Monitoring Your Pests

Background:

In order to produce high-quality crops, it is vital to detect pest problems early, before plants are severely injured. Scouting for pests and monitoring their population levels are important components of a successful IPM plan. Scouting is not something that happens only once. Greenhouse crops should be inspected at least once a week, more often if a pest problem is suspected. Scouting techniques used will depend on the pest species present but may include visually inspecting plants, sticky cards/traps, pheromone traps and baits.

Procedure:

You and a partner will work together to create a monitoring plan for one pest/problem in the greenhouse. The data and research that you collect will be complied and you will write a report, due at the end of the term.

Items to consider/include:

1. **Name** (common and scientific) of specific pest (given to you).

2. **Biology**/behavior specific to pest.

3. Make a management recommendation for the assigned pest.

    a. What cultural and physical tactics are recommended?
    b. What biocontrol options are recommended? Costs? Benefits?
    c. What is the current pest population?
    d. Should biocontrols be implemented now? Why or why not? If not, when (at what pest population level)?

4. How you are going to scout/monitor this pest.

    a. Create a diagram to collect data.

    b. Supplies you need may include but not limited to: sticky cards (yellow, blue), hand lens (10x or greater), ruler, forceps, insect collecting vials, flagging tape, potato slices, blank paper (or scouting report form*), spoons to collect soil samples, plastic bags, pH meter, min/max thermometer.

    c. Establish the general details that should be recorded each time the area is scouted (day, time, min/max temperature, location) and more specific details (plant sampled, name of pest found, number of plants sampled, number of pests found per plant, health of plant, injury noticed, etc.). Cultural aspects should be monitored as well (soil pH,gaps in doors/windows, vents, temperature, humidity, sanitation, water, greenhouse construction etc.)

    d. Where are you going to monitor? (ex. every plant, in a zig-zag pattern, hang sticky card or place in plant, observe only certain plants, etc.)

    e. How are you going to monitor? (ex. sticky card, potato slice, hand lens, etc.)

    f. What are you going to monitor? (ex. every day, once a week, Tuesdays and Fridays at 3:00pm, etc.)

5. **Analyze** if the monitoring technique you chose worked.
    a. What worked well with this technique?
    b. What would you change if doing it again?

6. **Summarize** what you learned about the pest after monitoring the problem over several class periods, its population, and effects on plant health during the monitoring time.