Educating Farmers and Ag Professionals about Invasive Species in Pesticide Training Workshops

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Driven to Discover℠
Team Members:

- Pesticide Safety & Environmental Ed Program
  - Dean Herzfeld, Coordinator
  - Tana Haugen – Brown, Co-Coordinator

- Extension Educators:
  - Phillip Glogoza
  - Dan Martens
Outline:

• Review Project
  – Background/Need
  – Method
  – Results
  – Impacts/Outcomes
• Show short presentation
• Summary
Background and Need:

- Growing number of invasive species in MN
- Many Terrestrial invasive species are in rural areas
- Education has focused on environmentalists and natural resource professionals
- Farmer awareness of invasive species are unknown and presumed to be minimal
Method:

• Two PowerPoint presentations were prepared for the farmer trainings:
  – short version with 2 invasives (buckthorn and brown marmorated stink bug)
  – longer version with 4 invasives (buckthorn, oriental bittersweet, emerald ash borer and brown marmorated stink bug).

• A commercial Ag PowerPoint was created which included a video presentation.
Results: (Pesticide Workshops)

- County sessions for farmers
  - 12 Counties hosted workshops
  - 467 Farmers

- Ag Professionals Workshops
  - 6 Regional workshops
  - 717 Ag professionals
Results:

1. **BEFORE THIS WORKSHOP, HOW KNOWLEDGEABLE WOULD YOU SAY YOU WERE ABOUT THE INVASIVE SPECIES IN AGRICULTURAL LANDSCAPES TOPICS PRESENTED AS A RESULT OF THE WORKSHOP YOU COMPLETED TODAY?**

   - **60.9 % OF PARTICIPANTS RESPONDED TO SOMewhat likely AND VERY likely.**
Results:

2. ARE YOU MORE KNOWLEDGEABLE ABOUT THE INVASIVE SPECIES IN AGRICULTURAL LANDSCAPES TOPICS PRESENTED AS A RESULT OF THE WORKSHOP YOU COMPLETED TODAY?

• 93.1 % OF PARTICIPANTS RESPONDED TO SOMEWHAT LIKELY AND VERY LIKELY.
Results:

3. HOW MUCH OF THE INFORMATION ON THE “INVASIVE SPECIES IN AGRICULTURAL LANDSCAPES” TOPICS PRESENTED DURING TODAY’S WORKSHOP WAS NEW TO YOU?

• 73.5 % OF PARTICIPANTS RESPONDED TO GOOD, HIGH OR VERY HIGH.
Results:

4. AS A RESULT OF TODAY’S WORKSHOP, HOW LIKELY ARE YOU TO MAKE CHANGES IN THE WORK THAT YOU DO, WITH REGARD TO THE “INVASIVE SPECIES IN AGRICULTURAL LANDSCAPES” TOPICS PRESENTED?

• 70.3 % OF PARTICIPANTS RESPONDED TO GOOD, HIGH OR VERY HIGH.
Impact and Outcomes:

• THE POTENTIAL IMPACT ...COULD LEAD TO EARLY DETECTION OF INVASIVE SPECIES.

• EARLY DETECTION IS KEY TO INVASIVE SPECIES CONTROL AND MANAGEMENT PRACTICES.

• ECONOMIC VALUES ...... MILLIONS OF DOLLARS.

• 1184 PARTICIPANTS
  – 32% INCREASED KNOWLEDGE
Summary:

- Farmers and Agricultural professionals are receptive to learning more about invasive species that may affect agricultural crops or rural areas.
- Teaching invasive species through the pesticide recertification program is an effective way to educate farmers and Ag professionals.
- Integrating invasive species topics in required workshop agendas is a great way to reach new audiences which may not attend IS programs.
Why should farmers and Agronomists know about Invasive Species

- Invasive species cause economic, environmental or human harm
- Invasive species (IS) are found in rural MN
- Farmers and Agronomists need to be aware of IS that may affect farmers income
- You need to be aware of pesticides that are used to control Invasive Species
Invasive Species in MN
(Farmers should be aware of Invasive Species)

- Buckthorn
- Oriental Bittersweet
- Emerald Ash Borer
- Brown Marmorated Stink Bug
Buckthorn

Positive ID is Important:

Common and Glossy Buckthorn

Many look-a-likes.
Buckthorn:
(Winter Host of Soybean Aphid)

*Rhamnus cathartica,*
An exotic invasive tree

Eggs

Soybean Aphids and eggs on bud
Oriental Bittersweet

Perennial vine spreading by rhizomes kills native plants
Distinguishing Bittersweets

American          Oriental

Fruit capsule color

Orange            Yellow

Fruit position

American          Oriental
Woody Plant – Control:

• Foliar, Pulling, Bark and Cut Stump treatments
• Foliar applications may kill desirable plants
• Pulling if fibrous roots (<1 ft. tall)
• Basal (bark) sprays (< 4 “ dia.)
• Cut Stump procedure is best
• Use labeled brush herbicides
• Brush herbicides with “Triclopyr” are effective
Emerald Ash Borer

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(Parasitic Wasps: Lays eggs on EAB Eggs and Larva)
Emerald Ash Borer – Control:

• “Does My Tree Have EAB?” (Checklist)
  – www.z.umn.edu/eabchecklist

• www.extension.umn.edu/issues/eab

• Insecticides are mainly used as prevention

• Treatments: Trunk injection, soil drench

• Most treatments offer one (1) year protection

• Review publications on web site

• Plant other trees
Brown Marmorated Stink Bug

The native Brown Stink Bug is smaller but looks similar to BMSB.
Hosts: >300 species (Causing economic damage)

- Soybeans, Corn, Beans, Peas, Grape, Tomato, Raspberry, Pepper, Sunflower
- Apple, Pear, Cherry, Peach, Apricot, Mulberry, Norway maple, White ash, Viburnum, Catalpa, Hackberry, Lilac, Dogwood, Willow

Parasitic wasp:
If you find a possible invasive species call…

"Arrest the Pest"

1-888-545-6684

Arrest.The.Pest@state.mn.us

www.mda.state.mn.us/plants/insects.aspx
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Thank you!

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