



# AEM Tier II Worksheet

## Greenhouse Pest Management

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### Glossary

**Biological Control:** Biological control is the use of a specially chosen living organism to control a specific pest. This chosen organism might be a predator, parasite, or disease that will attack a harmful insect or weed.

**Integrated Pest Management (IPM):** A systematic approach to managing pests, which focuses on long-term prevention or suppression with minimal impact on human health, the environment and non-target organisms. IPM incorporates all reasonable measures to prevent pest problems by properly identifying pests, monitoring population dynamics and utilizing cultural, physical, biological or chemical pest control methods to reduce pests to acceptable levels.

**Scouting:** Monitoring for type and frequency of pest occurrence to determine thresholds for treatment.

**Worker Protection Standard:** A federal regulation intended to reduce the risk of pesticide poisonings and injuries among agricultural workers who are exposed to pesticide residues on plants. The WPS requires greenhouse owners to assure that untrained workers receive basic pesticide information before they work with treated plants.

### Background

Pesticides play an important role for pest management in greenhouse crop production. Although many producers use a combination of practices to manage pests, pesticides can help to increase production and plant quality. However, if pesticides are not carefully selected and properly applied, they have the potential to contaminate surface and groundwater.

Integrated Pest Management (IPM) strategies should be employed to identify alternative crop production and crop protection practices, which help minimize or avoid pest problems, reduce or eliminate pesticide use and costs, and maximize potential net profitability of crop production. These practices include, but are not limited to, use of disease-resistant varieties, inspection of all incoming plant materials, and consistent pest scouting.

#### Agricultural Water Quality Principle:

Pest management is an important part of producing greenhouse crops. Special care needs to be taken to ensure that pesticides do not reach surface or groundwater resources where they can pose a serious threat to water quality and human health.

| <b>AEM Tier II Worksheets<br/>Pest Management</b>                  |  | <b>Potential Concern</b>   |  |  |
|--|--|--|--|--|
|  | <b>1-Lower Risk</b>  | <b>Level 2</b>   | <b>Level 3</b>   | <b>4 – Higher Risk</b>   |
| <b>What is the distance of applications from a well or spring?</b> | Greater than 200 ft.   | Between 100 and 200 ft.  | Between 50 and 100 ft.   | Less than 50 ft.   |
| <b>What method of pesticide application is used?</b>               | Pesticide applications are done based on scouting results. Spot sprays are used whenever possible.   |  | Pesticide applications are done based on scouting results. Mist sprays are usually used.                             | Pesticides are applied on a regular schedule.                              |
| <b>What monitoring and record keeping is practiced?</b>            | Records kept of weekly scouting results, yellow sticky cards used to monitor; staff trained for correct pest identification  | Records kept of weekly scouting results, yellow sticky cards used to monitor | Records kept of significant insect pests   | Records are not kept. Little to no monitoring is used.                     |
| <b>How are pesticide-use records kept?</b>                         | Pesticide use is recorded immediately after each application and include the target pest, pesticide used, rates, date, method of application and location. Records maintained for a minimum of 3 years |  | Pesticide use is usually recorded immediately after each application. Chemicals used and rates applied are recorded. | No records are kept. Chemicals used are known by memory and invoices only. |

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|---|---|--|--|--|
|   | <b>1-Lower Risk</b>   | <b>Level 2</b>   | <b>Level 3</b>   | <b>4 – Higher Risk</b>   |
| <b>Is pest-reducing sanitation practiced?</b>   | Bench top, floors, pots & equipment are always disinfected between crops; incoming plants are disease- and insect-free; debris and infected plant material removed weekly |  | Bench top, floors, pots & equipment are not always disinfected between crops; incoming plants are disease- and insect-free | Pest reducing sanitation is not practiced or done sporadically                                   |
| <b>What is the level of training of the business owner and the pesticide applicators?</b> | The applicator is appropriately certified as a commercial applicator <b>AND</b> pesticide labels are followed.  | The owner is appropriately certified as a commercial or private applicator and provides direct supervision to appropriately trained employees doing the application, <b>AND</b> pesticide labels are followed. | No one involved in application is certified, but labels are followed.  | No one involved in application is certified <b>AND</b> Pesticide labels are not always followed. |
| <b>Is application equipment regularly calibrated?</b>                                     | Spray equipment is calibrated at the beginning of each season <b>AND</b> after every 250 hours of spraying <b>AND</b> after changes of nozzles or pressure gauges.        | Spray equipment is calibrated at the beginning of each season <b>AND</b> after changes of nozzles or pressure gauges.  | Spray equipment is calibrated at the beginning of each season only.  | Regular calibration of equipment is not practiced.   |

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|---|--|--------------------------|---|---|
|   | <b>1-Lower Risk</b>  | <b>Level 2</b>           | <b>Level 3</b>  | <b>4 – Higher Risk</b>  |
| <b>Are non-chemical pest controls, such as cultural, biological, physical and mechanical, considered?</b> | A combination of pest controls is used when available and when economically feasible to minimize environmental impact.   |                          | Some cultural, biological, and physical techniques are used for pest control. | Rely only on chemical pest controls.                              |
| <b>What criteria are used for pesticide selection?</b>  | Pesticide selections are made with consideration of efficacy, consultation with a trade professional on environmental risk, restricted re-entry interval, and preservation of the natural enemies of the specified pest and days to harvest. |                          | Pesticide cost and efficacy are considered when making pesticide selections.  | Only product cost is considered when making pesticide selections. |

Other:

1. Do you feel comfortable that you are in compliance with the Worker Protection Standard?
2. Are incoming plant shipments inspected for pests and quarantined from other plants?
3. Are IPM principles considered in your pest management program?
4. Do you consider environmental impact when selecting a pesticide (i.e. lethal dosage, solubility)?
5. Do you utilize the NYS Elements of IPM (Integrated Pest Management) to assist in your pest management decision making?  
<http://nysipm.cornell.edu/elements/ghouse.asp>