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Keep Your Garden Safe!

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Keep Your Garden Safe!

**Non-Chemical
 Solutions for Pests**



*Asian lady beetle, a beneficial insect.
 Credit: Purdue University*

What Makes a Pesticide "Green"?

Many pests will quickly take over your garden, if you give them a chance. By choosing green pesticides, made from natural ingredients, you are not only managing the pests, but you're giving the environment a break too!

'Green' or 'biorational' pesticides are considered 'least toxic pesticides' and break down quickly after being applied. Additionally, many are organically certified (check the label).

As with any pesticide, read the label directions before application, and follow all safety directions. There are many choices on the market when it comes to the care of your landscape from pests, so it's important to know your options, weigh the pros and cons, and make the best decision for you, your garden, and the environment.

Use this brochure to learn about some of the 'greenest' pesticides available, how they work, and other facts.

READ THE LABEL!

Look for the following signal words that indicate the relative toxicity of a pesticide.

CAUTION - *Relatively non-toxic to mildly toxic. This product may cause a mild reaction if eaten, absorbed by the skin or inhaled. If you get it in your eye or on your skin, it may cause a slight irritation.*

WARNING - *Moderately toxic. Expect a stronger reaction if this product gets on your skin, is inhaled or gets in your eyes.*

DANGER - *Highly toxic. A product like this could cause irreversible injury or death if a small amount is mishandled.*



Aphids on ixora cause sooty mold.

Product	Pests it Kills	How Does it Work?	Green Facts	Beware!
Bt	A specific strain of Bt attacks each pest: - Caterpillars (Bt kurstaki) - Beetle larvae (Bt tenebrionis) - Fly, gnat, mosquito larvae (Bt israelensis)	<ul style="list-style-type: none"> • Destroys pest's digestive system • Use as a spray or dust for lawns, vegetables and ornamentals • Use mosquito dunks for water gardens, bird baths and rain barrels 	<ul style="list-style-type: none"> • Bt is not recognized by the digestive systems of humans and other animals. If you ingest it, it is not harmful. 	<ul style="list-style-type: none"> • Bt for pest caterpillars kills other caterpillars too • Breaks down in sunlight; may need to reapply every 3 to 5 days
Horticultural Oil	Broad spectrum (kills all insects). - Aphids - Mites - Scale crawlers - Insect eggs	<ul style="list-style-type: none"> • Suffocates the insect • Apply lightweight summer oil in growing season to treat problems and heavy dormant oil in winter as a preventative. 	<ul style="list-style-type: none"> • Beneficial insects are typically larger and faster than pest insects, so they can usually escape before being coated in too much oil. • Effective against powdery mildew 	<ul style="list-style-type: none"> • Can burn plant leaves and flowers if used during very hot, cold or damp conditions • Thoroughly coat pest to be effective
Insecticidal Soap	Broad spectrum (kills all insects). - Aphids - Mites - Mealybugs - Scale crawlers - Whiteflies - Jadera bug nymphs	<ul style="list-style-type: none"> • Abrades the cuticle/skin of soft-bodied insects • Use as a spray for smaller landscape plants and house plants 	<ul style="list-style-type: none"> • Chemically similar to liquid hand soap • Most beneficial insects are not as susceptible because they have a "tougher" exoskeleton. 	<ul style="list-style-type: none"> • Applying product too much or too often can burn plant leaves • Thoroughly coat pest to be effective • Does not affect caterpillars or beetle larvae
Neem	Broad spectrum (kills all insects). - Fly larvae - Mites - Beetles - Scales - Whiteflies - Grasshoppers - Caterpillars	<ul style="list-style-type: none"> • Interferes with pest's hormones, preventing eating and growth • Use as a spray for ornamentals and vegetables 	<ul style="list-style-type: none"> • Also works as a fungicide by smothering fungus spores • Especially effective against powdery mildew and leaf spot • Can be used as a repellent 	<ul style="list-style-type: none"> • Some people may have an allergic reaction to neem • Toxic to fish and other aquatic life
Pyrethrum	Broad spectrum (kills all insects). - Aphids - Beetles - Wasps - Caterpillars - Whiteflies - Fleas and ticks	<ul style="list-style-type: none"> • Disrupts the transmission of impulses to and from the brain • Acts like a repellent • Use as a spray or dust on fruit trees, ornamentals and vegetables 	<ul style="list-style-type: none"> • A naturally occurring enzyme detoxifies pyrethrum before it can do damage, if ingested by humans. • Used in wasp sprays because it works quickly 	<ul style="list-style-type: none"> • Breaks down in sunlight; apply weekly • Some insects are resistant • Highly toxic to fish, tadpoles and beneficial insects
Spinosad	- Caterpillars - Flies - Fire ants - Thrips - Leafminers - Some beetles	<ul style="list-style-type: none"> • Disrupts pest's nervous system • Use as a spray for lawns, fruit trees, ornamentals and vegetables 	<ul style="list-style-type: none"> • Not typically harmful to beneficial insects, with the exception of bees and parasitic wasps. Apply in early morning or late at night, before bees are active. 	<ul style="list-style-type: none"> • Degrades slowly in water and is toxic to fish and mollusks • Don't use around ponds or other water bodies