

Horticultural Oils

by Rachel Oppedahl

Spider mites and aphids are the bane of my garden's existence. While giving the plants and bushes a nice, hard spray of water every morning (and I mean EVERY morning) in spring and summer does wonders for managing these pests. The truth is, sustaining a daily practice of dousing the tops and undersides of the whole, leafy garden throughout the growing season has proved impractical for me.

Enter horticultural — often called "mineral" or "narrow range" — oils, which are highly refined petroleum/paraffin products that are made specifically for controlling pests on plants. If applied at the right time and in the right way (always read the label), horticultural oils can be one important tool in controlling many common soft-bodied garden pests such as mites, aphids, white flies and mealybugs. They work primarily by suffocating the insects — *and sometimes the eggs* — that are on the plant at the time you spray. But unlike broad-spectrum pesticides, horticultural oils are much safer because they do not leave a long-term toxic residue that can harm beneficial insects.

"Horticultural oils ... degrade rapidly through evaporation, and have very low toxicity or almost no toxicity to humans or wildlife at the rates used to control pests," says UC Davis Integrated Pest Management (IPM) retired Director Mary Louise Flint in *Pests of the Garden and Small Farm: A Grower's Guide to Using Less Pesticide* (University of California Press, 1998). Using horticultural oils on fruit trees during their dormant season to control overwintering insects has been a common integrated pest management practice for years. But these sprays are also effective in the ornamental garden both before and during the growing season. Here are some tips for their use:

Earlier is better – Like most pest controls, the sooner you spot an infestation, the more effective horticultural oils will be. I have found that a quick spot check on plants twice a week makes a world of difference in preventing massive infestations – especially when you know what you are looking for, like the telltale fine webbing of spider mites. Spray when the populations are relatively low, and you have a better chance of minimizing damage to your plants.

Know your enemy – Taking the idea of timing one step further, knowing the life cycle of the most pesky pests in your garden can help you be more strategic about when to spray horticultural oils. If you know when and where a particular insect tends to overwinter and/or lay eggs (sometimes on the plant itself, sometimes not), targeted applications of a horticultural oil can minimize or prevent an outbreak. The UC IPM website is a great tool for learning about insect life cycles, the damage they do, and various ways to manage pest infestations:

www.ipm.ucdavis.edu.

Use the right oil – IPM guidelines suggest that you choose "supreme or superior-type oils with a minimum unsulfonated residue (UR) of 92 and a minimum percent paraffin (%Cp) of 60%." Greek to you? Just jot it down, take it to the store, and consider this yet another reminder to read the label of any plant spray you are about to buy.

Another benefit of reading the product label is that it will often tell you how often you can apply the spray and will mention any plants that might be harmed by its application. (By the way, don't confuse a popular garden spray called "neem oil" with the horticultural oils discussed here. Neem is a botanical insecticide that, while also effective and relatively nontoxic, works in a different way.)

Never spray when ... the tree or plant is water stressed, it is foggy or rainy, or the temperature is expected to exceed 90 degrees. Thoroughly water in-ground plants several days before applying oils, and sooner for potted plants, which tend to dry out more quickly.

Be extra careful with annual crops – Don't apply a horticultural oil to your vegetable garden unless you carefully read the product label. Much more research has been done on the use of these oils on fruit trees and ornamentals than on the edible garden, so check the label first.

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Have more questions about managing pests in the garden? The UC Cooperative Extension Master Gardeners can help. Get free advice by calling the Tuolumne County Master Gardener Hotline, 209.533.5912, or by emailing mgtuolumne@ucdavis.edu.