



Garden Center and Nursery

2000 East Prospect Road

bathgardencenter.com

(970) 484-5022

Organic Pesticides

Choosing the correct product for pest problems

Remember, just because a pesticide is organic doesn't mean it's not toxic. Always read and follow the manufacturer's instructions and cautions.

Insecticidal Soap

Ingredients: Insecticidal soap is sodium or potassium salts combined with fatty acids.

Application: Insecticidal soap must come in direct contact with the insect. It is no longer effective once it has dried.

How It Works: The fatty acids in the soap penetrate the insect's outer covering and cause the cells to collapse.

Pros: One of the safest pesticides. Non-toxic to animals. No residue. You can use on vegetables up to harvest.

Cons: Can burn or stress plants. Don't use in full sun or high temperatures.

Precautions: Check label for specific plants that may be sensitive to insecticidal soap.

Bt (*Bacillus thuringiensis*)

Ingredients: Bacteria. There are more than 80 types of Bt used as pesticides.

Application: Generally available in powdered form that is sprinkled or dusted on a plant. It must be eaten by the targeted insect.

How It Works: Bt is a stomach poison. It releases toxins in the stomachs of susceptible insects which cause them to stop eating and starve.

Pros: Bt strains are very host specific and will not harm people, pets, birds or bees.

Cons: Slow acting. It may take days for the insect to completely stop eating and die. Breaks down quickly. Can kill 'good insects' like butterfly larva. Breaks down rapidly in sunlight.

Neem

Ingredients: Contains 2 ingredients, azadirachtin and liminoids, both from the seed kernels of the neem tree fruit.

Application: Sprayed onto plant leaves.

How It Works: Upsets the insect's hormonal system and prevents it from developing to its mature stage. Most effective on immature insects and species that undergo complete metamorphosis.

Pros: Non-toxic to humans.

Cons: Washes away in rain. Slow acting. Breaks down in sunlight. Indiscriminate pesticide that may harm beneficial insects.

Precautions: Keep pets from treated leaves until they dry.

Horticultural Oil

Ingredients: Highly refined petroleum or soybean oil.

Application: Mixed with water and sprayed onto foliage.

How It Works: Coats and suffocates insects or disrupts their feeding.

Pros: Low toxicity to humans, pets or birds . No toxic residue.

Cons: Most effective against soft-bodied insects. Can cause bluish evergreens to temporarily lose blue tint. Can burn leaves.

Precautions: There are several grades. Be sure to use the one that is right for the season in which you are spraying.

Pyrethrins

Ingredients: Derived from *Chrysanthemum cinerariifolium*.

Application: Generally found in powder form and dusted on leaves. Also available in sprays or foggers.

How It Works: Poisons the insect, causing a quick death.

Pros: Quick-acting. Low toxicity to animals. Degrades within a day.

Cons: Broad spectrum insecticide. Kills any insect.

Precautions: Use cautiously, only when you have a major problem with hard-to-kill insects.

Sabadilla

Ingredients: Ground seeds of the sabadilla lily.

Application: Comes as a fine powder and used as a spray.

How It Works: Acts as a stomach poison.

Pros: Very effective against the true bugs (members of the Hemiptera order)

Cons: Highly toxic to bees. Very irritating to the mucus membranes of mammals.

Precautions: Use as a last resort.

Rotenone

Ingredients: Derived from the roots of tropical legumes.

Application: Most commonly comes as a powder used to dust plants.

How It Works: Inhibits a cellular process, depriving insects of oxygen at a cellular level.

Pros: Low residual effect. Breaks down quickly in sunlight.

Cons: Broad spectrum pesticide.

Precautions: Apply in the evening, when bees are less active.

Potassium Bicarbonate

Ingredients: Potassium bicarbonate usually combined with horticultural oil and/or a substance to improve spreading and coverage of the leaves. Baking soda or sodium bicarbonate is often recommend for similar fungus problems, however research has shown potassium bicarbonate works better and is safer on plants.

Application: Spray at the first sign of disease or use as a preventative before infection.

How It Works: It's still unclear, but it appears that bicarbonates can damage the cell wall and possible create a pH that is not conducive to further fungal growth. The effect is immediate.

Pros: Lasts 2 - 3 weeks as a preventative. You can use on vegetables up to harvest.

Cons: Can burn plants, especially if used in full sun.

Precautions: Check label and test on a small area before spraying entire plant.