

Integrated Pest Management in a Public Garden — Lessons Learned

Have you ever had one of those perfect days? You know the one I mean, a day where everything goes exactly according to plan — your to-do list is neatly checked off in a timely fashion and you even have time for a coffee break. I often find that my days working in integrated pest management at a public garden are not those days. What's more, I wouldn't have it any other way!



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The Integrated Pest Management (IPM) division at Longwood Gardens is a small one, with just three full-time staff members. Our gardens are spread out over a little under 1,100 acres with four of those being under glass in our conservatory complex. The IPM team is responsible for diagnosing pest issues on plants residing in greenhouses, interiorscapes and the outdoor gardens. A pest might refer to an insect, but it could also be masquerading as a disease or plant virus. As such, we are called upon to

know a variety of different sciences such as entomology, plant pathology, biology, virology, proper plant cultural requirements and the list goes on. We need to wear many hats depending on the problem at hand. Finding success in such a varied landscape lies in developing strong IPM programs that equally incorporate flexibility and preparation.

AN IPM MISSION

Our mission in the IPM group is to reduce the impact of unwanted living organisms on our plants, infrastructure, and people using sustainable — yet effective — practices. We combine biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks. Choice of tactics is based on effectiveness, environmental impact, site characteristics, safety, economics and expectations/preferences.

A successful IPM strategy at a public garden needs to balance aesthetics, safety and science. I'm always searching for the least toxic, yet most effective, method to battle pest issues. Another important factor to consider is the desired result. A common misnomer is that a healthy, aesthetically pleasing plant also means the plant will have no insects present; that is not always the case. When employing a biological control strategy, you might be using beneficial insects to control pest insects. With that kind of strategy, you often have insects present on a crop. That's okay! Take into consideration your thresholds: What level of damage is acceptable to still produce a quality crop but use a more

sustainable, less chemical-forward approach? Eradication is not always the best answer.

FLEXIBILITY IS KEY

I've always found that not only do I wear multiple hats as an IPM manager at a public garden — algae wrangler, researcher, educator — but I also have to be flexible. Sometimes, the best laid plans do not work out. When working with living organisms, you never know when an insect outbreak might explode, a disease might wipe out half of a crop, or a windstorm might wreak havoc throughout the outdoor landscape. Whatever the issue at hand is, I need to be flexible and pivot as needed. Prioritization and multitasking are the two skills I use most regularly and have honed into a science. On any given day, I might be juggling a research project, giving a lecture and diagnosing a mystery disease. While I'm multitasking, I'm also prioritizing tasks and looking for IPM threats looming on the horizon. A lot of my time is spent developing management plans for those looming threats. This is vital to a good IPM program as preparation and monitoring are key.

TAKE CHANCES, MAKE MISTAKES, BE PREPARED

The past few years we have been inundated with a variety of pests such as boxwood blight, emerald ash borer and the spotted lanternfly. In each case, I had a management plan ready so my team could jump into action immediately upon discovering the invader at hand. In some instances, we modified our plan as we went, innovating and adapting as needed. We learned from our experiences each time, making us better stewards of the public garden we are charged with protecting. I've learned to not be afraid to make mistakes. Sometimes what you think might be a "major fail" — such as a total crop failure, an experiment that went horribly wrong, or a botched treatment program — might teach you exactly what you needed to know. That 'failure' will only help in the future to build stronger IPM programs. My motto is to be prepared wherever possible, but to not be afraid to take chances. Fail sometimes, adapt as needed, and be stronger the next time around.

I often get asked what my favorite part of IPM is. My answer is always the same — I enjoy how varied my days are and how there is always something new and exciting to discover each day in IPM. It's like putting together a different puzzle each day. The process of fitting each piece together is my passion and why I love coming to work each day. [gpn](https://www.gpn.org)