

# Finding Nature's Own Pesticides

The purpose of this experiment is to try to find natural substances that will act as a pesticide that can be safely used around the home.

## MATERIALS NEEDED:

- \*Several lemons
- \*Several grapefruits
- \*Tea bags
- \*Three shallow bowls or dishes
- \*Drinking glass
- \*Several bananas
- \*Tea cup (or mug)
- \*Boiling water
- \*Three spray bottles
- \*Funnel
- \*Two paper coffee filters
- \*Microwave oven (or a tea kettle and use of a stove)
- \*Anthill
- \*Glass jar with lid
- \*Journal for your results



## EXPERIMENT PROCESS:

- \*As you go through each testing process, write the results down in your journal
- \*Line a funnel with a paper coffee filter and set it in a drinking glass. Squeeze the juice from several lemons into the funnel filter. Remove the funnel filter and pour the juice into a shallow, wide dish or bowl. Let the juice stand for a day or two to evaporate some of the water and make a more concentrated solution.
- \*In a similar way, squeeze the juice of a grapefruit through a funnel filter into a drinking glass. Then, pour into a shallow dish or bowl and allow the juice to evaporate for a day or two to make a more concentrated solution.
- \*Make a cup of boiling water as you would when you make a cup of tea, using either a microwave oven or a tea kettle on a stove. Steep several tea bags in the hot water. Let cool. Then, pour the tea into a shallow dish or bowl and let some of the water evaporate for a day or two to make a concentrated solution.
- \*Pour each of your three natural insecticide liquids in three spray bottles.
- Testing effectiveness against fruit flies.* Fruit flies can often be seen hovering around a bowl of fruit. As fruit ripens, especially bananas, fruit flies can't resist them. Would spraying bananas with a natural substance such as grapefruit juice, lemon juice, or tea deter fruit flies?
- \*Place several bananas in a bowl and allow them to ripen and draw fruit flies. When fruit flies appear, cut one of the ripened bananas lengthwise in half, and then cut each half lengthwise in half again, making four pieces of banana. Lay them out, side by side, and observe the behavior of fruit flies around the pieces.
- \*Spray one piece of banana with your lemon concentrate, another with the grapefruit concentrate, and another with the tea concentrate. Leave the fourth piece alone as a control.
- \*Lay the pieces out again, but leave four or five inches between each one. Observe the behavior of the fruit flies. Do any of the sprayed banana pieces appear to repel the flies?
- \**Testing effectiveness against ants.* Locate an active anthill and capture several ants in a jar. On a board or outside on pavement, set down the jar. Remove the sprayer from the lemon-filled spray bottle and pour a six-inch diameter circle around the jar. Open the jar of ants. Do the ants cross the ring of lemon?
- \*Repeat using the grapefruit juice, and then the tea concentrate. To ensure that the ants are not simply responding to a liquid, lay a line of plain water in front of the ants to compare their behavior to your insecticides. Observe the behavior of the ants.