

LILAC DISEASES

LILAC SCALES

There are two kinds of scale: oyster scale and San Jose scale. It is oyster scale that is the number one enemy of lilacs. Both must be taken seriously for they can eventually kill a plant. Scale is a small insect, gray or brown in color, that lives under a tough shell that looks like a tiny oyster shell, hence its name. Because they seem to infect plants that are in a somewhat weakened condition and, left unattended, can destroy an entire



garden of lilacs. They must be dealt with quickly since they can be brought to your lilacs via hosts such as birds and other kinds of plants such as willows and ash, and they often appear rather suddenly. An infestation often follows a heavy application of cow manure.

Mites are brown scales that attach themselves to the bark. Mostly, they start slowly on a twig or at the base of a cane and soon spread over the whole plant. Do not be mistaken that they are permanently encrusted in one section because you cannot see them moving. On days when temperatures are above 60° F they loosen hold and very slowly begin to travel. In the mite stage, when they are nearly microscopic white wooly specks, they are great little travelers on both the host shrub and as wind-borne travelers, ever seeking new plants to infest. If left alone they soon encircle a cane, particularly at the branch junctures, and so sap its vitality that the cane and often the whole plant soon dies. They are particularly noticeable in the fall after the leaves are gone and reveal the full infestation.

Scale is one of the toughest insects to fight. When it is not on the move it will not die under its protective shield no matter how it is sprayed. The shell appears glued to the branch and cannot be washed away. If, perchance, it dies, it seems always to leave enough eggs to continue the infestation, hidden in a bark crevice or under a branch juncture. Hence, control must always include more than one spraying. If there are only a very few scales they can be effectively rubbed off with a sharp stick, blade or plastic label. They are hard to kill and must be sprayed at the right time. Choose a calm morning when temperatures hover around 60°F of such a day as the temperature is forecast NOT to go below freezing that night, and apply a superior grade dormant oil (available at garden centers). This is the best control especially if your garden contains euonymus and rosaceous plants. Spraying must be done at over 60°F when the insects are on the move. Alternatively in early summer you may spray with Sevin® to control the crawling larvae which you must watch for and repeat at ten day intervals, however, current environmental standards may not allow chemicals previously used to treat this problem. If branches are very infected one may choose to cut it out completely and discard it.

POWDERY MILDEW

Mildew is caused by a fungus called *Microsphaera alni* and is a result of poor air circulation. It appears in the later part of the summer and leaves a whitish, powdery thread-like growth on the surfaces of leaves, stems and often flower petals. Warm, moist, environmental conditions favor the development of the fungal spores, so some years will show worse infections than others.

Lilacs are prone to this disease – some more so than others - and it can be very severe on them, but seldom will it kill the plant; this is only a cosmetic fungus and will not harm the plant. It obviously reduces the aesthetic appeal and value of a plant as a result of significant foliar distortion, inhibited growth and general weakening of the health of the plant. Mold spores occur naturally all around us and are abundant in a garden but usually not visible with the naked eye. They are most active when the weather is hot and humid, and when you can easily see mildew, it means you are looking at tens of thousands of spores or more.



Good growing practices are the best aid in controlling powdery mildew: 1) Water early in the day to allow moisture on leaves to dry prior to sunset. 2) Space plants or do some remedial thinning and pruning to allow ventilation through the foliar canopy. 3) Avoid using too much fertilizer on plants because the organism moves first to succulent new growth.

In cases of moderate to severe infestation, use a combination of techniques, including tolerating some powdery mildew damage, in dealing with this common problem. Hose off diseased plants with water if possible. The organism, oddly enough, can be checked somewhat by being washed off. It won't go away completely nor will water end the infection. It simply seems to help reduce the problem. It may be necessary to correct drainage to avoid root rot which will place more stress on a plant that may be defoliating from powdery mildew. Preventative measures such as removal of infected fallen leaves reduces subsequent infections. If you prune infected leaves or branches, they should be disposed of in the trash, because composting will not kill the mold spores. Cleaning up fallen leaves under plants may help reduce the infection source. Raking and destroying fallen leaves that have been affected by diseases is a good practice in the fall and should be done throughout the garden.

Unlike many other fungal problems, powdery mildew will succumb to fungicides after the symptoms show up. Several different fungicides are registered for powdery mildew and can help with prevention and management of the disease. The best time to apply is when the disease is first noticed. Be sure to check the label which must list "lilacs." One can use a sulfur wettable powder to control naturally. Another product that can be used is Benomyl that is a systemic fungicide and should be applied right after flowering. It knocks out the spores and prevents the symptomatic white cast. A new fungicide named "Remedy", which is a potassium bicarbonate (made by Bonide Company) is registered for the problem. It is chemically related to baking soda and has very low toxicity.

LILAC BLIGHT/BACTERIAL BLIGHT

Bacterial blight (*bacterium pseudomonas syringea*), also called “Lilac Blight”, is the most serious disease of lilacs, and it is appearing more often than in the past. Lilac blight occurs where there are fluctuations in spring temperatures along with cold rains. It is more common in the moist Pacific Northwest and throughout the heavier clay soils of the Midwest. The initial symptoms resemble water-soaked blotches on the new foliage. These later begin to wilt and turn brown. Affected areas and blossoms may also turn black. Ordinarily the discoloration does not extend very far but is enough to wilt, then blacken the new growth. The affected shoots have a noticeable black, droopy quality. Leaves will drop and new green shoots will have a sick pendulous look to them. Flower buds may also be infected by turning black. There is little one can do except spray with Benomyl or another fungicide called Bordeaux which is a copper sulfate mixture. After the weather warms up and the blight is past, cut off all dead and blackened areas and burn them. Cut out branchlets well back into healthy wood, dipping shears into household bleach (1:3 parts water) between cuts. Use liquid fertilizer to stimulate new growth, leaves and buds. The lilacs will respond with new growth and should be fine in the coming year. Pruning out infected areas is very important and pruning should be done six inches below infected areas and pruners must sterilize tools in alcohol or strong bleach since you are dealing with a bacterial disease that enters the plant through wounds. Bacteria ooze from the infected tissue, especially in rainy weather, so it is best to avoid any kind of pruning during wet, humid conditions; once an infection has set in, immediate pruning is of no real value.

PHYTOPHTHORA BLIGHT

This is a soil-borne fungus that kills the root sprouts and shoots. It is found most often in wet weather areas. Once on the plant, it can spread by raindrops or water droplets splashing from one leaf to another. Copper sulfate is an excellent way to control this fungus.

OTHER BLIGHTS/VERTICILLIUM WILT

There are other blights less often seen in lilacs yet, because they are soil-borne, will affect lilacs if they are planted in soils where another plant is known to have died from disease. Preventive measures include avoiding growing lilacs in mixed plantings or in close proximity to rhododendrons or elderberry, both of which are highly susceptible to Phytophthora blight. Susceptible plants may be sprayed with Bordeaux mixture.

ACID RAIN

In regions of acid rain, lilac growers are advised to adjust the soil's chemical reaction annually by applying two or three handfuls of dolomitic limestone (calcium magnesium carbonate) on the ground of each four to six foot lilac. Simply broadcast it beneath the plant; rains will dissolve it and leach it into the root zone. As pH is raised from acid to basic, minerals become more readily available to plants. Lilacs seem to grow better (longer twigs, firmer leaves, larger flower clusters) when soil reaction approaches neutral, pH 7.0.