

## Less-Toxic Products

Target Pest	Product Type	Active Ingredient(s)	Brand name examples
Aphids, scales, mites, leafhoppers, hemlock woolly adelgid, mealybugs and powdery mildew	Horticultural oil (dormant oil for winter season, summer oils for growing season)	Highly refined paraffinic oil or petroleum oil	SunSpray
Aphids, ants, scales, mites, mealybugs, small caterpillars, and other soft-bodied insects, weeds	<a href="#">Insecticidal Soaps</a>	Potassium salts of fatty acids	Safer's Soap, Garden Safe
Aphids, whiteflies, mites, extract of black spot, powdery mildew, rust, anthracnose, grubs and more	Neem oil	Clarified hydrophobic neem oil	Safer BioNeem, Azatin, Greenlight brand
Aphids, spider mites, thrips, whiteflies and others	Hot pepper insect repellent	Capsaicin	Hot Pepper Wax Insect Repellent
Ants	<ol style="list-style-type: none"> <li>1. Arsenic ant baits</li> <li>2. Sulfluramid ant baits</li> </ol>	<ol style="list-style-type: none"> <li>1. Arsenic trioxide</li> <li>2. N-ethyl perflourooctanesulfonamide</li> </ol>	<ol style="list-style-type: none"> <li>1. Grants Kills Ants</li> <li>2. Hot Shot Maxattrax Ant Bait</li> </ol>
Ants & Cockroaches	<ol style="list-style-type: none"> <li>1. Abamectin ant &amp; roach baits</li> <li>2. Borax</li> <li>3. Fipronil ant and roach baits</li> <li>4. Hydramethylnon baits</li> </ol>	<ol style="list-style-type: none"> <li>1. Abamectin</li> <li>2. Sodium tetrahydrate decahydrate</li> <li>3. Fipronil</li> <li>4. Hydramethylnon</li> </ol>	<ol style="list-style-type: none"> <li>1. Advance Bait Station, Avert brand, Raid Max House &amp; Yard Roach Bait</li> <li>3. Combat Quick Kill Formula</li> <li>4. Combat</li> </ol>
Ants, Cockroaches & Fleas	<ol style="list-style-type: none"> <li>1. Citrus oil spray</li> <li>2. Diatomaceous earth, Desicating dust, Insecticidal dust</li> </ol>	<ol style="list-style-type: none"> <li>1. d-Limonene</li> <li>2. Silicon dioxide</li> </ol>	<ol style="list-style-type: none"> <li>1. Orange Guard, Concern Citrus Home Pest Control</li> <li>2. Diatomaceous earth</li> </ol>
Ants, cockroaches, fleas, silverfish, termites	Boric acid/ borate products	Orthoboric acid	Boric acid Borax laundry detergent
Fleas & ticks (on pets)	<ol style="list-style-type: none"> <li>1. Fipronil topical or spray</li> <li>2. Insect growth regulator topical</li> <li>3. Lufenuron pills</li> </ol>	<ol style="list-style-type: none"> <li>1. Fipronil</li> <li>2. Methoprene</li> <li>3. Lefenuron</li> </ol>	<ol style="list-style-type: none"> <li>1. Frontline</li> <li>2. Frontline Plus (contains both fipronil &amp; methoprene)</li> <li>3. Program</li> </ol>

Fleas (indoors)	<ol style="list-style-type: none"> <li>1. Insect growth regulator carpet spray (breaks life cycle, larva can't mature)</li> <li>2. Boric acid-based carpet treatments (best used with steam cleaner)</li> </ol>	<ol style="list-style-type: none"> <li>1. Methoprene</li> <li>2. Borate</li> </ol>	<ol style="list-style-type: none"> <li>1. Precor</li> <li>2. Fleanix</li> </ol>
Mosquitos, aphids, ants, leafhoppers, thrips, whiteflies	Garlic (Concentrated garlic 'clips' to attach to plants OR Garlic oil sprays)	Garlic	Victor Mosquito Barrier Garlic Barrier Insect Repellent
Mosquitos (kills larvae in standing water for use in ponds, large puddles)	Bt mosquito dunks (Small, doughnut-shaped, floating disks)	Bacillus thuringiensis	Mosquito Dunks (found at home improvement stores)
Powdery mildew, black spot, rust, scab, damping-off virus	Sulfur fungicide	Sulfur	Safer Garden Fungicide, Orthoganics Garden Sulfur
Snails & Slugs	<ol style="list-style-type: none"> <li>1. Snail &amp; slug bait</li> <li>2. Snail &amp; slug barrier</li> <li>3. Diatomaceous earth</li> </ol>	<ol style="list-style-type: none"> <li>1. Iron phosphate</li> <li>2. Coconut oil soap</li> <li>3. Silicon dioxide</li> </ol>	<ol style="list-style-type: none"> <li>1. Monterey Sluggo, Escar-go</li> </ol>
Weeds	<ol style="list-style-type: none"> <li>1. Herbicidal (insecticidal) soap</li> <li>2. Corn gluten meal</li> <li>3. Vinegar spray</li> <li>4. Pelargonic acid herbicide</li> </ol>	<ol style="list-style-type: none"> <li>1. Potassium salts of fatty acids</li> <li>2. Corn gluten</li> <li>3. 20% Vinegar, put in spray bottle</li> <li>4. Pelargonic acid</li> </ol>	<ol style="list-style-type: none"> <li>1. Safer Superfast Weed &amp; Grass Killer</li> <li>2. Concern Weed Prevention Plus, Supressa</li> <li>3. N/A</li> <li>4. Quick Weed Killer</li> </ol>
White grubs	Imidacloprid Also see Neem above	Imidacloprid	
Yellow jackets and other flying insects	Mint oil	Mint oil, sodium lauryl sulfate	Victor Poison-Free Wasp & Hornet Killer Spray

Courtesy of Penn State, The College of Agricultural Science, Pennsylvania Integrated Pest Management Program

<http://paipm.cas.psu.edu/1314.htm>