non-traditional systems. Research findings used to develop new projects. IPM training of students creates new IPM interns, professionals and researchers. Knowledge of various natural insecticides and their effectiveness on pests. Determining the best time and application method for IPM products. Greater understanding of pest biology and ecology. Greater understanding of entomopathogenic species biology and ecology.</p>
7	<p>Long Term * Protect commodities, homes and communities from pests * Increased abundance of high quality food and fiber products * Increased acreage in New Jersey grown under IPM practices * Reduced environmental problems associated with current pest management practices * A comprehensive understanding of best management practices for IPM that are economically viable and environmentally safe</p>

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8	Medium Term * Research and educational programs, and public awareness campaign increased adoption of IPM in traditional and non-traditional systems * Research findings used to develop new projects * IPM training of students creates new IPM interns, professionals and researchers * Knowledge of various natural insecticides and their effectiveness on pests * Determining the best time and application method for IPM products * Greater understanding of pest biology and ecology * Greater understanding of entomopathogenic species biology and ecology.
9	Medium Term - Research and educational programs, and public awareness campaign increased adoption of IPM in traditional and non-traditional systems * Research findings used to develop new projects * IPM training of students creates new IPM interns, professionals and researchers * Knowledge of various natural insecticides and their effectiveness on pests * Determining the best time and application method for IPM products * Greater understanding of pest biology and ecology * Greater understanding of entomopathogenic species biology and ecology.

**Outcome #1**

**1. Outcome Measures**

*Not reporting on this Outcome for this Annual Report*

**2. Associated Institution Types**

**3a. Outcome Type:**

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
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**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
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**V(H). Planned Program (External Factors)**

**External factors which affected outcomes**

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

**Brief Explanation**

**V(I). Planned Program (Evaluation Studies and Data Collection)**

**1. Evaluation Studies Planned**

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

**Evaluation Results**

Evaluation results are unique to each program. See Qualitative Outcome Statements.

**Key Items of Evaluation**