

The U.S. Environmental Protection Agency estimates that North American household use 136 million pounds of pesticides every year. Excessive application and misuse of pesticides results in heavily polluted stormwater runoff that is discharged directly into area lakes and streams. Homeowners use 10 times more chemicals per acre, in the form of pesticides, herbicides and fertilizers, than farmers use on crops. These chemicals are often washed off the lawn or garden with only a small amount of rainfall, or the lawn sprinkler that is used to water them in. The excess water carries these chemicals to the gutters and storm drains and deposits them in the nearest water body through the storm water drainage system.

The United States Environmental Protection Agency (USEPA) considers stormwater runoff from yards, gardens, driveways, streets and parking lots to be one of the most significant sources of contamination in the nation's waters. Pesticides are one of the main groups of Persistent Organic Pollutants or POPs that are presently polluting lakes, rivers and streams throughout North America.

## Stormwater Pollution Prevention Program



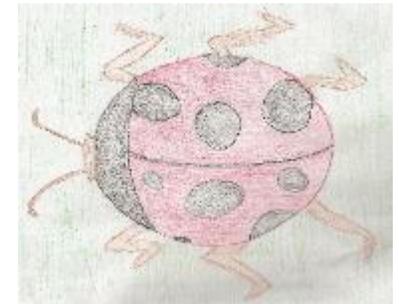
Non-toxic Pesticides

For more information on environmental protection and stewardship contact:

The City of Moberly  
Stormwater Pollution Prevention  
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Pollution Prevention Through  
Education and Involvement

## Mosquito control

### Granulated Garlic

When broadcast on the lawn, it will repel mosquitoes for up to 30 days. Use about one cup per 1000 square feet and include the potted plants. Garlic is also good for the soil and plants as it controls fungal diseases and feeds the soil with trace minerals. The effect lasts long after the smell is gone.

**Granulated garlic** works equally well repelling pests on most garden plants. Always test a small area for sensitivity before broadcasting the whole crop.

### USDA Recommendation for General Purpose Spray

Mix one teaspoon of liquid dishwashing detergent with one cup of vegetable oil and shake vigorously. Add a quart of tap water and apply with a spray bottle. Use at 10-day intervals for white flies, spider mites, aphids, and various insects on carrots, celery, cucumbers, eggplant, peppers and others. Spray on a single leaf or plant first to test the strength. If it causes tip burn, dilute. This is a contact insecticide, spray mist directly on the pest.

## Grasshoppers

Tomato plants are a natural insect repellent. To keep grasshoppers away from your garden plant tomato plants throughout the garden rather than in just one spot. If you till your garden in the fall you can kill most of their eggs. You will need to go down about 6 inches to reach most of them. Heavy mulch will make it difficult for the survivors to get out of the ground.

### Hot pepper spray works!

2 large yellow onions

1-2 cloves garlic

8-10 hot peppers or “hot sauce”

Blend all ingredients in a food processor with 2 cups of water and let stand for 12-24 hours. Strain. Use ½ cup mixture to a quart of water. Test a few leaves first to be sure it is not too strong. If it is, dilute by adding more water. Store in fridge.

Hot pepper spray works on a large variety of unwanted insects. Handle with care! Will burn eyes.

### Alcohol Spray

2 cups rubbing alcohol

1 quart water

Pour into spray bottle.

Apply mixture to a leaf or two and wait 24 hours to test for possible damage.

If it appears to strong, dilute.

## Get to Know Your Bugs!

Entomologists estimate that more than 90% of insects are beneficial. These beneficial insects prey on the garden pests, pollinate our flowers and produce, burrow air holes to aid root growth and eat garden debris. Half of the remaining 10% are considered neutral, a part of the garden food chain, leaving only 5% that create the damage. An ideal garden has small numbers of all common bugs, and the pests need only be controlled, not eliminated. Unfortunately, pesticides kill the “good guys” along with the unwanted.

**Daddy Longlegs:** Most active at night, prey on aphids, mites, leafhoppers and other garden insects.

**Ground Beetles:** Live under paving stones and eat slugs and their eggs.

**Ladybugs:** Voracious aphid eaters! Ladybugs are recognized as one of the most beneficial garden insects.



Mantid , often called praying mantid.