

# Spring Into Action

## Grow Your Garden

*It's time to think about gardening!*

Growing your own food can be a transformative experience. Whether you live in the city and only have room for a few window pots of herbs or you live in the country where you can set up a backyard garden to provide nearly all your produce needs, growing your own food organically can be very rewarding.

If you want to grow your own vegetables/fruits to eat or flowers for pollinators, make sure that your seeds and plants are free from harmful pesticides. Often, seeds and plants in many garden centers across the country are grown from seeds coated with [toxic fungicides](#) and [bee-harming neonicotinoid pesticides](#) or drenched with them. Ensure a pesticide-free garden by [planting organic seeds and plants!](#)



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## Helpful Infographic Resources for the Spring

## BEYOND PESTICIDES

# THE EFFECTS OF 40 COMMON GARDENING CHEMICALS

Studies show that hazardous lawn and landscape chemicals are drifting into our homes where they contaminate indoor air and surfaces, exposing individuals at levels 10x higher than pre-application levels. You can protect yourself and your family, pets, and neighborhood from toxic chemical exposure!

- ### HEALTH EFFECTS

Cancer: 26  
Endocrine (hormonal) Disruption: 24  
Sexual/Reproductive Problems: 29  
Birth defects: 21  
Neurotoxic: 24  
Kidney and/or Liver damage: 32  
Sensitizers and/or Irritants: 33
- ### ENVIRONMENTAL EFFECTS

Detectable in Groundwater: 21  
Ability to Leach into Drinking Water: 24  
Toxic to Fish and/or Aquatic Organisms: 39  
Toxic to Bees: 33  
Toxic to Mammals: 18  
Toxic to Birds: 28
- ### TOP 10 MOST CONCERNING CHEMICALS FOR HUMAN HEALTH

  - 2,4-D (Herbicide)
  - Atrazine (Herbicide)
  - Carbaryl (Insecticide)
  - Dicamba (Herbicide)
  - Glyphosate (Herbicide)
  - Mecoprop (Herbicide)
  - Malathion (Insecticide)
  - Permethrin (Insecticide)
  - Thiophanate methyl (Fungicide)
  - Trichlorfon (Insecticide)
- ### TOP 10 MOST CONCERNING CHEMICALS FOR ECOLOGICAL HEALTH

  - 2,4-D (Herbicide)
  - Carbaryl (Insecticide)
  - Chlorothalonil (Fungicide)
  - Dicamba (Herbicide)
  - Fipronil (Insecticide)
  - Glyphosate (Herbicide)
  - Mecoprop (Herbicide)
  - Malathion (Insecticide)
  - MCPA (Herbicide)
  - Imidacloprid (Insecticide)

See More: [bp-dc.org/lawns](http://bp-dc.org/lawns)

# How Do Pesticides Affect the Life Cycle of Bees?

Pesticide use represents one of the most significant threats to bumblebees, and places their entire life cycle at risk.

- ### 01 Nest Building

Commonly used systemic insecticides begin to kill off bumblebees during their nest building phase, as exposure makes it more difficult for a queen to establish a nest.
- ### 02 Egg Laying

Even if queen bumblebees are successful in setting up a nest, neonicotinoids inhibit queens from laying eggs.
- ### 03 Once Hatched

Exposure to neonicotinoids results in bumblebee colonies that are much smaller than colonies not exposed to the systemic insecticide.

**Need image of queen with workers**
- ### 04 In the Field

Workers that hatch from pesticide-exposed queens are likely to again be exposed in the field. Neonic exposure decreases pollination frequency, results in lower social interaction, further alters feeding behavior, and degrades the effectiveness of bumble bee's "buzz pollination" process.
- ### 05 Finding a Mate

Bumble bee males exposed to neonicotinoids show reduced sperm production and increased mortality, making it difficult for queens to find a mate, particularly one that is fertile.
- ### 06 Wild Bumble Bees are in Decline

Bumble bees are common throughout the US but have declined by upwards of 90% within the last few years. Congress must urgently pass the Saving America's Pollinators Act!

LEARN MORE: [beyondpesticides.org](http://beyondpesticides.org)

# THE DIRTY SIDE OF DISINFECTANTS & SANITIZERS

Concentrations of quaternary ammonium compounds (QUATS or QACs) in the human body have increased during the COVID-19 pandemic, raising health and safety concerns.

Source: Environmental Science and Technology

**1/3 OF U.S. RESIDENTS** misuse toxic cleaners and disinfectants in a mistaken approach to preventing COVID-19.

## QUATS

are among some of the most harmful disinfectants, are harmful to the respiratory system, and have adverse impacts on human health—cancer, genetic mutations, lower fertility and increased antibiotic resistance.

**QUATS EXACERBATE THE RISK OF COVID IN VULNERABLE PEOPLE**

**THEY MAY BE IN YOUR MEDICINE CABINET**

The QUAT antimicrobial cetylpyridinium chloride (CPC) is in mouthwashes, lozenges, toothpaste, and nasal sprays. CPCs are associated with lung inflammation. Acute oral inhalation can be fatal.

**MAKE SAFER CHOICES**

EPA has certified several hazardous disinfectants as effective against COVID-19. Several safer disinfectants on EPA's list are effective against the virus, including citric acid, ethanol, isopropanol, L-lactic acid, hydrogen peroxide, sodium bisulfate, dodecylbenzene sulfonic acid, and thymol.

LEARN MORE

[beyondpesticides.org/resources/antibacterial-disinfectants-and-sanitizers](http://beyondpesticides.org/resources/antibacterial-disinfectants-and-sanitizers)

[beyondpesticides.org/resources/pesticide-induced-diseases-database/overview](http://beyondpesticides.org/resources/pesticide-induced-diseases-database/overview)

# PREVENT PET POISONINGS

## PROTECT YOUR PETS

### EXPOSURE

HOW DO PETS ENCOUNTER CHEMICALS?

Pets encounter pesticides, fertilizers, and other synthetic chemicals by digging, sniffing, licking, and eating untreated lawns. Toxic chemicals in insect sprays, lawn pesticides, flea collars, weed killers, disinfectants, and more are hazardous to most pet breeds.

### TOXICITY

WHY IS CHEMICAL EXPOSURE SO TOXIC TO PETS?

Pets' smaller bodies make them most susceptible to chemicals, and their curious natures mean they're more likely to be exposed to toxic pesticides.

### HEALTH

RISKS ASSOCIATED WITH EXPOSURE.

In addition to having immediate poisoning risks (e.g., seizures, lethargy, death, etc.), many toxic pesticides have the potential for long-term health effects on your pet. Talk to your veterinarian about treatment options and taking questions about poisoning incidents associated with any product they recommend.

### HAZARDS

IS YOUR PET AT RISK?

Dogs absorb pesticides residues by chewing or sniffing more treated lawns and their curious natures mean they're more likely to be exposed to toxic pesticides. Cats absorb more chemicals than dogs due to their grooming habits and lick on their tongues in their liver to detoxify chemicals. Fish birds have fragile respiratory systems and are sensitive to aerosol sprays of toxic chemicals.

### PREVENTION

HOW CAN I BEST PROTECT MY PET?

Creating a pesticide-free space for your pet using the science-backed alternative toxic chemical exposure & disinfecting products Ecological Pest Management, a breeding biology of pest management, allows you to avoid using toxic chemicals, unless there are no alternatives.

LEARN MORE: [beyondpesticides.org/resources/pets](http://beyondpesticides.org/resources/pets)



## ✘ Organic Gardening 101: Residential

Synthetic fertilizers and chemical pesticides lead to undesirable conditions that restrict water and air movement in the soil. High nitrogen fertilizers can disrupt the nutrient balance, accelerate turf growth, increase the need for mowing, and contribute to thatch buildup.

### Why Plant Organic?

#### To Protect Yourself, Your Family, and Your Pets

- Pesticides have many uses in homes and communities without comprehensive public knowledge about the harm they cause. A growing body of evidence in the scientific literature (documented in [Beyond Pesticides' Pesticide-Induce Diseases Database](#)) shows that pesticide exposure can adversely affect neurological, respiratory, immune, and endocrine systems, among others, in humans, even at low levels.
- [Children are especially sensitive](#) to pesticide exposure because they (1) take up more pesticides (relative to their body weight) than adults do and (2) have developing organ systems that are more vulnerable to pesticide impacts and less able to detoxify harmful chemicals.
- Furthermore, [pets encounter pesticides](#) by digging, sniffing, licking, and eating unknown objects. Toxic chemicals in insect sprays and baits, rodent poison, flea collars, weed killers, disinfectants, and more are also hazardous to our companion animals.



#### To Protect Pollinators

- As bees, butterflies, bats, and other pollinators suffer serious declines in their populations, we urge people and communities to plant pesticide-free habitats that supports pollinator populations.
- Our [BEE Protective Habitat Guide](#) provides information creating native pollinator habitats in communities, eliminating bee-toxic chemicals, and other advocacy tools.
- Learn more about the [Benefits of Bats](#) and the ecosystem services they provide.
- The [What the Science Shows on Biodiversity](#) resource page documents the science connecting pesticides and adverse health effects on bees, other pollinators, and other beneficial organisms.

- Become a beekeeper in your own backyard: [Backyard Beekeeping: Pollinator habitat one yard at a time!](#)

### To Protect Birds, Especially Song and Migrating birds

- Neonicotinoids are a class of insecticides that are systemic and resemble the effects of nicotine, which are commonly used as seed coatings and on plants. However, birds can mistakenly eat these seeds as a food source, causing many adverse effects.
- These effects include reproductive dysfunction, such as with egg deformation, and even death. For more information on the dangers of neonicotinoid-coated seeds, see Beyond Pesticides' video [Seeds That Poison](#) and the [Birds](#) resource page.

#### Capturing the Art of Life—Art Page Features

Beyond Pesticides highlights artwork submitted by the public that celebrates the beauty of nature. Various drawings, photographs, and paintings feature birds, such as those below. Take a look at other pieces of work from the [Art Page](#) and submit your own art [here](#) for a chance to be featured on our website, in the next issue of our [Pesticides and You Journal](#), and on social media.



[Pictured left to right: Trix N. (Petersburg, NY) "*Cedar Waxwing on Red Elderberry*"; Yumi R. (New York, NY) "*Birds and the Bees*"; Diane E. (Tucson, AZ) "*Birds in Our Chemical-Free Yard*"; Linda C. (Media, PA) "*Winter Nuthatch*"]

View the [recording](#) from the first session of the [42nd National Forum Series - The Pesticide Threat to Environmental Health: Advancing Holistic Solutions Aligned with Nature](#), where the speakers talk about their research and practical experience in identifying practices that embrace nature with a collaborative spirit and teach us about the value of bats, birds, and beavers in productive agricultural and land management systems, exemplifying the path forward in all aspects of modern life.

### To Protect Beneficial Organisms and Microorganisms in and around Soil



- Wildflowers, native shrubs, and trees, as well as urban green spaces, provide good habitats for beneficial organisms (e.g., worms, ants, beetles, etc.) and microorganisms (e.g., bacteria). All organisms inhabiting soil or loose-leaf litter may encounter synthetic fertilizers and toxic pesticides that threaten survivability, reproduction, and distribution of essential nutrients. Thus, adopting organic land management practices like planting pollinator-friendly plants and cover crops, using organic mulch for weed control, and adding compost to gardens, lawns, and farm fields helps to build and protect biodiversity. See more on soil health [here](#).

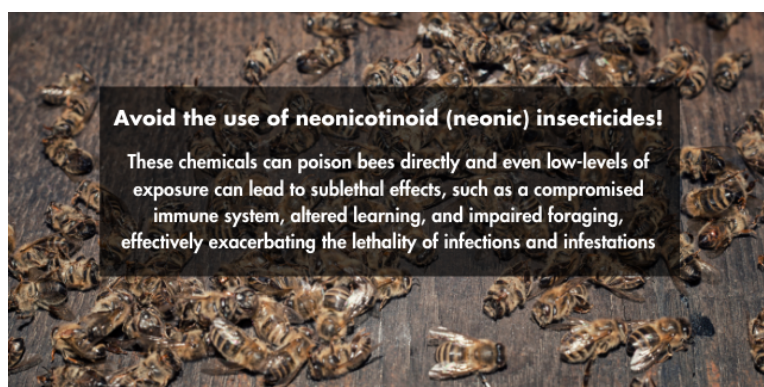
View the [recording](#) from the first session of the [40th National Forum Series - Forging a Future with Nature:](#)

[The existential challenge to end petrochemical pesticide and fertilizer use](#), where David Goulson, PhD talks about the importance of biodiversity and how to protect it.

There are alternatives to pesticides ([The Safer Choice](#)) for effective management of insects, rodents, and weeds without exposing yourself, your family, your pets, and the environment to harmful toxic chemicals.

## Chemicals to Avoid

Petroleum-based synthetic pesticides harm health and the environment with both immediate and long-term effects. To know what chemicals to avoid, the "[40 Most Commonly Used Lawn and Landscape Pesticides](#)" factsheets makes the science on pesticides hazards to people, pets, and the environment accessible and easy to understand. Additionally, the [herbicide analysis](#), created by Beyond Pesticides and Friend of the Earth, is an extensive document of over 100 non-organic (conventional) and organic products with related health and environmental effects.



Chemicals of concern include:

[2,4-D](#), [Acetamiprid](#), [Atrazine](#),  
[Azoxystrobin](#), [Bifenthrin](#),  
[Carbaryl](#), [Chlorpyrifos](#),  
[Clothianidin](#), [Dicamba](#), [Fipronil](#),  
[Glyphosate](#), [Imidacloprid](#),  
[Malathion](#), [Permethrin](#),  
[Propiconazole](#), [Tebuconazole](#),  
[Thiamethoxam](#), [Triclopyr](#)

For information on additional pesticide active ingredients, visit the [Gateway on Pesticide Hazards and Safe Pest Management](#).

## Safer, Least-Toxic Alternatives

Now you may be wondering what products are safe to use. Looking for organic certification labels, such as with the Organic Materials Review Institute (OMRI) label, helps guide individuals to least-toxic products. Visit Beyond Pesticides' resource on [Products Compatible with Organic Landscape Management](#) for more information. This incorporates two established lists of materials and products: (i) the National List of Allowed and Prohibited Substances of the *Organic Foods Production Act* (OFPA), and (ii) the U.S. Environmental Protection Agency's list of exempt pesticides, Section 25(b) of the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA).

- Some of the products you may need for your garden include seeds, potting soil, mulch, tools, fertilizer, and compost.

- For most small-scale gardeners, pest problems can be contained with simple manual removal (scout the insects and remove them). If you decide to use a product to get rid of pests, do not be fooled by products labeled as “safe” insecticides.
- In general, unless you can find these products on the [OMRI](#) list of approved substances (often products approved will say “OMRI approved” on their labels), they do not meet organic standards. Sometimes it is because they contain non-organic inert ingredients that may be toxic.
- This same caution applies to fertilizers and potting soil as well. One of the great things about gardening at home on a small scale is that you can often create all the fertilizer you need yourself through simple [composting](#) of kitchen and yard scraps.

*Capturing the Art of Life—Art Page Features*



### **Plant Your Own Organic Garden or Buy Them Straight from the Source.**

Want to plant your own organic garden? Well, Beyond Pesticides offers a guide on how to [Grow Your Own Organic Food](#), including a [resource page](#) on steps to take before planting. Find companies and nurseries that grow and distribute organic seeds and plants here: [Seed and Plant Directory Brochure](#).



### **Have a problem with weeds taking over your yard and garden?**

Beyond Pesticides' guide on how to [Read Your Weeds](#) allows people to identify weeds in their lawn and suggests non-toxic or least-toxic solutions. Additionally, Beyond Pesticides' webpage on [Ecological Management of Invasive Species](#) is a great resource for broad weed management.

Many plants that are considered weeds have beneficial qualities. Try to develop a tolerance for some weeds in your garden. For instance, clover is considered a typical turf weed, but it thrives in soil with low nitrogen levels, compaction issues, and drought stress. See [Taking a Stand on Clover: The benefits of clover to bees, soil biology, and water quality](#) to learn more.

*Art Page submission "Post-Pesticide Paradise" by JoAnne F. from Cascade, WI, above left.*

Buying organic produce whenever possible is always an option. Organic doesn't mean expensive. Beyond Pesticides offers a guide on how to buy organic on a budget, "[The Real Affordability of Organic Food.](#)" For additional information on how to find and purchase organic produce, visit the [Buying Organic](#) and [Eating with a Conscious](#) resources.

### **Other Garden, Lawn, and Pesticide Resources**

[Keeping Organic Strong 2026](#)

[Herbicides, Genetically Engineered Crops, and Pest Resistance](#)

[Resource on Professional Pest Management Providers](#)



## **Organic Gardening 101: Community Action**

Many urban areas have community gardens where you can get your own plot if you do not have land by your residence. Community gardens in some urban environments have transformed the landscape and the community itself. Read about some successful [community gardens in New York City](#) from Beyond Pesticides' [Pesticides and You](#) journal. If you want to get your hands dirty but do not have the space or the desire to start a garden, see if there are any community-supported farms near you that could use your helping hands for weeding or other projects.



## **Parks for a Sustainable Future**

Does your community have a pesticide-free park managed with organic practices? Do you wish it did? The time to take action to protect those parks and create new ones is now.

Beyond Pesticides is partnering with major retailers like Natural Grocers and Stonyfield Organic, and dozens of communities across the nation to create organic communities where local parks, playing fields, and greenways are managed without unnecessary toxic pesticides and synthetic fertilizers.

Our [Parks for a Sustainable Future](#) program provides in-depth training to assist community land managers in transitioning two or three public green spaces to organic landscape management while aiming to provide the knowledge and skills necessary to eventually transition all public areas in a locality to these safer practices.

[With YOUR help, we can achieve our vision. Become a Parks Advocate today!](#)

## **[Parks for a Sustainable Future Program](#) by Beyond Pesticides**

### **Other Resources**

- Learn about the local and national efforts to prevent exposure to toxic chemicals on the [State Regulations](#) and [U.S. Pesticide Reform Policies](#) webpages.
- [Failure-to-Warn](#) webpage and fact sheet: [Protect the Right of Farmers, Consumers, and Workers to Hold Pesticide Companies Accountable for Their Harmful Products](#).
- [Action of the Week](#) offers one concrete action that you can take each week to have your voice heard on governmental actions that are harmful to the environment and public and worker health, increase overall pesticide use, or undermine the advancement of organic, sustainable, and regenerative practices and policies.