

## Integrated Pest Management for Greenhouse Crops Top Topics for 2011

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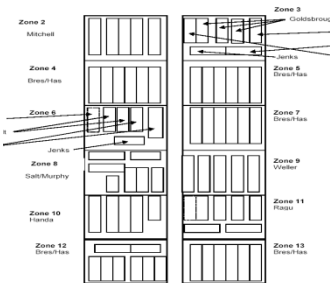
Integrated Pest Management (IPM) is a decision making process for pest control. Diseases and insects are the primary challenge. IPM involves a process of understanding the options available to manage pests to a level that is acceptable.

The first step in an effective IPM system is correct identification of your “pest”. This is critical knowledge for choosing an effective pesticide or any management strategy. When you “guess”, the potential for choosing the wrong treatment tool is elevated and that equates to a loss of valuable time and money. When the pest is properly identified, the choice of a control tactic is not fixed, but depends on efficacy, cost, safety to workers, and environmental impact.

Formal weekly monitoring for pest populations using a random sampling system provides excellent results for estimating pest trends. This monitoring system utilizes both visually inspection of plants and sticky trap specifically for insect counts. The scouting should be performed by a trained individual who understands insects, diseases and plant science in order to identify plant responses to insects or diseases. The scout can be an employee of the greenhouse or a hired consultant specializing in greenhouse scouting. Promptly identifying isolated disease or insect issues reduces the possibility of an extreme outbreak that can become more difficult and costly to manage. Using a mapping system is a great tool for monitoring the trends and movement of the pests. The maps are an excellent record keeping source for



Photo by: Jeanne Himmelein



Greenhouse map

monitoring results of the management choices and historical information for future cropping seasons. Once the identity of the pest is determined and the pest density established, the discussion is to determine if that pest density has reached the threshold level for an action to be taken. This is not the time to determine the threshold; management must decide threshold levels prior to planting a crop. Threshold levels are influenced by economic impact, insect or disease reproduction/life cycle systems and by laws or customers. Once all the appropriate information is available, choosing the

appropriate management strategy is important. Contact your extension educator or specialist to help determine the appropriate action based on your needs and desires.

Management options include: the manipulation of the environment, plant and pest. Pest manipulation is one of most commonly used IPM practices and it includes pest prevention, pesticide use, biological control agents and behavioral or physical barriers. Plant manipulation includes cultural practices, and host resistance options. Environmental manipulation is categorized as changing cultural practices within the host plants and the surrounding areas.

Follow-up after any action is taken is important in determining if you obtained the results you desired. This step completes the process of your record keeping system.

To contact an expert in your area, visit [people.msue.msu.edu](http://people.msue.msu.edu), or call 888-MSUE4MI (888-678-3364).

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MSU Extension's research information is designed to educate the producers on important information about the pest, its key hosts and options for control based on researched techniques. To locate a full listing of articles written about greenhouse pest management visit: <http://news.msue.msu.edu/news/category/floriculture>.

### 2011 Topics:

#### Disease topics:

##### *Coleus and Downy Mildew*

[http://news.msue.msu.edu/news/article/coleus\\_downy\\_mildew](http://news.msue.msu.edu/news/article/coleus_downy_mildew)

##### *Tomato disease*

[http://news.msue.msu.edu/news/article/how\\_to\\_spot\\_and\\_stop\\_diseases\\_on\\_greenhouse\\_tomato\\_seedlings](http://news.msue.msu.edu/news/article/how_to_spot_and_stop_diseases_on_greenhouse_tomato_seedlings)

##### *Powdery mildew*

[http://news.msue.msu.edu/news/article/look\\_for\\_powdery\\_mildew\\_in\\_the\\_greenhouse](http://news.msue.msu.edu/news/article/look_for_powdery_mildew_in_the_greenhouse)

##### *Bacterial leaf spot*

[http://news.msue.msu.edu/news/article/bacterial\\_leaf\\_spot\\_of\\_begonia](http://news.msue.msu.edu/news/article/bacterial_leaf_spot_of_begonia)

##### *Fungal diseases on vegetables*

[http://news.msue.msu.edu/news/article/keep\\_fungal\\_diseases\\_away\\_from\\_vegetable\\_transplants](http://news.msue.msu.edu/news/article/keep_fungal_diseases_away_from_vegetable_transplants)

##### *Botrytis*

[http://news.msue.msu.edu/news/article/warm\\_gray\\_and\\_fuzzy](http://news.msue.msu.edu/news/article/warm_gray_and_fuzzy)

##### *Thielaviopsis*

[http://news.msue.msu.edu/news/article/are\\_your\\_plugs\\_not\\_growing\\_properly\\_or\\_do\\_they\\_have\\_thielaviopsis](http://news.msue.msu.edu/news/article/are_your_plugs_not_growing_properly_or_do_they_have_thielaviopsis)

#### Insect topics:

##### *Thrips*

[http://news.msue.msu.edu/news/article/understanding\\_western\\_flower\\_thrips](http://news.msue.msu.edu/news/article/understanding_western_flower_thrips)

##### *How to submit sample for proper identification*

[http://news.msue.msu.edu/news/article/tips\\_on\\_submitting\\_arthropods\\_for\\_identification](http://news.msue.msu.edu/news/article/tips_on_submitting_arthropods_for_identification)

##### *Aphids and Spider mites*

[http://news.msue.msu.edu/news/article/greenhouse\\_growers\\_need\\_to\\_watch\\_for\\_aphids\\_and\\_two\\_spotted\\_spider\\_mites](http://news.msue.msu.edu/news/article/greenhouse_growers_need_to_watch_for_aphids_and_two_spotted_spider_mites)

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