

Blending the IPM Program with your Ag Science Program

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Today's topics

- What's required and what's Best Management Practices
- Where is the Ag Science program located
 - In close proximity to what and what is coming
- Does the Ag Science teacher need a license?
- The role of the coordinator
- Types of settings
- Best Management Practices



What's required

- Teacher
- Location
- Students
- Funding
- Generally has School Board approval
- The benefit – making the next generation aware of agricultural science type programs.



Locations

- Existing
 - Once rural now urban
 - Stand alone away from others
 - Greenhouse - gardens
- New (moving)
 - New location has new development
 - What to construct – eco friendly
 - Greenhouse or new garden placement

Ag Science Teacher

- To License or not to license that is a question?
 - What type of class are they teaching
 - What is their background
 - Can they aid with other duties within the IPM program?
 - What type of license – TDA noncommercial, TDA private applicator, TDA research

Ag Science Teachers role ?

- Could be you?
- Could be the science lab person for chemicals
- Assist with pesticide applications
- Assist with insect identification
 - Ability to identify certain species to assist coordinator in relaying information to pest control company



Teacher keep good records

- Maintain copies of inspections and monitoring reports
- Plant or animal information
- Maintenance records
 - Weeding, pruning, etc
- Pesticide purchases and storage
- Pesticide applications
 - Trade name, AI, EPA reg, % used, solution, etc.



TDA Q527
1/07

Texas Department of Agriculture
Todd Staples, Commissioner
Pesticide Applicator Record

Business Name _____ Address _____

Application Date	Time Started	Name of the person for whom the application was made	Location of Land Treated		Site Treated	Wind Direction	Wind Velocity	Air Temp
Product Trade Name		EPA Registration Number	Target Pest	Rate of Product Per Unit	Equipment ID #	Spray Permit Number		
Licensed Applicator's Name and License Number			Unlicensed Applicator's Name, if applicable		Total Acres or Volume of Area Treated	Total Volume of Spray Mix, Dust, Granules or Other Materials Applied Per Unit		
Additional Information								

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Additional Information								

IPM Coordinator – Program Role

- Know Your Ag Science Teacher (s)
- Identify all areas of use for the Ag program
 - Routinely inspect these areas like school buildings to ensure of pest free conditions
 - Keep up with known pest issues
 - Randomly check for pesticides, quantity and storage
- Ensure waivers for parents are being used if students are to be present during applications



Real life examples – using School IPM

- Ag Barn classroom with mice
- Greenhouse with tomatoes with white flies
- Ag barn stable area with flies and mosquitoes

Reminders about Ag Barns

- Manure management is essential
- Storage of food products
 - Keep in air tight containers
 - Watch for spillage
 - Keep water troughs clean and free of debris
 - Store hay and other bedding material away from water











IPM for Greenhouses

- Scouting
- Thresholds
- Understanding life cycle & insect behavior



Scouting

- Cornerstone of successful IPM program
- Regular intervals
 - Insects, diseases, and cultural problems
- Uses sticky traps, pheromone traps, baits and visually inspecting plants
- Report forms, sample vials, forceps, pH meter



Know your thresholds!

- Health / stress threshold
 - Threshold reached when pest damage causes a perceived health threat to humans or significant stress to plant (landscape)
- Aesthetic threshold
 - Threshold reached when aesthetic pleasure is affected by damage

Know your thresholds

- Economic
 - Number of pests whose injury to the plants cause a crop loss in dollars greater than the amount of money managing the pest would cost.
 - The level that actually produces damage that is more expensive than intervention
 - When this threshold is met, it's time to treat.

IPM Techniques - Prevention

- Clean transplants
 - #1 problem comes from infected plants
 - Know your grower and know your plants
 - Inspect plants immediately prior to planting
 - Ensure that greenhouse floors are not soil
 - Use insect screens on doors and ventilating systems
 - Keep outside doors closed at all times

IPM Techniques - Prevention

- Cultural controls
 - Manipulates the greenhouse environment
 - Varying time of planting or harvesting, applying water and fertilizer, and rotating crops can all aid in healthy plants
 - Proper growing medium, controlling temperature & humidity, maintain nutrients at appropriate levels

IPM Techniques - Prevention

- Sanitation
 - Weed management is essential – weeds hide pests
 - Maintain a weed-free zone surrounding the greenhouse
 - End of year clean-up in and around the house will help keep the area pest free
 - Pressure wash inside with disinfectant
 - Increase temp to over 80F – back them out

IPM Techniques - Prevention

- Sanitation
 - Eliminate standing water
 - Remove areas of algae
 - Good source for fungus gnats & flies
 - Consider installing screens over vents
 - Soil or growth medium should be treated for pests and diseases through crop rotation and/or steaming
 - Will reduce carryover of pests like thrips or spider mites

Between seasons

- Place yellow sticky cards in empty greenhouse to monitor for flying pests
- If pesticides are needed
 - Choose insect specific
 - Have short residual
 - pyrethrins
 - Insecticidal soap
 - Horticultural oils
 - Insect growth regulators



Types of sticky



- Bright yellow cards most common
 - Trap majority of insects
- Blue cards to monitor for thrips
- Change every other week
- One card for 1,000 sq ft
- Reduce # of cards if using winged beneficials
- Place cards 1 to 2 inches above plant canopy and move as plants grow



Insect Identification

- Correct identification aids in correct control techniques
- Will need hand lens with 10x magnification

