

# INTERPLANTING FOR PEST CONTROL Teaching Tips



## LEARNING OBJECTIVES

Youth will be able to:

- \* Explain what interplanting is and how it can help protect crops from insect pests.
- \* Identify flowers and herbs that attract and shelter helpful insects.
- \* Identify flowers and herbs that are interplanted with crops to confuse or repel insect pests.



## HOW TO USE THE INTERPLANTING FOR PEST CONTROL SCIENCE PAGE

Give youth some time to read the front of the Interplanting for Pest Control Science Page. Show youth samples of flowers in the Aster family (marigolds, daisies, sunflowers, zinnias, cosmos, calendula, coreopsis, and tansy) and the Umbelliferae family (dill, parsley, Queen Anne's lace, and coriander). Have students locate where the pollen and nectar are in these flowers, and discuss how insects with short, chewing mouth parts can easily land on these flowers and reach the pollen and nectar. Compare these flowers to those that have nectar that can only be reached by butterflies and moths, which have a long tube for sucking the nectar up. For more information on mouth parts, see Science Page entitled Insects in the Garden.

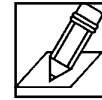
Explain to youth that interplanting is a way to create a more balanced garden ecosystem. Most insect pests only attack certain kinds of crops. For example, the Colorado potato beetle attacks only crops in the Solanaceae family (tomatoes, potatoes, peppers, and eggplant). Planting a large area with only Solanaceae crops will attract Colorado potato beetles, and other insect pests of the Solanaceae family, to the garden. Because these insect pests would have an abundant food supply, their

populations could increase very rapidly. Interplanting mimics natural ecosystems, which generally have a diversity of plants. Small areas or rows are mixed with other unrelated crops, so it is not so easy for pests to spread and cause damage.

Explain that natural enemies of insect pests include predators, such as lady beetles and lacewings, which hunt down and kill insect pests. Another type of natural enemy is parasites, which live within the bodies of insect pests. The immature stages of many wasps and flies are insect parasites. The adults are free living and often visit flowers for nectar and pollen. The Science Page entitled Controlling Insect Pests has more information on predators and parasites of insect pests. Planting flowers that insect predators and parasites can eat is another way to create a more balanced garden ecosystem. While crops will attract insect pests, the flowers will attract their predators and parasites.

Point out that planting herbs and flowers with strong scents among crop plants may help to repel or confuse insects. This practice, sometimes called companion planting, has been used by gardeners for centuries. Many insect pests probably find their food source by smell, so they may be confused or repelled by strong smelling herbs and flowers. However, there has not been a lot of scientific research to prove that these interplanting practices actually work. Nevertheless, traditional practices, when put to the test, often can be scientifically proven to be effective. Designing an experiment to test the effectiveness of interplanting to confuse or repel insect pests might be an interesting challenge for youth. They could try combinations that gardener say are effective. They should make careful observations and write down combinations that seem to

work for pest control. They should also try to replicate their observations, and have others try the same combinations.



## CROSSWORD PUZZLE

### Answers

Across: 1. lacewings; 5. nasturtiums; 7. aster; 8. herbs.  
Down: 2. interplant; 3. basil; 4. marigolds; 6. nectar.



## TRY THIS

Encourage youth to be patient when observing insects up close. Here are some examples of insects they might find: syrphid and tachinid flies, assassin bugs, lacewings, and parasitic wasps on parsley, dill, cilantro, and fennel; and soldier beetles, flower beetles, and lady beetles feeding on the pollen of flowers in the Aster family. Move around among youth, asking questions to help direct their observations. For example, ask, "What are the insects eating? How do they obtain their food? Do they have chewing mouth parts?" A jar with a lid works well for watching insects up close.  
*Caution: Warn youth to stay far away from stinging insects such as bees and wasps.* After youth have made their observations, they should return surviving helpful insects to where they were found. Allow some time for youth to discuss and share their findings with each other.



## SPOTLIGHT ON RESEARCH

The information in this spotlight is from: Wright, M.G. and Hoffmann, M.P. "Selection of Vegetables for Intercropping as a Pest Management Strategy." *Organic Agriculture at Cornell*. January, 2001 <[www.organic.cornell.edu/research/tsfsumms/organicpdfs/7intercrop.pdf](http://www.organic.cornell.edu/research/tsfsumms/organicpdfs/7intercrop.pdf)>