

Controlling Garden Pests Naturally

1. A word about insects
 - a. 925,000 identified species
 - b. Estimates of 2 million to 30 million yet to be identified!
 - c. Could be 100 million individual insects in an acre of land
 - d. BUT - some alarming population collapses
 - e. Habitat loss, farming and pesticides
 - f. We need bugs! Food for other insects, birds, fish, amphibians, snakes, us
2. Repellants, barriers and traps
 - a. Repellants act like a wall to prevent critters from accessing plants
 - i. Plant spearmint, peppermint and pennyroyal to deter aphids and ants
 - ii. Plant aromatic plants like savory, garlic and lavender around vegetables
 - iii. Deer and rabbit repellants
 - iv. Groundhog repellants
 - b. Barriers are physical walls that halt pests
 - i. High fences/electric fences are barriers to deer, coons, groundhogs, etc.
 - ii. Floating row covers can protect plants once pollinated
 - iii. Plant carrots in toilet rolls to prevent cutworms
 - iv. Surround – forms a clay “coat of armor” to control aphids, Japanese beetles, leafhoppers, crickets, thrips, grasshoppers, whiteflies, cutworms, weevils and loopers.
 - c. Traps can control and monitor pests so you know how many, what they are, when they emerge, etc.
 - i. Sometimes best to use traps in conjunction with other controls
 - ii. Traps can use pheromones, visual lures and food
 - iii. Groundhog trap guidance - printout

iv. Don't use traps for Japanese beetles!

3. Insecticidal oils, soaps and sprays

- a. Effective for sucking, soft-bodied insects like spider mites, aphids, mealy bugs and whitefly
- b. Timing important - **not as effective for adult insects** but can control their immature larval stages
- c. Must be sprayed on contact – no residual effect
- d. Fatty acids in insecticidal soap penetrates outer covering of insect, causing cells to collapse so apply directly to insect
- e. Not effective when dries!
- f. Won't harm ladybugs and praying mantises
- g. Examples – Natria, Bonide, Safer Pyrethrin

4. Beneficial insects

- a. They will prey on pests you don't want
- b. Provide food, water and shelter for beneficial insects
- c. Know what pests you have and what beneficial insects to attract
- d. Examples – ladybugs, assassin bugs, green lacewings, nematodes, praying mantis
- e. Websites for identifying beneficial insects and buying them

5. Organic pest controls

- a. Synthetic herbicides like Roundup and pesticides like Sevin **kill good insects, pollinators, birds and aquatics—and could kill you – Sevin kills up to 500 types of insects!**
- b. But even organic pest controls must be used wisely and can kill beneficial insects
- c. Some controls from your home
 - i. Boric acid powder – controls termites, ants, cockroaches and other household pests
 - ii. Cucumbers – ants hate cucumbers; leave slices where ants frequent
 - iii. Cedar – place cedar blocks to get rid of moths and other bugs

- iv. Citrus peels – spiders hate citrus so leave where spiders frequent; also rub peels on windowsills, doorways and cabinets
 - d. Organic pest controls to buy – but always read the contents!
 - i. Diatomaceous Earth – odorless and nontoxic white powder made of shells of microscopic sea creatures known as diatoms; sprinkle in areas where bugs, snails and slugs crawl
 - ii. Bt – a soil microbe toxic to certain insects like mosquitoes
 - iii. Milky Spore – Japanese beetle control
 - iv. Various organic sprays at garden centers – Surround (mentioned above) and insecticidal soap sprays (mentioned above)
- 6. Plant selection, crop rotation and garden cleanup
 - a. Select seeds and plants resistant to pests
 - b. Don't plant the same plants in the same beds year after year
 - c. Plant some vegetables like squash later vs. early to miss peak of squash bugs
 - d. Remove diseased plants from garden—don't put in compost pile
 - e. Clean up garden at end of season
- 7. Hands on
 - a. Visually inspect plants daily and crush or remove pests
 - b. Strong spray of water can knock off aphids and other pests
 - c. Put boards down under squash plants, potatoes and other vegetables and check under them every day—spray, crush, remove those pests in hiding

Useful Online Resources

<https://www.facebook.com/YBYGwithMike> - Mike McGrath's "You Bet Your Garden" airs Sundays on KSMU Radio, 91.1 or 90.5 – all about organic gardening

www.gardensalive.com – This site has lots of organic pest controls

<https://www.treehugger.com/lawn-garden/8-natural-homemade-insecticides-save-your-garden-without-killing-earth.html> - Very useful site with eight insecticides you can make yourself

<https://extension.missouri.edu/publications> - To download the following Extension Guides, go to

<https://extension.missouri.edu/publications>. Then search by topic for a guide sheet. The Extension office on the square in Ozark can help you as well.

“Aphids, Scales and Mites on Home Garden and Landscape Plants”

“Ticks”

“Bees and Wasps”

“Mosquitoes”

“Controlling Nuisance Moles”

“Tree Squirrels: Managing Habitat and Controlling Damage”

<https://www.arbico-organics.com/category/beneficial-insects-generalists> - beneficial insects to buy