



Aphids: nip them in the bud by killing their eggs with dormant oil sprays.

Why and How To Use Dormant Oils

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WHY use dormant oils? This is a question asked by many arborists. The main reason is to control hard-to-kill insects. In the early spring, when oils are applied, such insects are just becoming active (they are breathing). Oils effectively kill insects at this time because the oil covers and suffocates them, and thus provides an effective control with almost no possibility of insects developing resistance.

Effectiveness Of Oils

One of the questions most frequently asked about oils is: "Why can't we use summer sprays during the growing season to get as effective control of the same insects?"

Summer sprays are not as effective because, when oils are applied in the early spring, the insects are stationary.

Trees can also be treated in spring without interference from foliage; the oil can get through to do the job. The alternative is to make applications at the right time, and at higher pressures, during the growing season. This

means taking the chance of damaging trees to control hard-to-kill insects, which are actually easier to control with oils. Also, oils kill a higher percentage of insects.

What An Oil Is

What constitutes a dormant oil? Dormant oils are highly refined oils to which an insecticide may be added. For problems against which the oil alone is not too effective, oil plus an insecticide is suggested. This is true of juniper, pine needle, oystershell, and euonymus scales. The first step in selecting an oil is to make sure of its purity, which is measured in terms of U.R. rating. Oils purchased should have a U.R.

This is the first of two articles on the use of oils for insect sprays. Next month, D. H. Moore, of Niagara Chemical Div., FMC Corp., will discuss "Oil and Insecticide Combination Sprays for Ornamentals." Be sure to watch for this October feature.

rating of 92% or higher. At a 92% to 97% rating, oils will be quite pure and safe to apply to plant materials.

Many treemen have asked what "100 second" or "70 second" on the label of the can means. This notation stands for the viscosity, or general "flowability," of the oil. The smaller the "second" rating, the lighter the oil. A 100 second oil is heavy, and a 70 second oil much lighter. For effective control of many dormant insect problems, it's best to buy a 70 second oil with a U.R. rating of 92% or higher.

Do Oils Damage Trees?

Treemen often ask if dormant oils will damage trees. We have had reports of damage to some varieties. This may have occurred because of improper use of oils, or may have been because the plant was sensitive to oils. Trees such as sugar maple, Japanese maple, beech, hickory, walnut, and douglas fir have been known to be sensitive to dormant oil sprays. Information on oil damage to certain plants



Oystershell scale, shown on apple twigs, can be controlled with oil and insecticide.

is not well understood. Therefore, if there are any questions on application, it may be better to be on the safe side and not apply the oil.

What causes oil to burn a tree? This is hard to say, but two factors that may contribute to burn on sensitive plants are the sun (because sunlight is magnified by the oil while passing through it), and the use of extremely high pressures with a very fine spray. After all, plant material can be burned even with a fine spray of water under very high pressure, if spraying is done at close enough range.

When might oil damage trees? Oil may cause problems if very high pressure is used, and the oil spray is blasted into the foliage; if oils are not pure enough; or, if oil freezes on the foliage during the night. But, in general, we know that oils are one of the most effective sprays for controlling hard-to-kill insects. If the user is cautious, and carefully follows the maker's directions and the recommendations of his local agricultural extension service, he will have little problem applying dormant oils for maximum effectiveness.

Good Coverage Important

To kill insects, thorough coverage of the material being sprayed is necessary. All branches must be covered with the oil to suffocate any overwintering insects and their eggs. To do this, the applicator must

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move around the tree, applying sufficient spray from all sides. He should be careful not to use excessive pressure; just enough pressure to do the job is necessary.

Scout trees to be treated before spraying. If there are no pressing problems of overwintering insects or their eggs, it may not be necessary to apply an oil that year. And, note any overwintering problems on sensitive materials in the spring, so that plans can be made to treat them later in the year with a summer spray. On sensitive trees, for which oil has not been recommended, do not use it. But again, when dormant oil sprays are used, it is essential to thoroughly cover the plant material.

What Oils Control

Dormant oil sprays will control hard scales, soft scales, mite eggs, aphid eggs, and may, with good coverage, control overwintering caterpillar eggs on the bark.

For juniper, pine needle, oystershell, and euonymus scales, oil plus ethion insecticide will do the job. Other dormant sprays, such as lime sulphur and the

dinitro compounds, can also be used on these problem pests. Lime sulphur has been used primarily for pine needle and juniper scales. The dinitros have been effective against oystershell and euonymus scales. These sprays should be applied with care. The dinitros are very poisonous and may cause a yellowing on some evergreens. One problem with lime sulphur is that it will discolor paint, and should not be used close to houses or other buildings.

Summary

Remember that overwintering insects have not built up a resistance to oil. With good oil coverage, the insect problems listed above should be brought under control. Also, remember that it is better to wait until the insects start to become active (breathe) before applying dormant oils. In many cases, oils can be applied up to the time leaves begin to break and buds begin to open. Apple trees, in particular can be treated with a "delayed dormant spray" when the buds are showing $\frac{1}{4}$ " to $\frac{1}{2}$ " of green.

Spray-O-Rama '66 To Have Symposium, Equipment Show

Four of the Northwest's leading spraymen will take part in a symposium, when members of the Pacific Northwest Spraymen's Association meet at the Thunderbird Motel in Portland, Ore., Sept. 23-24, for their 1966 Spray-O-Rama.

Symposium speakers will be Donald Mock, Shamrock Spray Service, Seattle, Wash.; Ray Collier, Collier Spray Service, Portland, Ore.; L. F. "Lew" Sefton, Sefton Spray Service, Portland; and Erle Parker, Jr., Chemical Spray Co., Dayton, Ore. All have either built or are planning to build spray rigs, and will share their equipment experience with others at the confab. Bill Owen, president of the spraymen's group, will moderate the symposium and conduct a question and answer period afterward.

An equipment show is to give spraymen a look at unusual types of spray rigs, including a 1,000 gal. rig with 9 separate tanks and several pumps that was designed for one-man operation. Manufacturers will also display their spray equipment at the show.

With its theme, "People, Pesticides, and Professionalism," the program will provide spraymen with information both unusual and entertaining. "We are trying," Owen says, "not to duplicate technical information that spraymen can get in their own area." Emphasis will be on public relations for spraymen, though specialists from Oregon State University will also address the gathering.

Robert E. Averill, from Merritt Davis Schools, Inc., of Salem, Ore., will boost public relations as the banquet speaker. Other talks are to include a printer speaking on "the imaginative use of paper in the small business," and "public relations on the telephone," to be given by a consultant from the Pacific Northwest Bell Telephone Co. A humorous, feminine touch will be provided by a Northwest garden writer. Yet another feature of the two-day program will be a



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