



**Tribal Pesticide Program Council**

**Spring 2022**

## **Natural Pest Control for a Healthy Garden**

It has often been said that working in a garden and eating food that you raise expands one's relationship to Mother Earth. Gardening can be a source of strength, wellness, and culture, and while planting a garden in spring is inspiring and full of possibilities, this endeavor also has challenges in the form of weeds and unwanted insects. Fortunately, many natural solutions drawn from generations of historical and traditional knowledge are available to keep your plants healthy and combat insect pests in your garden.



Common insect pests that can cause frustration and damage to plants include aphids, caterpillars, cutworms, Colorado potato beetles, Mexican bean beetles, scales, cabbage maggots, flea beetles, and Japanese beetles. Each can be destructive in different ways and damage the plant's ability to grow edible produce. Instead of turning to chemical solutions and sprays there are many natural alternatives for treating and maintaining the health of your plants. These include companion planting, spraying with soft chemicals, introducing parasites and/or predator insects that consume the undesired pests, and diatomaceous earth.



A prime example of companion planting is the tradition of [Three Sisters](#), in which corn provides vertical support for bean plants to climb, beans (legumes) add nitrogen back to the soil and large prickly squash leaves provide shade for the soil as well as deterring pests. Some would add flowers that attract pollinators as a fourth sister. Companion planting builds on the idea that strategically placing plants known to repel certain pests will improve each other's health and yields. Benefits of this

**FOR INFORMATION OR TO SUBSCRIBE CONTACT:**  
Mark Daniels, TTPC Coordinator  
mark.daniels@nau.edu  
(928) 523-8897

**OR VISIT US ON THE WEB AT:**  
[tppcwebsite.org](http://tppcwebsite.org)

## Natural Pest Control for a Healthy Garden *(continued)*

approach include deterring pests, attracting beneficial insects, shade regulation, providing natural supports for low sprawling crops, improved plant health, weed suppression and good soil fertility. Some other examples of companion planting are using basil interspersed with tomatoes—the basil repels insects and moths; planting dill will attract ladybugs; garlic and mint deter aphids and Japanese beetles; lavender repels moths, fleas, flies, and mosquitos; and nasturtiums draw caterpillars away from broccoli, kale, and cabbage. Annual crop rotation and incorporating healing herbs into your garden are also very important and will decrease the occurrence of pests and disease on garden plants.

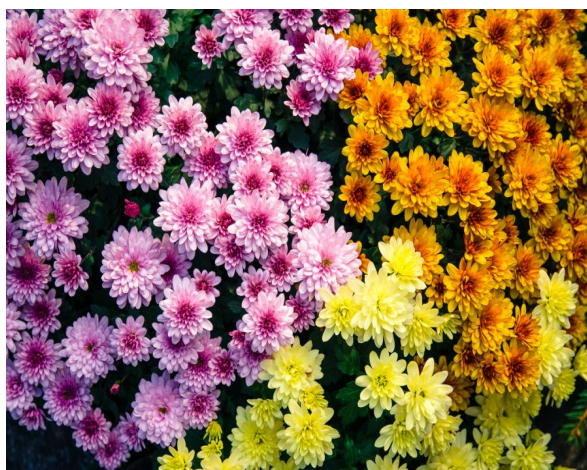
Sometimes companion planting or introducing predators is not enough and a targeted and limited application of natural pesticide is needed to get rid of the little creatures. Soft chemicals or natural insecticides such as household soaps (diluted to 2%) and plant oils can be effective against insect pests and are a safer alternative that doesn't contaminate ground water or destroy beneficial insects. Useful plant oils include rosemary, eucalyptus, geranium, thyme, lavender, and lemongrass.

Natural pesticides or deterrents should be easy to produce from available materials, not interfere with the ecological balance of the garden, and be safe for your family. Some examples are:

Chili peppers, onion and garlic can be ground up, soaked in water, strained, and used as a spray where needed on aphids, grasshoppers, and other large insects.

Basil (chopped) mixed with boiling water, strained, and mixed with a natural dish soap can be sprayed on plants to get rid of aphids.

Chrysanthemum flowers (dried) can be added to boiling water, cooled, strained, and sprayed to eradicate aphids, spider mites and cabbage worms. A commonly used organic insecticide, Pyrethrum is made from Chrysanthemum flowers and works by destroying the nervous system of insects. These flowers can also be a great companion plant for cabbage, broccoli, and cauliflower.



Attracting or applying parasites such as wasps or beneficial nematodes are sometimes used because they target specific host insects. Wasps lay their eggs in the host (aphids, scale) and the wasp larvae consume the host. A sometimes-preferred method of pest control is to introduce predators like the ladybird beetle (ladybug) larvae. These avid consumers will wipe out an aphid infestation quickly. Adult ladybugs are also effective but only consume about one third as much as their larval stage.

A natural substance, diatomaceous earth is made from sedimentary rock created by fossilized algae and works as a natural insecticide. The abrasive qualities and ability to absorb lipids from an insect's exoskeleton causes the pests to die from dehydration. Diatomaceous earth can be found in gardening stores and needs to be re-applied after rain.

## Natural Pest Control for a Healthy Garden *(continued)*



Spring is a time when young plants are susceptible to the elements and incorporating some traditional practices can help ensure their survival and success in warding off harmful pests later in the season. The practice of phenology can be helpful as it involves observing nature for signs that it is safe time to plant. It is said that you can plant corn when the oak leaves are the size of a mouse's ear or it's time to plant peas with the forsythia blooms, and it's time to plant cucumbers and squash when lilac flowers fade. In Southwest native gardens, seedlings are protected from early frost by placing rocks next to the plants as rocks will absorb the sun's heat during the day and release it in the chill of the evening. Another way to ensure the quality and health of your plants is seed saving from year to year. In addition to being cost effective, collecting seeds from successful plants will result in locally adapted plants for the next garden season.

Happy Gardening!

<https://www.almanac.com/companion-planting-guide-vegetables>

<https://www.treehugger.com/natural-homemade-insecticides-save-your-garden-without-killing-earth-4858819>

<https://gardenerspath.com/how-to/disease-and-pests/kill-kale-pests-naturally/>

<https://extension.entm.purdue.edu/publications/E-21/E-21.html>

<https://www.offthegridnews.com/>



## Updates and Announcements

### Conferences

#### ASPCRO Annual Conference

The Association of Structural Pest Control Regulatory Officials (ASPCRO) will holding their annual conference **August 15-19, 2022** in Minneapolis, MN. For more information visit <https://aspcro.org/meetings/#up-meeting>

### Meetings

#### Full SFIREG Meeting

The State FIFRA Issues and Research Evaluation Group (SFIREG) will hold its semi-annual full meeting on **June 6-7** in Alexandria, VA. For more information visit <https://aapco.org/2015/07/30/sfireg-3/>

#### AAPSE Annual Meeting

The American Association of Pesticide Safety Educators (AAPSE) will hold its annual meeting **July 18-21** in Buffalo, NY. For more information visit <https://aapse.wildapricot.org/event-4766755>

#### SFIREG Joint Working Committee Meeting

The SFIREG Joint Working Committee will hold its semi-annual meeting on **September 19-20** at a location to be determined. For more information visit <https://aapco.org/2015/07/29/working-committees/>

#### NASDA Annual Meeting

The National Association of State Departments of Agriculture (NASDA) will hold their annual meeting **September 26-29** in Saratoga Springs, NY. For more information visit <https://www.nasda.org/event/2022-nasda-annual-meeting>



### Trainings & Courses

#### Tribal PIRT

The Muscogee Nation will host a Tribal Pesticide Inspector Residential Training (PIRT) on **May 17-19** at the River Spirit Resort & Casino in Tulsa, OK. For more information visit <https://www.epa.gov/compliance/pesticide-inspector-residential-training-pirt>

#### Pesticide Program Dialogue Committee Spring Meeting

The Spring meeting will be held virtually on **May 25-26**. For more information visit <https://www.epa.gov/pesticide-advisory-committees-and-regulatory-partners/pesticide-program-dialogue-committee-ppdc>

#### Structural and Public Health Pest Control Issues PREP

The PREP Network will provide a course on structural and public health pest control issues on **June 13-16** in Davis, CA. For more information visit <https://agsci.colostate.edu/agbio/prep/courses-sphp/>

#### Basic PIRT

The Georgia Department of Agriculture will host a basic Pesticide Inspector Residential Training on **July 31-August 4** in Savannah, GA. For more information visit <https://www.epa.gov/compliance/pesticide-inspector-residential-training-pirt>

#### Risk Communication PREP

The PREP Network will provide a course on risk communication on **August 1-4** in Portland, OR. For more information visit <https://agsci.colostate.edu/agbio/prep/courses-rc/>

#### Senior Executive Program Management PREP

The PREP Network will provide a course on senior executive program management on **September 27-29** in Fort Collins, CO. For more information visit <https://agsci.colostate.edu/agbio/prep/course-sepm/>

## TPPC Executive Committee Members

**Jasmine Courville-Brown**

TPPC Chairperson  
Confederated Salish and Kootenai Tribe  
[jasmine.brown@cskt.org](mailto:jasmine.brown@cskt.org)

**Nina Hapner**

TPPC Vice Chairperson  
Region 9 Representative  
Kashia Band of Pomo Indians  
[nina@stewartspoint.org](mailto:nina@stewartspoint.org)

**Fred Corey**

Region 1 Representative  
Aroostook Band of Micmacs  
[fcorey@micmac-nsn.gov](mailto:fcorey@micmac-nsn.gov)

**Les Benedict**

Region 2 Representative  
St. Regis Mohawk Tribe  
[les.benedict@srmt-nsn.gov](mailto:les.benedict@srmt-nsn.gov)

(Vacant)

Region 3 Representative

**David Anderson**

Region 4 Representative  
Eastern Band of Cherokee Indians  
[daviande@nc-cherokee.com](mailto:daviande@nc-cherokee.com)

**Renee Keezer**

Region 5 Representative  
White Earth Nation  
[Renee.Keezer@whiteearth-nsn.gov](mailto:Renee.Keezer@whiteearth-nsn.gov)

**Larry Scrapper**

Region 6 Representative  
Cherokee Nation  
[larry-scrapper@cherokee.org](mailto:larry-scrapper@cherokee.org)

(Vacant)

Region 7 Representative

**Jim Mossett**

Region 8 Representative  
Mandan, Hidatsa and Arikara Nation  
[jmossett@mhanation.com](mailto:jmossett@mhanation.com)

**Camilo Perez**

Region 9 Representative  
Quechan Indian Tribe  
[pesticidesofficer@quechantribe.com](mailto:pesticidesofficer@quechantribe.com)

**Joe Herrera**

Region 10 Representative  
Yakama Nation  
[Joe\\_herrera@yakama.com](mailto:Joe_herrera@yakama.com)

**Jefferson Biakeddy**

At-Large Representative  
Navajo Nation EPA  
[jbiakeddy@navajo-nsn.gov](mailto:jbiakeddy@navajo-nsn.gov)

**Diania Caudell**

At-Large Representative  
California Indian Basketweavers Association  
[dicaudell@aol.com](mailto:dicaudell@aol.com)

**James Jackson**

At-Large Representative  
Muscogee Creek Nation  
[jajackson@mcn-nsn.gov](mailto:jajackson@mcn-nsn.gov)

**Ryan Evans**

At-Large Representative  
Confederated Salish and Kootenai Tribe  
[ryan.evans@cskt.org](mailto:ryan.evans@cskt.org)

The TPPC is a member-based organization with more than 74 members and 46 Tribes and tribal organizations as of January 2022, whose activities are funded by a cooperative agreement with the EPA. The Council serves as a tribal technical resource, and provides a forum for dialogue between Tribes and the EPA on program and policy development relating to pesticides issues and concerns. Assistance provided to Tribes includes support in building tribal pesticide programs and conducting pesticide education and training, and the preparation of resources for Tribes interested in specialized issues such as Integrated Pest Management and pollinators. Through its interaction with the EPA, the TPPC keeps Tribes informed of developments in the regulation of pesticides and pesticide use, and provides feedback to the EPA on such matters from a tribal perspective (though it is important to note that communication between the EPA and the TPPC does not substitute for direct government-to-government consultation).

For information about how to join the TPPC, contact Mark Daniels at [mark.daniels@nau.edu](mailto:mark.daniels@nau.edu) or (928) 523-8897.

