

The Employee's Role in Landscape Problem Solving

VIDEO SCRIPT

INTRODUCTION WITH A WELL-MANICURED LANDSCAPE. Quality landscapes speak highly of you and your skills as a landscape professional. But quality landscapes require special care to keep them looking their best.

RECOGNIZING PLANT PROBLEMS. Despite your best efforts to maintain plant quality, problems sometimes occur. It's an important part of your job to recognize basic plant problems and to report them to your supervisor as soon as possible. Although you may not know the cause of the problem or the appropriate treatment, it is important to recognize there is a problem and to begin seeking solutions before it gets worse. In this video you will learn the basic skills for trouble-shooting plant problems, how to identify some common insect and disease pests, and where you can get assistance.

TAKE PROBLEM PLANT TO SUPERVISOR. When you first notice a plant problem, take the affected portion of the plant to your supervisor or if the entire plant looks bad take your supervisor to see the plant.

INTEGRATED PEST MANAGEMENT. Today there is a growing consumer awareness and concern over the environment and the use of pesticides. As a result, many landscape firms are reducing their use of pesticides in the landscape. They are scouting landscapes for problems and finding environmentally friendly solutions. This is called Integrated Pest Management or IPM.

OTHER CAUSES FOR PLANT PROBLEMS. Many plant problems in the landscape are not caused by insect or disease pests; they result from environmental or cultural plant stress. Examples of environmental stress include poorly drained soils, extremely dry sites, too much sun or too much shade. Cultural stress sometimes results from improper planting, over-watering, over-fertilization or improper pruning. Scientists have found that insect and disease problems are more common on plants under environmental or cultural stress.

TROUBLESHOOTING A PLANT PROBLEM. When you see a plant problem in the landscape, don't just ignore it. The problem is likely to get worse and may result in death of the plant. First, look closely at the leaves to see if there are any noticeable insects or unusual spots that might indicate a disease problem. Then look at the stems and trunk of the plant for any evidence of insect wounds or mechanical damage to the bark. Finally, pull back the mulch and examine the roots to see if they appear healthy or rotted and decayed from too much moisture.

SEASONAL PATTERNS. By visiting a site regularly, you will notice seasonal patterns in insects and diseases. Soon you will anticipate certain types of problems each month and treatment can be done early to prevent them from getting worse. This is an important step in landscape problem solving.

Now, let's look at some common insect, disease or environmental problems you are likely to see.

SCALE INSECTS. There are many insects that damage ornamental plants. Scale insects are one of the most common. Scale insects vary in shape, size and color and have a soft, waxy covering or a hard,

armor-like covering over their bodies. They damage plants by sucking their sap. Visual plant symptoms include off-color, yellow or spotted foliage or stem dieback.

MITES. Mites are tiny pests that suck chlorophyll from the leaf causing the foliage to appear bleached or grayish color. In fact, you may not be able to see mites at first glance. One way to check for them is to tap the plant part over a piece of white paper. The mites will look like tiny, moving dots.

THRIPS. Thrips are small, slender insects that feed on flowers and leaf buds before they unfold causing them to appear deformed or brown when they open. They use their mouth parts to rasp or scrape plant tissue, then they suck the plant sap as it flows from the wound. Because thrips are small and difficult to see, it helps to shake the plant part over a piece of white paper to detect them.

APHIDS. Aphids are pear-shaped, soft-bodied insects about 1/4 inch in length. They may be green, black, pink or yellow and are often found clustered in large groups on new growth. Aphids suck sap from buds and leaf veins causing affected plant parts to appear deformed or discolored.

WHITEFLIES. An infestation of whitefly often appears as a cloud of tiny gnat-like insects with white wings swarming around the foliage. The immature, wingless whiteflies on the underside of the foliage do the most damage as they feed on plant juices. Whiteflies have a number of hosts, including gardenia, ornamental sweet potato, hibiscus and verbena.

LACEBUGS. Lacebugs are a major pest of several ornamental plants, including azalea and pyracantha. The adults are about 1/8 inch long and have lacy, transparent wings, while the immature lacebugs are black, wingless and spiny. They suck chlorophyll from leaves causing them to appear yellow and speckled.

CATERPILLARS. There are a number of caterpillars that feed on and damage ornamental plants and turfgrasses, including armyworms, eastern tent caterpillars, bagworms and sod webworms. Caterpillars are chewing insects that damage plants by devouring sections of foliage.

BEETLES. Beetles are a diverse group of insects. Some cause damage to ornamental plants, while others are beneficial by feeding on harmful insects. Japanese Beetles, shown here, damage plants by chewing foliage and flowers.

ASIAN AMBROSIA BEETLE. Other beetles damage plants by boring into trunks and branches. The Asian Ambrosia Beetle, shown here, bores tunnels within the plant causing plant decline or death. Look for toothpick-like spines of boring dust on the outside of the trunk or branches.

BENEFICIAL INSECTS

LADY BEETLES. Many insects are beneficial. Lady beetles are one of the best known examples. They feed on soft-bodied insects like aphids. The immature ladybeetles have soft, black bodies with yellow or orange spots and spines along their back.

PRAYING MANTIS. Praying mantis also feed on other insects. They may be green, brown or gray and grow up to 3 inches long. Their tan-colored egg cases can often be found along twigs of shrubs in winter.

DISEASES

FUNGAL LEAFSPOT. Now let's examine some of the common plant diseases you may see in landscapes. One common disease is leafspot. Look for randomly distributed spots on leaves. The spots typically have a tan to gray center with a brown, black or dark purple border. Leafspots cause yellowing and dropping of leaves.

POWDERY MILDEW. Powdery mildew disease infects many ornamental plants, particularly during warm humid days and cool nights of early summer. Symptoms appear as white to grayish powdery patches on new leaves, stems or flowers causing them to become yellow and deformed.

FIRE BLIGHT. Fire blight infects many plants, including rose, pear, crabapple, Indian Hawthorne and pyracantha. It causes young twigs and branches to die from the tips and appear burnt by fire. Dead leaves and fruit generally remain on the branch. Infection occurs during bloom and is favored by wet conditions.

TIP BLIGHT ON JUNIPER. Tip blight is one of the common diseases of junipers. It causes branch tips to turn brown and die. Overhead irrigation, particularly late in the day, encourages the disease.

AZALEA LEAF GALL. Azalea leaf gall is a common problem during cool spring days. It causes leaves to become thick and fleshy and appear grossly distorted. It can be prevented by picking off and destroying the infected leaves.

PERSON PRUNING PLANTS. Many foliar diseases in the landscape can be prevented by avoiding overhead irrigation late in the day, by pruning only when the foliage is dry and by maintaining good plant health.

CANKERS. Canker diseases cause swollen growths on branches or sunken lesions that ooze sap. Growth above the canker often turns brown and dies. Once a canker disease infects a plant, there is usually no cure.

BROWN PATCH. Brown patch is one of the common turfgrass diseases. It kills the turfgrass in circular patches, sometimes several feet across. High humidity, high temperature and high nitrogen fertilizer encourage this disease.

ENVIRONMENTAL FACTORS

ROOT ROTS. Many problems in the landscape are not caused by insects or diseases but are the result of poor environmental conditions. Root rots commonly occur on plants growing in poorly drained soils. Plants with root rot often wilt and appear drought stressed.

DROUGHT STRESS. Drought stress makes plants more prone to insects and diseases. Plants under drought stress may turn a gray-green color, show marginal leaf scorching, wilt or die-back.

BARK SPLITTING - FREEZE INJURY. Bark splitting sometimes occurs on trees that have been laid on their sides before planting with their trunks exposed to the sun. It may also result from winter freeze injury.

MECHANICAL INJURY. Bark injury from guy wires, weed-eaters, lawn mowers and other landscape equipment results in plant stress. Like bark splitting, these types of wounds are an open invitation to insects and diseases.

DECIDING BEST TREATMENT. Landscape problem solving begins with a thorough analysis of the site, a close examination of the plant and the identification of the problem. As your landscape knowledge grows, you will be able to associate each plant in the landscape with one or more common problems and you will begin to relate a possible cause with a symptom you may see. Then, and only then, can an informed decision be made on the best treatment. The decision may be to leave the plant alone; to move the plant to a more suitable environment or to change a cultural practice. Pesticides are an option, but they are not the only solution.

DIGITAL DIAGNOSTICS EQUIPMENT. Today Extension Agents use digital cameras and microscopes to send images of plant problems over the Internet to appropriate scientists for inspection. Often a diagnosis and recommended control can be provided within minutes without having to mail a sample to a Diagnostic Clinic, which may take days to process. This technology is available to you through your local county Extension office.

PUZZLE OF LANDSCAPE PROBLEM SOLVING. Today, Landscape Problem Solving is an important part of your job. It's like completing a puzzle - all the pieces are important and must fit together. These include noticing plant problems and reporting them to your supervisor; keeping plants healthy and avoiding plant stress; removing affected plants or plant parts and learning to identify seasonal problems and appropriate controls. The result will be a healthy, environmentally friendly landscape that you and your employer will be proud of.

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