

Garden for the Environment + SFPUC's  
**Introduction to Sustainable Gardening Series**

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The Introduction to Sustainable Gardening Series is a three-part workshop series designed to help transform a backyard into a thriving, sustainable garden. This course will teach the basics for planting and caring for a flourishing perennial garden that saves water and attracts pollinators and beneficial insects.

Workshop 1: Sustainable Garden Design

Workshop 2: Water-Wise Gardening

Workshop 3: Organic Pest Control

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**PART III: ORGANIC PEST CONTROL**

**Goal:** Learn how to maintain a thriving garden without the use of pesticides.

**Agenda**

1. Introduction – 15 minutes
2. Lecture – 45 minutes
  - a. Importance of biodiversity in urban gardens and how to achieve it
  - b. Importance of proper plant care in the prevention of infestations
  - c. IPM process and types of interventions
3. Hands-on Practicum – 45 minutes
  - a. Walk around the garden to look for bugs
  - b. Do an intervention to help with an existing pest issue
  - c. Check on their garden area and water or adjust mulch as needed
4. Closing and Q+A – 15 minutes

**GFE will provide**

- Examples of garden pests to show students
- Spray bottles for small groups
- Pruners and gloves
- Mulch
- Watering Cans
- Evaluations for students
- \$10 Urban Farmer Store or Cole Hardware gift card for each student

**Introduction**

A GFE staff person will introduce you to the group at around 10:05 and give out gift cards. Re-introduce yourself (feel free to plug your work!) and mention that this workshop is Organic Pest Control, part three of three in the Introduction to Sustainable Gardening

Series, and explain the goal for this workshop. Remind folks that this series is just an introduction – there is much more to learn by taking other workshops and consulting with folks at nurseries. There are also resources at [gardenfortheenvironment.org/resources](http://gardenfortheenvironment.org/resources). We also encourage you also to come back to our free volunteer hours to work with us in the garden maintaining our plants. This is the next step in learning how to manage your garden!

Then, make a brief statement about how our pest control choices in our gardens can impact the health and safety of our gardens, protecting our kids and pets. We can help keep our water clean when it discharges into the ocean or bay, and protect the biodiversity of our city from bees and butterflies up to the hawks, owls, and coyotes at the top of the food chain.

#### **A: Biodiversity in the garden.**

- Discuss how the perennial borders are a reservoir of biodiversity, while the constantly disturbed annual veggie beds don't have much biodiversity.
- The perennial borders protect the veggies from developing infestations, because predatory insects, birds, and arachnids are attracted and protected by the border plants, and they are busily eating the pest insects.
- At GFE we intentionally provide many plants in the border that help to promote a larger ecosystem in the garden and attract and support beneficial insects.
- Explain why we don't spray toxic pesticides with the three Rs: residue (including runoff), resistance, rebound - instead, we use IPM.

#### **B: Importance of proper plant care and maintenance.**

- Proper and consistent plant care can prevent pest infestations before they occur – unhealthy plants are more susceptible to disease and pest outbreaks!
- Watch your plants as they get established and grow and look for any signs of distress – wilting leaves, yellowing, spots, lack of growth for many months, etc.
- Check the moisture in the soil – if it's too wet, water less. If a plant is wilting, increase irrigation and monitor the results for a few weeks.
- Keep your plants appropriately pruned to maintain airflow in the leaves, keep them at a manageable size, and so that it fits with your vision for the garden.
- Regularly mix compost into the soil or as a top dressing to keep up nutrient levels for your plants.
- Pull weeds so that the plants you want can take full advantage of the soil's nutrients and water, and mulch to prevent weed growth and help your soil stay moist and full of life.

#### **C: IPM is a decision-making process with definite steps.**

- If a pest problem does occur, first, decide whether the pest damage is something you can tolerate, or something you have to act on. Many pest problems are endemic, or happen every year at certain times, and they can be ignored.

- Second, make a definite ID of your pest, and learn about its life cycle. For example, a grass weed that reproduces mainly by seeds would be handled differently from a grass weed that reproduces mainly by spreading underground roots. We try to interrupt the life cycle so that the pest can't multiply in our gardens.
- If intervention is needed to get rid of pests, try the least toxic method first. This is a good time to get the class up and moving, they enjoy learning about these interventions by seeing examples in the garden.
- Cultural interventions:
  - Is the affected plant undernourished or over fertilized? Under watered or overwatered? Does it need pruning?
  - Sometimes opening up a plant so that air and sunlight, birds and predatory insects have access is all that is needed.
  - Is your plant the wrong match for its exposure, soil, or watering frequency, or planted at the wrong time of year? Remember right plant, right place. Thriving plants have their own immune systems and seldom need help combating insects or diseases.
  - If it's the wrong plant, it may need to be transplanted or removed. Sometimes it can be replaced with a disease resistant variety.
- Mechanical interventions:
  - These include traps and barriers, give some examples: gopher baskets, copper tape, and row cover are a few that are usually visible.
- Physical interventions
  - Removing or crushing pests is sometimes effective and doable, we do this all the time in our veggie beds
- Nontoxic sprays:
  - Spraying homemade concoctions sometimes works very well.
  - Diluted dish soap is effective on soft bodied insects, baking soda can change the pH of leaf surfaces and prevent fungal infections.
  - Kitchen sink rule, if we wouldn't use this substance in our kitchen sink we don't use it in our gardens.
  - Talk a little about how pesticides labeled green or organic or biological in the nursery may still kill many beneficial organisms or accumulate in the environment.

### **Practicum**

- Break the students up into small groups, each with a spray bottle filled with water.
- Show them how easy it is to find spider webs by spraying, and have them go look for spider webs in the borders. Once they are looking closely, they will see lots of life.
- Work on a plant or garden area at GFE that is experiencing a pest issue (GFE staff will reach out in advance with some ideas for intervention sites).
- Check on the plants that the group installed last week.

- Help them hand water any that need it, adjust mulch and irrigation, admire their work and point out how the plants are already developing and the section is looking good.

**Closing**

Answer questions, fill out evaluations, and make sure any latecomers find GFE Staff to get a gift card. Try to end the class on time (12pm).