

SDSU Extension Volunteer Club/Group Name

Pest Control

Don't let the pests control you!



This information is prepared and/or presented by an SDSU Extension Master Gardener volunteer.



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What are we trying to learn?

1

Luring

How do we control where they go?

2

Trapping

How do we keep them in one place/captivity?

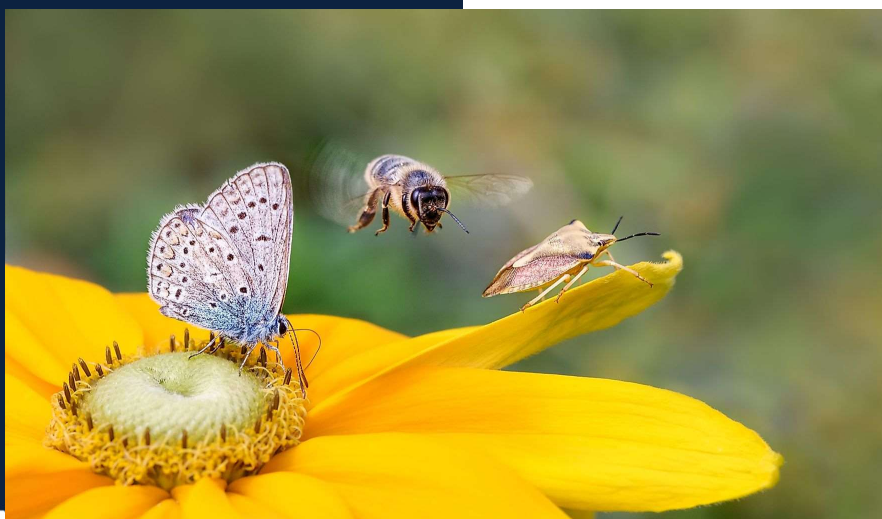
3

Deterring

How do we keep them from our plants?



The world depends on the work of insects



- \$15 billion worth of food is dependent on insect or animal pollination in USA each year.
- Pest control often kills more natural predators than pests.
- Gardens depend on a diversity of insects to exist.



Tritrophic System

**Three layers of
consumption**

**Plants make their
own food**

**Herbivore feed on
plants**

**Predators eat
the
Herbivore**





Natures food chain



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Parasite

An organism that spends one or more parts of its life cycle inside of or attached to another creature in a non mutual relationship



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Parasitoid

Uses host ultimately killing it



Cycle of prey insects

Insects arrive and start to feed on plant

Increase its reproduction

Predators show up

They find plenty of prey

They develop and consume prey

Prey population drops and so does predators



What pesticides do to cycle

Pesticides kill pests but not all of them

Predators are also killed by insecticides

Predators are also exposed through consumption

Secondary outbreak rebounds with a vengeance



Monitor your garden

Examine plants at least twice a week

Search under leaves, inside developing fruit, along stem and crown of plant

Identify any damage; chewing, sucking, presence of honeydew



Cultural controls

Maintain strong healthy plants in fertile soil with proper moisture

Sanitary conditions, proper disposal of infested material

Timing planting to avoid infestation time

Barriers such as row covers

Mechanical removal such as strong water stream



Luring Beneficial Insects

...Plant diverse flowers: Plant a variety of flowering plants, particularly those native to your region. Different flowers attract different beneficial insects, so aim for a mix of colors, shapes, and sizes. Choose plants that bloom at different times throughout the year to provide a continuous food source.



Luring Beneficial Insects

2. Provide water sources: Beneficial insects need water to survive. Consider creating small water features like birdbaths, shallow dishes, or even a small pond. Place some rocks or pebbles in the water to provide landing spots for insects.



Luring Beneficial Insects

. Build insect hotels or houses: Construct or purchase insect hotels which are structures designed to provide shelter for beneficial insects. These houses consist of various materials like bamboo, hollow reed, drilled wood, creating nesting sites for solitary bees, ladybugs, and other insects.



Luring Beneficial Insects

4. Avoid pesticide use: Pesticides can harm beneficial insects along with pests. Minimize or eliminate the use of chemical pesticides in your yard.



Luring Beneficial Insects

5. Leave some dead wood and leaf litter: Dead wood and leaf litter provide hiding places and food sources for many beneficial insects. Allow a small area of your yard to have decomposing logs, fallen leaves, or mulch to attract insects like beetles and ground-dwelling beneficial species.



Luring Beneficial Insects

6. Provide food sources for larvae: Many beneficial insects, such as butterflies and lacewings, have larvae that feed on specific plants. Include host plants for these insects, such as milkweed for monarch butterfly or dill for swallowtail butterflies, to complete their life cycles.



Luring Beneficial Insects

7. Minimize artificial lighting: Bright outdoor lights can disrupt the natural behaviors of nocturnal beneficial insects. Use low-intensity or motion-activated lights, or consider using yellow or red bulbs that are less attractive to insects.



Trapping Insects

Used to correctly identify and catch pests



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Strategies to deter pests in the garden

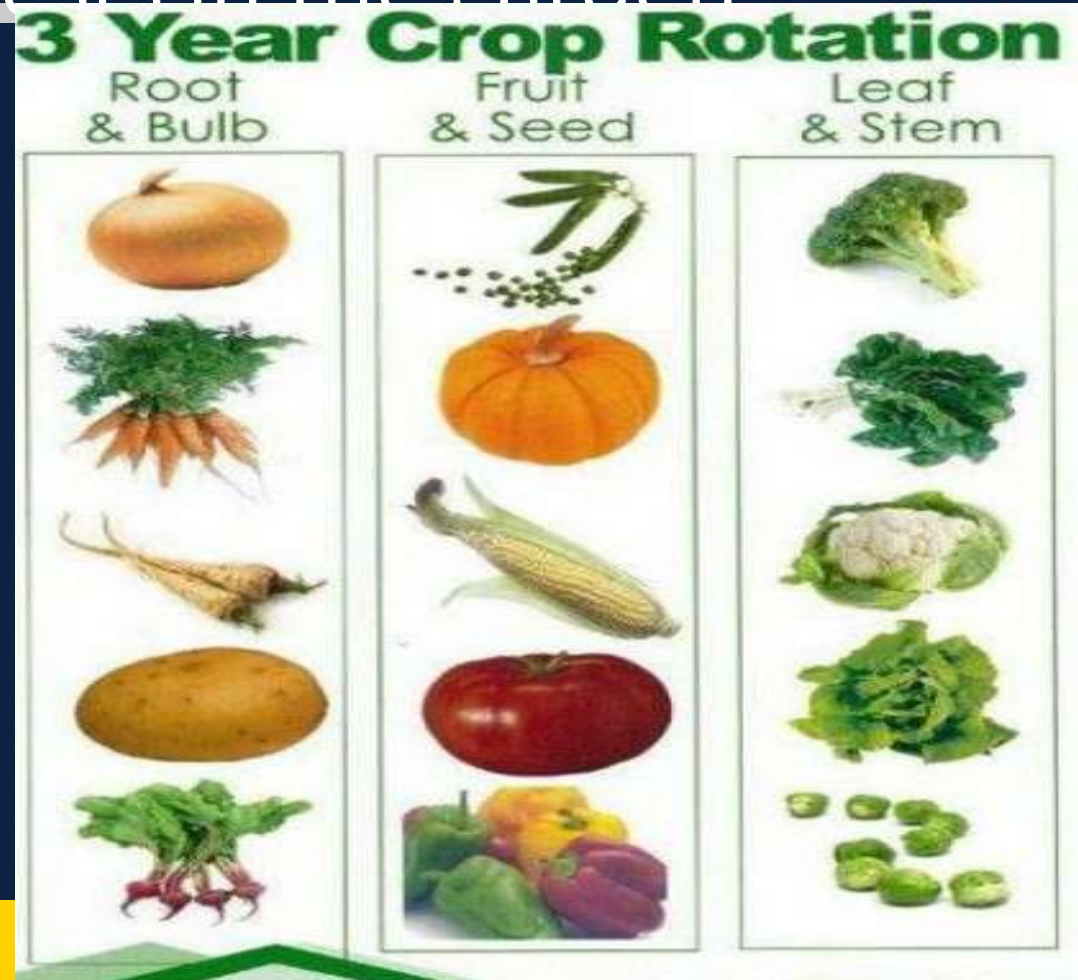
Keep your garden healthy, water and fertilize as needed



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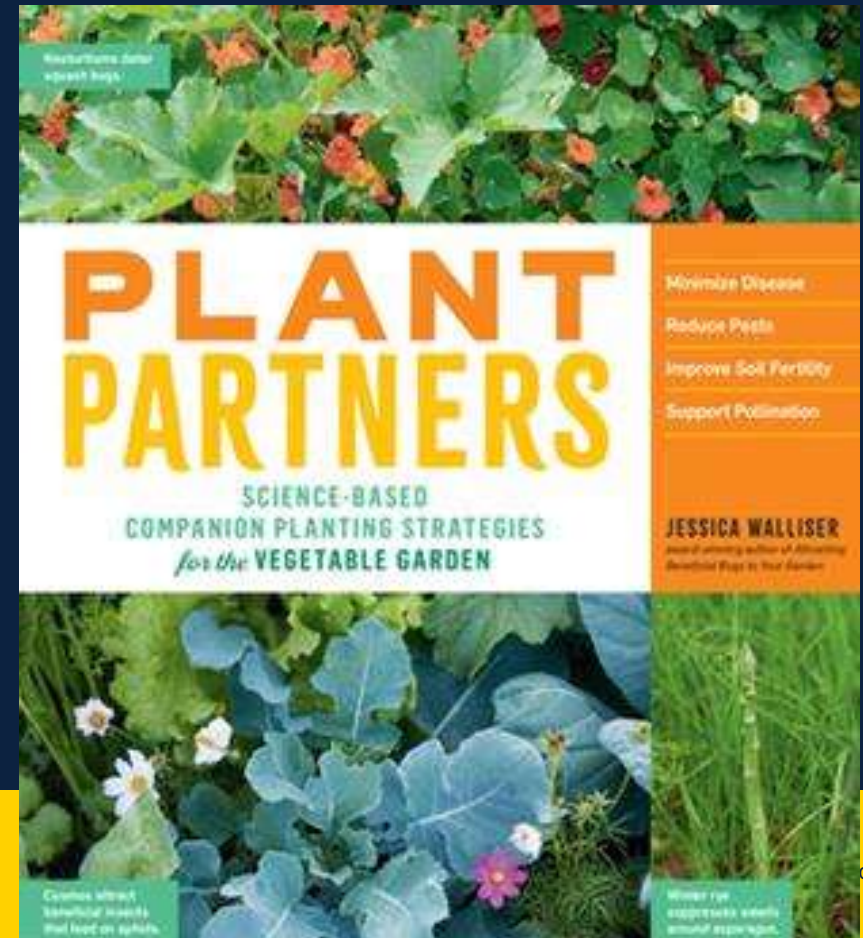
Strategies to deter pests in the garden

Rotate plantings



Strategies to deter pests in the garden

Companion planting



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Strategies to deter pests in the garden

Physical barriers



Strategies to deter pests in the garden

Mulch



Strategies to deter pests in the garden

Inspection



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Introduced species

No natural predator

Emerald ash borer



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Introduced species

No natural predator

Spotted Lantern Fly



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Introduced species

Tree of Heaven host to
Spotted Lantern Fly



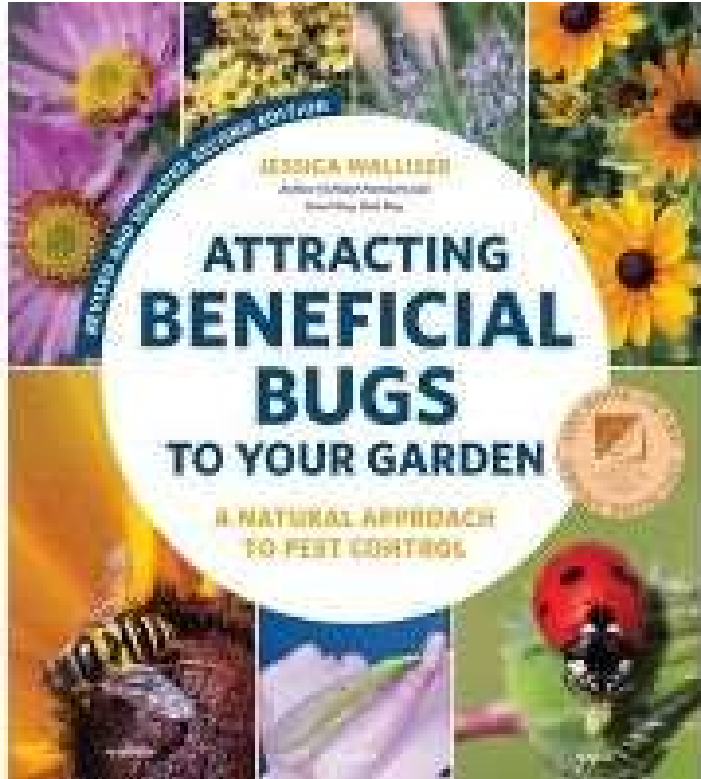
Know your garden



- Inspect regularly
- Keep plants healthy
- Rotate plantings
- Create a balanced environment
- Use insecticides sparingly



Resources



Attracting Beneficial Bugs to Your Garden
By Jessica Walliser

Plant Partners
By Jessica Walliser

Nebraska Extension Integrated Pest Management

Oklahoma Cooperating Extension Service Home
Vegetable Garden Insect Pest Control

PennState Extension



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