St. Augustine Orchid Society
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Granular Chemicals

by Sue Bottom, sbottom15@hotmail.com

There are plenty of pesticides and insecticides on the market that you can use as a spray or a drench on your orchids. These are generally offered as fairly concentrated chemicals with lots of recommendations to prevent personal harm during their use. The potential for inhalation and skin exposure is greatest when spraying orchids, so respirators and protective clothing are often recommended. Those chemicals that are xylem mobile in the plant can be used as a drench, where you pour the mixture through the potting media for absorption through the roots. This has a lesser potential for personal exposure, so you may only have to don gloves and boots to protect yourself.

A great alternative to both of these approaches is a granular chemical that can be spread around the top of the potting media as top dressing. When the plant is watered, the chemical is dissolved and carried down to the roots, absorbed, and transported up into the plant through the xylem. These granular chemicals tend to have a much lower concentration of the active ingredient. You can simply wear gloves as you spread the chemical and be protected from ill effects. Another major benefit is the cost, the granular products tend to be much less expensive than their concentrated counterparts.

Here are some granular chemicals you may wish to keep in your arsenal, organized by the type of problem they are designed to fight. (*note: the first number after the trade name is the concentration in weight percent of the active ingredient, and the second number is the formulation: WP-wettable powder, G-granular, SC-suspension concentrate, SG-water soluble granules, SL-soluble concentrate, SP-water soluble powder, WDG-water dispersable granule*).

Mealybugs on Psychopsis flower

Pesticides. Scale is a major pest of cattleyas and phals and paphs are mealybug magnets. There are lots of household cures that can suppress but rarely eliminate these pests. Some effective products containing imidacloprid like the Bayer products and those labelled for Tree and Shrub treatment are available at local nurseries, and the very concentrated products like Merit 75WP (active ingredient imidacloprid) and Safari 20SG (active ingredient dinotefuran) are available at specialty nursery supply stores. There is a granular product containing 0.5% imidacloprid with trade names Merit 0.5G, Hi Yield Grub Free, Imidacloprid 0.5G and Generic Merit among others, sold in 10 and 30 lb bags. I have been using this product for several years on landscape plants as well as orchids. It is very handy to use as a spot treatment on an infected plant and it is very effective at killing scale.

There is only one systemic miticide, Kontos, and the label says not to use it on orchids. The other miticides are all intended to be sprayed on upper and lower leaf surfaces for best control, although some have the advantage of translaminar activity. At present, there is no granular miticide.

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There is no granular systemic product for thrips, but systemic control of thrips using drenches is possible using products containing the active ingredients acephate (Orthene) and dinotefuran (Safari). Raymond Cloyd's article on Control of Thrips with Systemic Insecticides suggests that the more water soluble systemics are more rapidly absorbed by the roots and translocated throughout the plant, including the flower buds. We have found Orthene drenches to be very effective at controlling floral damage to Cattleya flowers. We haven't used Safari, which is about half as water soluble as Orthene. Besides flowers, thrips feed on the foliage of soft leaved orchids like Catasetums whereas they don't do much damage to waxy Cattleya leaves. If leaf feeding is a concern in your growing area, you will have to spray insecticides for control rather than rely on drenches.

Anthracnose on stanhopea leaf

Fungicides. There are many granular fungicides on the market, mostly developed for turf grass on golf courses. These often contain the same active ingredients as are found in concentrated products like Heritage, Banner Max II, Insignia, Pageant, Empress Intrinsic, Heritage, and others. Perhaps at some point these products will be labeled for use on ornamentals. For now, there is one product labeled for use on ornamentals (though orchids are not specifically listed, so they presumably were not tested). Fame Granular fungicide contains 0.25% fluoxastrobin, and is reported to be effective for anthracnose, rhizoctonia, sclerotium, fusarium, phytophthora and pythium (as a preventative). Another granular product is 3336DGLite which contains 2.08% thiophanate methyl, the same active ingredient as is found in Cleary's 3336, Thiomyl and Banrot. It is labelled for use in commercial horticultural applications. It is listed as effective for anthracnose and, when incorporated into the potting media as a preventative, for rhizoctonia and fusarium.

I get anthracnose on my thin leaved orchids like stanhopeas and gongoras, so I wanted to try Heritage to see if it would stop the infections. Heritage is a broad spectrum systemic fungicide effective for leaf spotting fungi like anthracnose and the cercosporoids as well as those that cause the stem, bulb and root rots like rhizoctonia, fusarium and sclerotium. I mistakenly ordered Heritage G instead of Heritage SC, the granular rather than the sprayable product. Once I got over being annoyed at my mistake, I thought what a great way to spot treat those stanhopeas. I cut off the infected leaves, sprayed the oxalis, top dressed with a little cypress mulch and some Heritage G before placing them in their winter home. It also should work well for that pesky cercosporoid infection that ruins the leaves on my dendrobiums as well as the occasional anthracnose on cattleyas.

The granular chemicals are a breeze to apply, you simply top dress the pot and water. When you notice a problem, stop and apply the chemical and then continue whatever you were doing. Easy, no elaborate preparations, no suiting up, just sprinkle and go!

References:

Control of Thrips with Systemic Insecticides, Raymond Cloyd, Greenhouse Grower, June 10, 2013, https://www.greenhousegrower.com/production/insect-control/control-of-thrips-with-systemic-insecticides