



A lot of folks are big believers in trying to be as “organic” as possible when controlling ailments in their plant collections, or just trying to spruce them up. We strongly recommend AGAINST preventive use of insecticides and fungicides, as there is a fairly strong tendency to breed resistant strains. Instead, we suggest that you take the time to carefully inspect your collection, and treat problems as soon as they arise.

Below are a number of home remedies – concoctions that come highly recommended, but please remember that you’re using them at your own risk, and that of your plants, and the I can take no responsibility for the outcome. INSECTICIDES:

Your choice of home-made insecticide should be based upon what you’re trying to eliminate. Soft-bodied bugs, such as [aphids](#) & mealie bugs:

- • Straight 70% or 90% isopropyl rubbing alcohol – touch insects with a soaked cotton swab, or for larger infestations, spray the entire affected plant, being sure to thoroughly wet all surfaces. Repeat every 3 days for about 2 weeks. (I have never experienced any problems with buds, flowers, or any part of the plant when using an alcohol spray.)
- • Garlic/pepper spray – liquefy 2 bulbs of garlic and 2 hot peppers in a blender 1/2 to 2/3 full of water. Strain to remove the solids and add enough water to the garlic/pepper juice to make 1 gallon of concentrate. Use 1/4 cup of concentrate per gallon of spray. To make garlic tea, simply omit the pepper and add another bulb of garlic. Add two tablespoons of blackstrap molasses for more control.

Insects that have hard shells, such as [scale](#), and [thrips](#):

- Mix 1 teaspoon (5ml) each cooking oil and liquid dishwashing soap or detergent in a quart (liter) of water. Concentrations are not critical – some recommend a tablespoon (15 ml) of oil be used. Shake well, and spray the plant, being sure to thoroughly wet all surfaces. Repeat every 3 days for about 2 weeks. (The soap breaks down the waterproof, waxy coating on the insects' shells, and the oil will smother them.)

General-purpose insect spray

- One cup (250ml) each Formula409 or Fantastik household cleaner/degreaser and isopropyl rubbing alcohol and 2 cups water, making a quart or liter of spray. Use the same as the formulas above. (I've not tried this one.)
- Mix three tablespoons of Dr. Bronner's Peppermint Pure-Castile Soap and 3/4 cup isopropyl rubbing alcohol in a quart bottle, then add water to fill it up. Supposed to be a good, general purpose insecticide.
- Orange Plus, a household cleaner made from byproducts of orange juice production, can be sprayed directly on plants to eliminate insects. (I suspect other concoctions made using citrus oils may also be effective, but have no knowledge or experience concerning them.)
- In a 1 quart spray bottle mix 1 tsp Murphy's Oil Soap, 1 tsp Sunspray (or cooking oil), 1 tbs lemon juice, and fill the rest with 1/2 water and 1/2 alcohol.

Ant eliminator

- Melt about ¼ pounds of candle wax, then slowly stir in about 1/4 cup sugar and 4 ounces boric acid powder (available at your local drug store). When thoroughly mixed, pour into a pan, creating a 1/4" to 1/2" thick slab. Cut or break into chunks and distribute around the greenhouse. If you decide to try this indoors, be sure to keep them away from children and animals.
- A surprising—and no doubt smelly—ant repellent is fermented cow manure tea. Put about a gallon volume of fresh manure in a 5-gallon bucket and top it up with water. Cover and let stand for a couple of weeks or more until it's fully "cured." Spray around the greenhouse and under the benches. (at least one person claims this keeps fire ants away down in Houston, and if it works for them...)
- Here's another volunteered from the world of cyberspace: raw grits or corn meal! Sprinkle them in an area where ants are attracted, and they will gobble them up. Later they will swell in their bellies. (Need I say more?) Another contributor verified that the grits or corn meal works, but only for larger ants. For the small ones, try sprinkling some bath powder around.
- Along those same lines, a 50/50 mix of powdered (confectioner's) sugar and baking soda is supposed to be effective against ants.
- OK, another one volunteered by a reader—aspartame! You know... Nutrasweet, the sugar substitute? Apparently, it is attractive to them, is taken back to the colony, and kills the lot. This one is even supposed to be effective against fire ants. You may find it necessary to dampen the powder or granules to make it attractive to the critters.

Insect Repellent

Place small, open containers of eucalyptus oil in the growing area. The vapors will discourage critters from approaching. (Yeah, it's going to smell like a Hall's Cough Drop factory, but it's good for opening your sinuses, too – a la Vick's Vapo-Rub.) Eucalyptus oil has also been shown to be an effective fungicide, but I know that a dispersion in water and alcohol, when sprayed directly on the plant, will damage flower buds, so I can't recommend that use.

Fungicide

- Those of you who frequent the internet orchid forums know of my “crusade” for the use of cinnamon as a fungicide. I've done a lot of digging, and it turns out that the chemicals in the bark have all sorts of medicinal applications (I've even cured athlete's foot with my alcohol extract!) Choose the consistency that is best for your situation:
- Powder: Apply normal, household cinnamon powder directly to the affected part of the plant by dusting heavily. This has proven to be a good way to control slime mold and mushrooms in the mulch in my outdoor flower beds, too!
- Poultice: Mix cinnamon powder with sufficient casein-based glue (Elmer's) to make a thick, brown paste. Apply to the wound and let dry. The Elmer's Glue is water soluble, but resists washing-off quite well. This is the preference for mounted plants that get watered or misted frequently. An alternative to the Elmer's Glue, but just as waterproof and long-lasting is made by mixing cinnamon powder and cooking oil to form a thick paste.
- Spray: You can prepare a cinnamon spray using either alcohol or water as your solvent. The alcohol infusion is faster to prepare and offers some insecticidal properties as well. This is my preferred method and has been effective at eliminating all sorts of fungus problems, including damping-off of deflasked seedlings.
 - Put 2 tablespoons (30ml) of cinnamon powder in a pint (500ml) of isopropyl rubbing alcohol. Shake well and let stand overnight. Filter the solution to remove the sediment (coffee filters work well) and use the brown liquid as a spray. (While it's not a big problem for most orchid growers, I've heard that this is good for powdery mildew, as well.) or...
 - Put the cinnamon powder in hot water. Shake well and let stand for several days. Filter and use as above. (Some feel that the alcohol can be too desiccating when used on seedlings.)
- Here's another alternative – Ground Corn Meal. Place one cup of whole ground corn meal in an old sock or panty hose leg and immerse in a gallon of water. Let stand for a couple of days, then use the liquid as a spray.
- Hydrogen Peroxide—If your Phals look like they' restarting to get crown rot, sometimes simply pouring some straight-from-the-drug store hydrogen peroxide on the wound can stop the process. Just be sure to tilt the plant and drain the grown after about five minutes so it can dry.

- General Purpose Spray: Put one cup of the alcohol cinnamon-extract in a pint bottle, add two tablespoons of liquid dishwashing detergent, and top up with water. Use as a spray. The soap and alcohol are good insecticides, while the cinnamon is a fungicide.

Mildewcide

Mix approximately 1/3 cup milk into a quart of water, and spray. I have not tested this one, but even if it doesn't work, you end up with shiny leaves!

- Mix 3 tablespoons cooking oil, 1 tablespoon liquid dishwashing detergent, and 1 tablespoon baking soda in a gallon of water; spray at three-day intervals for powdery mildew.

• Slug & Snail Treatments

Killer:

- Trap: Put a plate or plant saucer full of fresh beer on the floor; snails and slugs will be attracted to it, fall in and drown. (Stale beer, has apparently been shown in university studies, to be a repellent, not attractant!)
- Spray: Mix one cup household (non-sudsy) ammonia with water, and spray directly on the critters.
- Spray: Don't throw away the left-over coffee! Mix it 50/50 with water (some say use it straight), and spray. I add about 2 ounces per gallon rubbing alcohol to keep mold from growing on the liquid surface when the stuff is stored. Seems to work great on Bush Snails.
- Barrier: If you suffer from slugs climbing upon to the benches and attacking your plants, there are several ways of blocking their path, ranging from mechanical to chemical.
- Mechanical: Spread a layer of Diatomaceous Earth on the benches, around your plants. The material – the skeletons of microscopic sea creatures (diatoms) – is almost pure silicon dioxide and has very sharp points and edges that discourage the passage of the creatures. The material sold as a microfiltration medium for aquariums probably won't do much. If you can find horticultural grade material, it is coarser and has much sharper edges that make a great barrier.
- Mechanical: Staple extra-coarse wet/dry sandpaper to the legs of your benches, grit side out.
- Mechanical/Electro chemical: Tightly wrap the legs of your bench with a 2" (5cm) wide strip of copper foil, being sure to apply it tightly enough to avoid gaps. The copper is supposed to create some sort of uncomfortable electrochemical effect when in contact with the "slime" secreted by the critters. I suppose it's like biting on a piece of foil if you have metal fillings in your teeth!
- Chemical: Apply a thick layer of the product Tree Tanglefoot around the legs of the bench. Available at most good garden centers, it is sold as a bird repellent for ornamental trees, it contains a castor-bean extract that repels slugs and snails.

- Bait: If you just want to lure the critters away from your plants so you can dispose of them, try putting slices of raw potato near the potted plants on the bench. The slugs and snails can be found on the underside in the morning. (Thanks to Janet Price.)
- Boil approximately 2 cups of water, 2 teaspoons or a packet of yeast, and 2 tablespoons of honey together. The relative proportions aren't important. Mix, and then put it out in shallow trays or pans for the snails. Refresh every week or two.

Algaecide (for cooling pads): Place one cup of whole ground corn meal in an old sock or panty hose leg and tie a knot in it to contain the meal. Place in the water tank for the cooling system. The algae will dissolve in a few days. Note: I have no idea if this methodology can be used for algae growing in pots.) HERBICIDE: Spray full-strength household vinegar on weeds, repeat daily as needed. This is NOT to be used for weeds growing in the pots of your other plants, but is good in driveways, walkways, the greenhouse floor, patios, etc. GENERAL-PURPOSE DISINFECTANT: Add one ounce of household chlorine bleach to a gallon of water and spray on utensils, benches, even your plants to control a wide variety of pathogens. It even helps control algae.

Leaf Shine: If you live in an area where the water has a fair amount of dissolved minerals, or if you mist with a fertilizer solution, the leaves of your plants can become dull in appearance. Folks may warn you that these treatments can clog the pores (stomata) on the leaves, but I've never seen a problem.

- Pineapple juice, orange citrus juice (lemon, lime, orange), when rubbed onto the leaves with a soft cloth or paper towel will also remove such deposits so your leaves will be nice and shiny. I suppose the acidity reacts with the mostly alkaline deposits. (Thanks to CJ Maciejewski)
- It has been reported that stale beer may also be used for shining up leaves, although we're both at a loss for how to get stale beer, as it never gets that way around our house!
- Mix about a 50% dispersion of whole milk in a quart of water. Using a soft cloth or paper towel, wipe the leaf surfaces with the dispersion.
- Similar to the milk above, dilute mayonnaise with water to form a thin paste. Again, apply using a soft cloth or paper towel, being sure that you wipe off as much of the paste as you can.

"Do Everything" Spray

Fermented Compost Tea – take about one- to two cups of some really well- composted organic matter (the stuff at the bottom of the pile), place it in a cloth bag (an old sock will work), and immerse it in a gallon of water at room temperature. Let it stand overnight or longer until you have a dark liquid. Remove the "tea bag" and let the container sit outdoors for about two weeks.

Remove the scum that forms at the surface, filter the liquid and spray. Supposedly, this brew will be loaded with bacteria and other microorganisms that attack pretty much all of the fungi

and diseases that harm plants. (It has also been suggested that the unfermented brew from above, once diluted to about 20% in water, is as close to the food source an orchid sees in nature as you can get!) CROWN ROT TREATMENT:

Crown rot is caused by letting water sit in the folds between leaves, resulting in a bacterial or fungal infection, or even both. Prevention is the key, so water or mist early in the day so the stuff has time to dry by nightfall. If you do get a case of crown rot:

- Pour a liberal amount of hydrogen peroxide in the wound and let it stand for about 5 minutes to kill the infecting agents.
- Tilt the plant to pour the liquid out of the crown.
- Let the plant dry completely.
- Sprinkle with dry cinnamon.
- Treat the plant normally, being sure to keep the wound dry.