Improving Your Pest Management Practices

The Impacts of Pesticides

Pesticides include insecticides, herbicides, and fungicides. Many of these are harmful to vulnerable pollinators such as bees, butterflies, and other creatures needed for pollination.

Insecticides
Used to kill insects, the chemicals found in these products can harm bees and other pollinators when sprayed on or near places they frequent for foraging. Insecticides containing Neonicotinoids pose extended risk, as they persist in plants and the surrounding environment for months to years after application.

Herbicides
Herbicides pose the greatest risk because they kill flowering plants, which greatly reduces the amount of pollen or nectar available to our pollinators. Some types can even directly harm bees – affecting navigation in honeybees or reducing gut health, which makes them more susceptible to harmful pathogens.

Fungicides
Fungicides can make pollinators more vulnerable to disease. When used concurrently with other chemicals, such as insecticides, the harmful effects of fungicides multiply.

How You Can Manage Pests Without the Use of Chemicals

- First, address the underlying cause of your pest issue. Plants can be more vulnerable to pests when they are non-native to the area in which you have planted them, are receiving too little or too much water or nutrients, or are otherwise stressed. Replace any such unhealthy plants with better suited plants. [1]

- Identify the pest and manage accordingly. Search for the pest name + IPM (*Integrated Pest Management*) online to find good management suggestions that are pollinator-friendly. The Northwest Center for Alternatives to Pesticides also offers assistance in pest identification and management. [2]

- Be careful not to kill insects that are actually beneficial to your garden! Insects including ladybugs, praying mantis, hoverflies, lacewings, and dragonflies are beneficial to your

[1] The Xerces Society
[2] The Northwest Center for Alternatives to Pesticides

plants and can help keep harmful pests at bay! [3]

- Weed by hand or with the use of tools. Avoid spraying, as these chemicals can easily transfer to other plants and become contaminated or stay within the soil for long periods of time, affecting future plants and pollinators. Spreading bark mulch can help to prevent weed growth and even provide nesting areas for bees. [4]

- Waste Management: Remove dead leaves, fallen fruit, and other debris where pests might take refuge. Any plants already infested should be completely removed and disposed of (*not* added to your compost pile!). [5]

- To help keep out larger pests, use physical barriers such as fencing, row covers, cloches, cutworm collars, and netting. Such physical barriers are generally effective, especially when used on young, vulnerable plants as they mature to their full growth. [6]

- Make-your-own organic insecticides may work for some pests, using ingredients such as salt, mineral oil, vinegar, basil, garlic, cayenne pepper and liquid soap. Application is required every couple of weeks and after rainy weather. [7]

- To protect plants against disease, make sure to give plants space, keep leaves dry (avoid overhead watering), test and maintain your soil to establish the proper pH levels for the varieties you've planted, and rotate crops each year to promote soil fertility and keep plants strong.[8]

- If a pesticide is unavoidable, read and follow ALL label directions carefully, avoid use during pollinator foraging times (usually in the evening), and don't re-apply unnecessarily. [9]

[3] Better Homes & Gardens
[4] The Xerces Society
[5] Better Homes & Gardens
[6] Better Homes & Gardens
[7] Better Homes & Gardens
[8] Better Homes & Gardens
[9] Pollinator Partnership

Resources

Better Homes & Gardens. (2019). *Organic Pest Control Solutions.* Retrieved from: https://www.bhg.com/gardening/pests/animal/how-to-control-garden-pests/

Pollinator Partnership. (2019). *About Pesticides.* Retrieved from: https://www.pollinator.org/learning-center/pesticides

The Northwest Center for Alternatives to Pesticides. (2017). *Pest Management Guide.* Retrieved from: http://www.pesticide.org/pest_management_guide

The Xerces Society for Invertebrate Conservation. (2019). *Smarter Pest Management* (PDF). Retrieved from: https://xerces.org/smarter-pest-management/