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Issue Article

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TREE DISEASES HOW TO SPOT THEM AND PROTECT YOUR FOREST

Abstract: *Tree disease control is crucial in forestry as it endangers forest health and impacts businesses and the environment. Pathogens, such as bacteria, fungi, viruses, and phytoplasmas, can cause various diseases, including foliar infections caused by fungi. Treatment depends on the cost and availability of treatment, with foliar tree disease treatment often involving leaf removal and destruction in the fall. These diseases affect both conifers and hardwoods and can be hazardous or even fatal. Infections of conifer foliage are common but rarely cause significant damage. Spraying is the most common strategy for preventing disease colonization in ornamental and Christmas trees, but is rarely done in large woods due to its feasibility and necessity. Pine needle diseases are classified into rusts, casts, and blights.*

Key words: *tree, diseases, forest, phytoplasmas, including, foliar.*

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Introduction

Because forests are plagued by many diseases, nutritional deficits, and pest invasions, tree disease control is one of the most important operations in forestry. Any tree disease, regardless of the cause, endangers forest health and has an influence on any linked enterprise. Tree pests and diseases are a major annoyance for any business, from harvesting to environmental concerns. Furthermore, healthy trees imply a healthy population, thus ordinary people are affected as well. In this context, identifying and treating tree diseases is a frequent job of foresters that benefits everyone.

Abiotic and biotic inducers (non-living and living) exist. Biotic illnesses are further classified based on the pathogen (bacteria, fungus, viruses, phytoplasmas, nematodes, and so on).

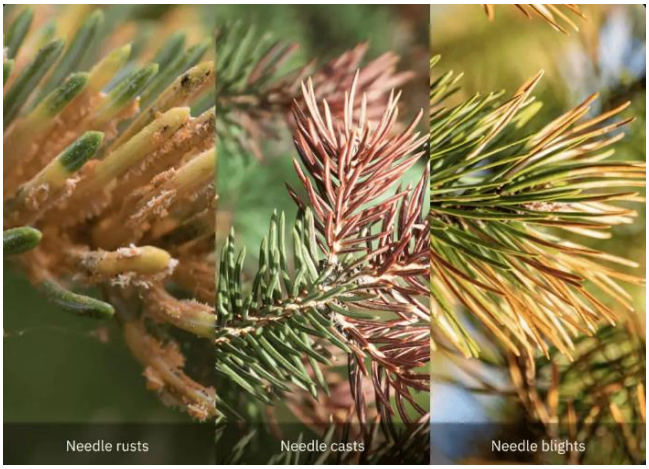
It should be remembered that pathogens are almost always parasites. However, not all pathogens are parasites, and not all parasites are pathogens. As a result, some parasites cause little harm to plants and, as a result, do not cause disease. Parasites, on the other hand, may be useful. Furthermore, certain earth-dwelling bacteria do not parasitize plants but instead create toxic poisons that cause tree root illnesses.

These, as the name implies, have an impact on foliage. Fungi are the most common cause of foliar infections. However, indications and symptoms can be similar to chemical harm from insect infestations, complicating tree leaf disease identification and management. Eradication of the problem is highly dependent on the reasonableness of treatment expenses and is not always attainable due to favorable weather conditions for fungal development. The most common way of foliar tree disease treatment in this regard is to remove and destroy the leaves in the fall. It keeps pathogens from overwintering and relapsing in the spring.

Tree leaf diseases affect both conifers and hardwoods and vary in severity. While some are harmless, the majority are hazardous and can result in death.

Infections of conifer foliage are common but rarely pose a major concern. As a result, unless merchantability is in dispute, they usually do not require treatment. Spraying is the most frequent

strategy for preventing disease colonization in ornamental and Christmas trees. However, because to a lack of feasibility and necessity, it is rarely done in vast woods. Pine needle illnesses are classified into three types: needle rusts, casts, and blights.



Pic. 1. Needle Rusts Needle Casts Needle Blights

Rots, like any other tree root disease, go unseen because they occur beneath the soil surface. This complicates diagnosis, and the outcome is frequently fatal.

These tree diseases include mushroom, white, and Texas root rots, which are caused by Amalleria mellea, Corticium galactinum, and Phymatotrichopsis omnivorum, respectively. They can't be healed since they attack delicate and weakened trees.

Pic. 2. Scheme of how tree root disease expands

It is critical to detect tree disease as soon as possible in order to begin prompt management and minimize losses. Remote sensing, mainly satellite monitoring, can assist in detecting damaged issue areas and is especially useful in observing distant and difficult-to-reach locales. The satellite photos below from EOSDA LandViewer show the affected forest area and how it spreads over three years without intervention.

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