

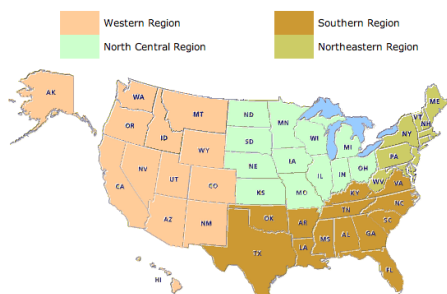


## North Central Nursery IPM Working Group and its Benefits to Producers

## North Central IPM Center

Robert E. Schutzki  
Department of Horticulture  
Michigan State University

### Regional IPM Centers



### NC IPM Center Objectives

- **Development and Adoption of IPM**  
We will enhance development and adoption of regional IPM solutions and strategically promote national outcomes for priority pest management issues.
- **Intra-Regional IPM Collaboration and Cooperation**  
We will bring people, programs and resources together by facilitating collaboration and coordination through improved communication.



## NC IPM Center Objectives

- **Inter-Regional IPM Collaboration and Cooperation**

We will enhance inter-regional collaboration and cooperation to ensure efficient use of resources and participate in national coordination meetings.

- **IPM Information Networks**

We will organize and maintain multi-state information networks designed to provide information needed to make science-based decisions.



## NC IPM Center Objectives

- **IPM Signature Food Security Programs**

We will promote and foster sustainable collaboration to respond to priority pest management challenges, and impacts resulting from regulatory actions.

- **Evaluation of IPM Implementation**

We support evaluation and measurement efforts in order to document the impacts of IPM implementation throughout the region.



## What the NC IPM Center Working Groups do:

- Support collaboration among diverse groups to collaboratively address a regional IPM priority.
- Enhance communication and collaborations for the IPM topic area addressed.
- Can develop proposals for further funding.
- Self selected and self directed.



## Desired outcomes for the NCIPMC's Working Groups program include:

- Improved understanding of current IPM issues across disciplines, crops and states
- Increased/new IPM knowledge
- Increased collaboration among diverse scientific and extension communities in IPM challenges/priorities



### Desired outcomes, continued:

- Increased adoption of IPM practices
- Improved economic efficiencies of information exchange and knowledge sharing
- Improved human health, and economic and environmental impacts



### NC IPM Center Critical Issues Grants

- Address new and emerging issues that require immediate intervention
- Preliminary studies to determine the best method to address the pest issue
- Initiate work requiring immediate attention until other longer-term resources can be secured to address the issue

### North Central Nursery IPM Working Group

1. Bring together public and private sector representatives directly related to nursery production in the region.
2. Conduct an annual conference with regional participation to discuss current IPM issues, challenges, relevant management practices and current efforts within the region.
3. Develop and conduct a Needs Assessment from nurseries in the region to identify gaps/voids in pest management and establish priorities for future efforts.



### Southern Nursery Integrated Pest Management Working Group



### North Central Nursery IPM Working G

- Representation from: Illinois, Indiana, Iowa, Michigan, Minnesota, North Dakota, Ohio, Wisconsin, Ontario.
- Inaugural Meeting – Michigan, August 30-31, 2016; 2017 Meeting – Illinois Date TBD
- Initial Needs Assessment 1.0 (email survey sent through Regional Nursery and Landscape Associations – 71 responses



### North Central Nursery IPM Working G

- **Needs Assessment 1.0** (email survey sent through Regional Nursery and Landscape Associations)
- Responses from: Illinois, Iowa, Michigan, Minnesota, North Dakota, Ohio, Wisconsin
- Crop Types in production: Trees, Shrubs, Ground Covers, Herbaceous Perennials
- Production systems: Annuals, Propagation, Container, Field



### North Central Nursery IPM Working Group

- Identify the top insects that affect your crop(s): broad list
- Do you have access to effective (adequate) control measures? R: 14.5% NO, 85.5% YES
  - No - Could use help timing of applications to plants or degree days.
  - Continual inspections & correctional applications are always needed
  - Because of the pollinators health, we decided to stop using neonic insecticides. It has become very difficult to control most of the insects.



### North Central Nursery IPM Working Group

- Are there any circumstances that impact or impede effective (adequate) control measures?
  - Available times to apply pesticides due to customer and worker pressure
  - Government interference and regulations
  - Proper training
  - Ability to maintain adequate spray coverage.
  - Re-entry intervals, insects becoming resistant to certain insecticides
  - Quandry over using neo-nics.



## North Central Nursery IPM Working Group

- Identify the top disease that affect your crop(s): broad list
- Do you have access to effective (adequate) control measures? R: 80% YES, 20% NO
  - Bacterial leaf scorch most difficult to control among the diseases.
  - Phytophthora & the tip blight control never seems to be adequate
  - We need a systemic treatment for verticillium wilt or a economical soil treatment to eradicate it from the field
  - Systemic fungicide for spruce needle cast.



## North Central Nursery IPM Working Group

- Are there any circumstances that impact or impede effective (adequate) control measures?
  - Lack of environmental control in some areas. Ability to penetrate tight canopies. Inability to maintain adequate air flow.
  - Lack of room for plant spacing.
  - Need more controlled circulation and adequate spacing.
  - Timing of sprays difficult to deal with.



## North Central Nursery IPM Working Group

- Identify the top weeds that affect your crop(s): broad list
- Do you have access to effective (adequate) control measures? R: 30% NO, 70% YES
  - We haven't found an effective pre emergent so we have stopped.
  - Thistle seems to be nearly bullet proof
  - Nutsedge remedies are very expensive for a field operation
  - Mares tail is becoming resistant to many post and pre emergent herbicides.
  - No good longterm chemical control works
  - Knapweed and spurge becoming a big problem.



## North Central Nursery IPM Working Group

- Are there any circumstances that impact or impede effective (adequate) control measures?
  - Available labor hours and traffic over pre emergent applications during Winter pruning and Spring harvest.
  - Getting the right pre-emergent herbicide down on our open growing areas in the container area.
  - Timing of applications in field production.
  - Growing product inside of a greenhouse.
  - Irrigation running daily
  - Labor costs when doing it by hand



## North Central Nursery IPM Working Group

- Do you employ any Integrated Pest Management practices in your operation?

- Regular scouting is performed before any control measures are applied. Thresholds are closely monitored.
- Yes, we are 100% beneficials
- Yes- UC Davis and Orton Coincide guidelines.
- Scouting is the most important tool we have.
- Checking the efficacy of the treatments is the next best thing we can do



## North Central Nursery IPM Working Group

- Identify any environmental issues that impact/effect your operation?

- Access to water in drought
- All of them have an impact, both positive and negative

- Identify any regulatory issues that impact/effect your operation?

- There are chemicals that worked great that are no longer available...but there's always something comparable
- Re-entry intervals while trying to satisfy customer demands
- None...we feel that if the government regulates a chemical then there is a good environmental reason. There are always alternatives...even though they might not work as well.
- EPA has taken away a number of pesticides that worked well in the past. Not really been replaced by anything that works that is reasonable in price



## North Central Nursery IPM Working Group

- Identify needs in educational materials that could aid your operation:

- We have them now. Two examples would be the Ohio State Insect and Mite Control on Woody Ornamentals and Herbaceous Perennials and Pacific Northwest Plant Disease, Insect and Weeds Manuals
- A forum that's easily recognizable where we can search for info or modules located in one area or webpage
- Continuing education in plant identification, as well as disease, plant, insect, and animal identification for scouting
- Common weed ID and control methods for container growing
- Practical pH adjusting information



## North Central Nursery IPM Working Group

- Identify needs in research that could aid your operation:

- What should we be planting for the future?
- We need a viable herbicide program that is effective
- Using growing degree days more often for insect, disease and(maybe) weed emergence.
- Timing research re herbicide applications.
- Species specific fertility guidelines
- Research on spruce needle diseases
- Research on species that are less commonly used in region



North Central Nursery IPM Working Group

- **Products and Services**
- **IPM Crop Profile**
- Crop Profiles provide the complete production story for a commodity and a look at current research activities directed at finding replacement strategies for the pesticides of concern. Crop Profiles include typical use information.



North Central Nursery IPM Working Group

- **IPM Crop Profile**
  - Title and People
  - Production Facts
  - Production Areas
  - Production Practices
  - Pests
  - Chemical Controls, Biological Controls, Cultural Controls, Physical Controls
  - Post – Harvest Controls, Pre-Harvest Controls, Alternative Controls
  - References



North Central Nursery IPM Working Group

- **IPM Crop Profile**
- Key Pest Profiles and Critical Issues: *Insect Pests; Diseases; Weeds*
- **Pests** – Description, Frequency of Occurrence, Damage, Percentage of Acres Infested per Growing Season/Cycle, Yield Losses Attributed to Each Pest, Regional Differences, Critical Timing of Control Measures, Effects on Beneficials and Pollinators.



North Central Nursery IPM Working Group

- **IPM Crop Profile**
- **Chemical Controls** –Product name, Formulations, Percent Crop Treated, Application Method (e.g. Aerial, ground, chemigation, banded, broadcast, in-furrow, etc.), Typical Application Rates, Typical Number of Applications / Growing Season or Cycle, Timing in Crop Stage, Typical Pre-Harvest Intervals (PHI), Typical Restricted Entry Intervals (REIs), Efficacy Issues per Active Ingredient, Expert Comments, Identify use of chemical in IPM programs, Identify use of chemical in resistance management programs, Pros/Cons, Toxicity to Beneficials



North Central Nursery IPM Working Group

• IPM Crop Profile

**Crop Profile for Ornamental Plants in North Carolina**

Prepared: September, 2004



North Central Nursery IPM Working Group

• IPM Crop Profile



**Crop Profile Container and Field-Produced Nursery Crops  
in GA, KY, NC, SC, and TN**

Based on a workshop held July 30-31, 2009  
at the North Carolina Research and Education Center,  
Mills River, NC

Workshop sponsored by  
a grant from the Southern Region IPM Center  
and coordinated by the  
Southern Nursery Integrated Pest Management Working Group (SNIPM)

North Central Nursery IPM Working Group

• IPM Pest Management Strategic Plan

- Pest Management Strategic Plans (PMS Plans) are developed by growers, commodity associations, land-grantspecialists, food processors, crop consultants, and EPA. These plans address pest management needs and priorities for individual commodities.
- Each plan focuses on commodity production in a particular state or region. The plans take a pest-by-pest approach to identifying the current management practices (chemical and non-chemical) and those under development. Plans also state the commodity's priorities for research, regulatory activity, and education/training programs needed for transition to alternative pest management practices.



North Central Nursery IPM Working Group

• IPM Pest Management Strategic Plan

- Title and People
- Workshop
- IPM Overview
- Priorities and Critical Needs
- Production Facts
- Production Areas
- Production Practices
- Pests –
- Chemical Controls, Biological Controls, Cultural Controls, Physical Controls
- Post – Harvest Controls, Pre-Harvest Controls, Alternative Controls
- References





North Central Nursery IPM Working Group

• IPM Pest Management Strategic Plan



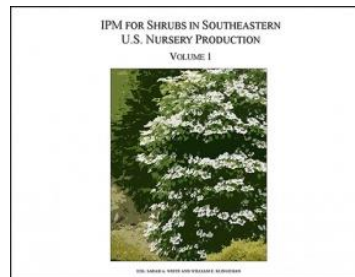
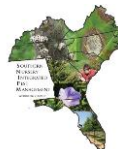
- Pest Management Strategic Plan for Container and Field-Produced Nursery Crops in FL, GA, KY, NC, SC, TN, and VA: Revision 2015



- Pest Management for the Future: A Strategic Plan for the Michigan Christmas Tree Industry

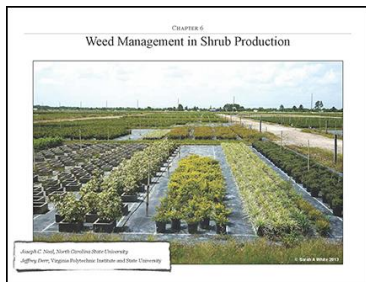
North Central Nursery IPM Working Group

• Resources:



North Central Nursery IPM Working Group

• Resources:



North Central Nursery IPM Working Group

• Resources:

**Practical Integrated Pest Management**

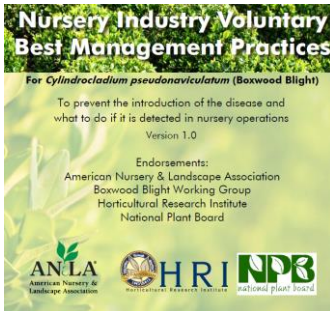


■ A framework for Pest Management in Nursery Crop Production



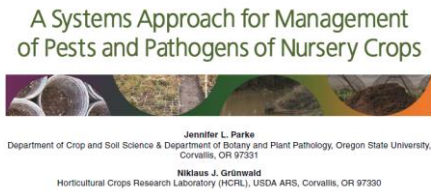
## North Central Nursery IPM Working Group

## • Resources:



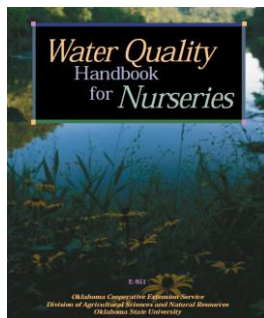
## North Central Nursery IPM Working Group

## • Resources:



## North Central Nursery IPM Working Group

## • Resources:



## North Central Nursery IPM Working Group

- Chairperson – Bob Schutzki, Michigan State University
- Vice Chairperson – Kyle Daniel, Purdue University
- LISTSERV: [NURSERYIPM@list.msu.edu](mailto:NURSERYIPM@list.msu.edu)
- To be added to the listserv contact:
- Bob Schutzki
- [schutzki@msu.edu](mailto:schutzki@msu.edu)

## North Central Nursery IPM Working Group

### Risk-based System Approaches to Nursery Certification Workshop

Presented by: Michigan State University and Michigan Nursery & Landscape Association  
and Michigan Dept. of Agriculture & Rural Development

March 9-10, 2017

Kellogg Hotel & Conference Center

Michigan State University • 219 S. Harrison Rd. • East Lansing, MI 48824



## North Central Nursery IPM Working Group

### • 10 Key IPM Practices – As suggested by Growers

- 1. When in Doubt – Send it out!
- 2. Take pictures and create a permanent record of nursery-specific scouting knowledge.
- 3. Develop a working knowledge of key pests and plant diseases.
- 4. Adopt a standardized sampling plan when scouting for pests and diseases.
- 5. Setting up irrigation zones for plant groups with similar water needs.

## North Central Nursery IPM Working Group

### • 10 Key IPM Practices – As suggested by Growers

- 6. Seasonal weed mapping provides growers a way to identify problem weeds and to better determine the point of weed origin and potential localized hot spots.
- 7. Quarantines and temporary isolation of incoming nursery stock
- 8. Bioprotectants are naturally occurring organisms or compounds that enhance a plant's ability to defend against plant pathogens.
- 9. Sticky cards, ethanol traps, and lures.
- 10. Acknowledging general IPM use in the nursery.

## What can the North Central Nursery IPM Working Group do for you?

### •Contact us

- Bob Schutzki – [schutzki@msu.edu](mailto:schutzki@msu.edu)
- Kyle Daniel – [daniel38@purdue.edu](mailto:daniel38@purdue.edu)