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The All Season Gift
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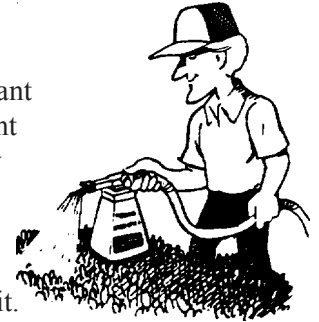
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Dormant Spray Guide

'Dormant Spray' is one of the most important sprays of the entire year. A properly timed dormant spray will prevent, and kill more insects and diseases, than most other sprays during the year. Dormant sprays can also help reduce the amount of spraying needed later in the season. If you only spray your trees once during the year, be sure to 'dormant spray' them. If you do not like to use chemicals in your yard, you can still dormant spray your plants by just using dormant oil. Dormant Oil (Horticultural Oil), by itself, is one of the safest insecticides you can use. It is not a poisonous chemical to animals, birds, or humans; but it is deadly to insects. Insect can't get resistance to it.



Don't worry: "This time they will be smothered, next time they won't" is not true about Dormant Oil.

What is Dormant Spray?

'Dormant Spray' is usually a horticultural plant oil (not a motor oil). It is either used by itself, or mixed with either an insecticide or a fungicide. If you want mix chemicals, you must buy the two products separately and mix them together; they do not come pre-mixed. It is not hard to mix the dormant spray chemicals if you follow the label directions. Check the section later in this handout entitled **Mixing Chemicals** to learn how to mix chemicals properly.



Some of the most common horticultural oils are **Hi Yield Dormant Oil** and **Bonide All Season Spray Oil**. In the past, the most common insecticide mixed with horticulture oil was Diazinon. However, Diazinon is no longer available to purchase, so we recommend using **Malathion** instead. **Malathion** works well for most plants, but certain plants may need a different insecticide or fungicide. Please ask for the latest chemical recommendations because chemical recommendations change frequently.



Dormant spray acts as both a physical control (it smothers insects and their eggs) and a chemical poison. In addition to smothering insects, horticultural oil penetrates the waxy coating of the insect's eggs allowing the insecticide to be more effective. Horticultural oil also acts as a sticker, keeping the insecticide on the plant and active for a longer period of time. Horticulture oil is very effective controlling all insects that it comes in contact with.

When to Apply Dormant Spray

Dormant spray should be applied when the plant is dormant. A plant is dormant when it is not actively growing. Junipers, and other evergreens, do not lose their leaves but they still go dormant during the winter. Dormant sprays are very concentrated and should be applied before the plant becomes actively growing. If a dormant spray is applied to a new leaf or blossom it may 'burn' it.



The best time to apply dormant spray is when the buds are swelling on the plant; just about ready to break open. Insect's eggs, just like plants, are dormant during the winter. Insect eggs, in their dormant stage, are very resistant both to the cold and to chemicals. The closer the eggs are to hatching, the easier they are to kill. Many insect eggs may also be under some of the plant tissues surrounding the buds. When the buds begin to swell, the tissues expand and allow the oil to penetrate further into the plant.

Wait to apply dormant spray until after you are finished pruning. Spray when the temperature is above freezing and will stay above freezing long enough for the chemicals to dry completely. If the spray freezes before it dries, it may not stick to the plant, and, the freezing dormant oil could cause some physical injury to the plant.

The term "**Delayed Dormant Spray**" means to wait until the buds have already started to open before spraying. Apple trees, for example, should have a little white showing in their buds before you dormant spray them. The later you wait to spray your trees, the better the results will be. Waiting to spray has its advantage, but don't wait too long. Do not spray blooming trees; the dormant spray will burn and kill the flowers. Dormant spray may also kill beneficial insects when you spray during the blooming time.

Dormant Disease Spray

Besides preventing insects with a dormant spray, you can also prevent certain diseases with a dormant disease spray. Fortunately we do not have as many diseases in Utah as in other areas of the country. **Coryneum Blight** (Shot Hole Fungus) is a common disease of peaches, apricots and other stone fruits. **Aspen Leaf Spot** is another disease that is best controlled during the dormant season. Roses and Jonathan apple trees (infected by powdery mildew) can also benefit from a dormant disease spray if they have this disease. Other plants may also have diseases that re-



quire a dormant disease spray. Unless you know which specific disease your plants have, you would be better off spraying with a dormant insect spray, rather than a dormant disease spray. If you have a specific problem with the plants in your yard please stop by with your questions.

Two of the best fungicides for dormant disease controls are **Copper** and **Lime Sulphur**. Mix the fungicide with the horticultural oil instead of using an insecticide.

Which plants need Dormant Spray?

Most trees and shrubs will benefit from **dormant spray**. Fruit trees, raspberries, junipers, roses, and many flowering shrubs probably benefit the most. The main insects you can control with dormant spray are; aphids, spider mites, blister mites, bud mites, scale, pear psylla, peach twig borers, lygus bugs, and many other insect's eggs. Spray the upper branches, twigs and trunks of trees with dormant spray. Try not to spray the lower trunks with dormant spray because many beneficial insects lay their eggs in the lower parts of the tree. Spray the branches thoroughly; to the point of dripping. You may need 4 or 5 gallons of dormant spray to completely cover a large tree. Spray junipers, and other shrubs, thoroughly from top to bottom, to prevent many insects, such as scale or spider-mites. Additional insect sprays may be needed during the summer, but '**dormant spray**' is a good way to start and will do the most good.



Dormant spray does not kill all insects. Dormant spray, for example, will not control the Cherry fruit flies, Boxelder Bugs, or the Apple Coddling moths. These insects do not lay their eggs on the plants; they lay their eggs in the grass, on the house, or in the soil. Dormant spray only controls those insects (and eggs) on the plants when you spray.

Using and Mixing Chemicals Safely

Using a pesticide, except as registered by the manufacturer, is a violation of the law. The results of misusing a pesticide may damage your plants or kill unwanted targets.

Whenever you use a pesticide, pay special attention to the health and safety recommendations of the manufacturer. You must take special precautions to assure the safety of people who may come in contact with the spray, and to prevent contamination. Wear the proper clothing, choose a sprayer that is appropriate for your situation, and use the proper pesticide.

Mixing **Dormant Spray** chemicals can be very simple, depending upon the type of sprayer you are using and the chemicals you are mixing together.

The first rule of using & mixing chemicals is:

Always Read The Label of All the Chemicals You Are Going to Use. Check the label to find out if the chemicals are the correct products, and are compatible before trying to mix them. If you are not sure they are compatible then **don't mix them together!**



The second rule of using & mixing chemicals is:

Always Read The Label of All the Chemicals You Are Going to Use. Check the label to find out how much of each chemical you should use. If a label says to use 1 tablespoon per gallon of water then use 1 tablespoon (**do not use 2 or 3 tablespoons**) per gallon of water.

The easiest way to mix chemicals is to use a tank sprayer. Fill the tank sprayer with half of the water needed. Add the chemicals to the water and then fill the tank with the rest of water needed. Sound Simple? If you are using a wettable powder, dissolve the powder in a little water, making a paste, before putting the chemical into the tank sprayer. Otherwise the powder tends to become a clump and not dissolve properly.

A hose sprayer may seem a little harder to use, but it is not. If your sprayer mixes a certain amount of spray, (the "**Ortho Sprayette 4**" sprayer makes up to four gallons of spray each time you fill it) put the amount of all chemicals needed to make 4 gallons of spray into the jar. Then fill the rest of the jar with water - to the 4 gallon mark.



Example: If you are to use 2 teaspoons of Malathion per gallon of water and 6 tablespoons of Dormant Oil per gallon of water; put 8 teaspoons of Malathion and 24 tablespoons of Dormant Oil in the sprayer jar. Fill the rest of the sprayer jar with water (to the 4 gallon line on the jar). The sprayer will do the rest for you. There is no more mixing needed.



If your hose sprayer has a dial on it, such as the **Gilmore Dial a Spray**, or the **Fertilo-me No Mix Sprayer**, you need to get the ratio of chemicals correct in the jar (you do not add any water in the jar with this type of sprayer). **Example:** If you need to mix 2 teaspoons of Malathion per gallon of water and 6 tablespoons of oil per gallon of water, then put that ratio of Malathion and oil in the sprayer jar. For every 2 teaspoons of Malathion you put in the sprayer bottle, put 6 tablespoons of oil in the jar also. Fill the sprayer jar as full of this mixture as you need to make the amount of spray desired. **Do not add any water to the sprayer jar.** Set the dial on 20 teaspoons per gallon (two teaspoons of Malathion plus 18 teaspoons of oil). You must convert all measurements to the same standard and then you must convert this amount to the closest setting on your sprayer.

Remember: 6 Tbs + 2 tsp = 6 2/3 Tbs = 20 tsp

Once you have filled the jar with the correct ratio of chemicals and converted the ratio into a sprayer setting, the sprayer will mix the correct amount of spray with the right amount of water. Hose sprayers sound complicated to use but once you've used them a couple of times they are very easy to use.



Measurement Conversions

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|----------------------------|-----------------------|
| 3 teaspoons = 1 tablespoon | 1 ounce = 6 teaspoons |
| 2 tablespoons = 1 ounce | 1 pint = 16 ounces |
| 8 ounces = 1 cup | 1 quart = 32 ounces |
| 2 cups = 1 pint | 1 gallon = 128 ounces |