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Gulasal Nurilloeyvna Sulaymonova
Tashkent state agrarian university
Assistant

Bahrullo Fayzulloeyvich G'oibov
Termez Institute of Agricultural Technologies and Innovative Development
Assistant

Sodiq Ahmad O'g'li Botirov
Termez Institute of Agricultural Technologies and Innovative Development
Assistant
sulaymonova.gulasal@tdau.uz

FOUR TYPICAL DISEASES OF APPLE TREES

Abstract: Hawthorns, apple trees, and other members of the rose family are prone to a variety of illnesses, such as *Venturia inaequalis*, which can cause cosmetic harm. For small-scale farmers, prevention outweighs the use of fungicidal sprays, so it is important to improve soil drainage, provide enough spacing, and remove diseased plant parts as soon as they notice them. For large-scale growers, fungicides have varying degrees of efficiency, so check with your local county extension office first. Apple Scab is a widespread disease of apple trees caused by *Podosphaera leucotricha*, a fungus. Powdery Mildew is a whitish powder that covers the leaves of many garden plants, and Cedar-Quince Rust is an unusual fungus that attacks flowering quince bushes. Small-scale growers can prevent apple scab by following the spacing guidelines specified on plant labels and clearing away fallen leaves in the fall. Cedar-quince rust can be identified by the presence of rusty spots on leaves and potential for malformation and/or mottling. *Phytophthora* rots are mimics of a fungus called *phytophthora* and can target different tree sections, such as the trunk or roots. To verify the color underneath, cut away a small section of the trunk's outer bark with a sharp knife. To increase drainage, plant on landscaping berms or in raised beds rather than at ground level. Ask for a tree with a Geneva series rootstock when purchasing.

Key words: apple, trees, diseases, control, fungus, garden.

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Introduction

Hawthorns (*Crataegus* spp.), apple trees (*Malus* spp), and other members of the rose family are all prone to a variety of illnesses. The good news is that these illnesses are frequently avoidable and, even when they aren't, frequently just cause cosmetic harm. Because their fruit must look attractive to be marketable, large-scale growers are unable to accept this damage; in contrast, small-scale growers are frequently more tolerant. The first step in dealing with worst-case scenarios is learning to recognize the most prevalent apple tree illnesses. But if you purchase the

appropriate cultivars and or practice good horticultural cleanliness, you can completely prevent such situations.

Some of the most prevalent diseases affecting apple trees are caused by fungi. For small-scale farmers, prevention in each situation outweighs the use of fungicidal sprays to treat infected trees. It is important to improve soil drainage, provide enough spacing, and remove diseased plant parts as soon as you notice them in order to prevent the spread of fungi from unhealthy plants to healthy ones.

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Large-scale growers, however, frequently have to use fungicides, which have varying degrees of efficiency. While spraying schedules might be tricky, if you do decide to employ a fungicidal treatment, check with your local county extension office first. In addition to maintaining a clean garden by raking up leaves in the fall, you can avoid some of these fungal diseases by choosing the right plants.

The fungus that causes apple scab is called *Venturia inaequalis*. Early spring to mid-spring is when you'll notice the first indication of apple scab, which appears as a lesion on the tree's fresh leaves. The lesion will be darker than the leaf; lesions on the top of the leaf, which is a darker green, will be black, while lesions on the underside of the leaf, which is light green, will be olive in color.



Pic. 1. Apple Scab.

Apple Scab. In the summer, infected leaves may completely fall off. The apples will also have scabby, black blemishes if the tree is still able to yield fruit. The apples are frequently still edible, which is fortunate: Simply remove the skin before consuming.

Although the simple lack of surveillance and inadequate hygiene are the root causes of apple scab, small-scale growers can easily prevent it. A tiny infestation may even go undiscovered in the beginning. The actual issue arises when contaminated leaves that fall to the ground at the conclusion of the growing season are allowed to stay there during the entire winter.

This dead, diseased foliage is where *Venturia inaequalis* spends the winter and uses it as a base to

invade the following spring. The optimal circumstances for this invasion are rainy conditions. Blowing up onto the young leaves are fungal spores that contaminate them.

Powdery Mildew. *Podosphaera leucotricha*, a fungus, is the cause of this widespread disease of apple trees. Even if you've never grown apples, you definitely know about this disease because powdery mildew attacks popular ornamental plants, including garden phlox (*Phlox paniculata*). Your plant won't likely die from it, but it will lose strength. Given its name, powdery mildew is the whitish powder that covers the leaves of many of your garden plants, it is simple to identify.

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Pic. 2. Powdery Mildew.

Even if you weren't aware of it, the garden from the previous years can be the source of powdery mildew if you have it. The fungus survives the winter in dead, diseased leaves. Spores are either carried up by insects or blow up onto healthy leaves to infect them. While a pounding rain can send the spores soaring up to your tree's leaves, even a strong storm may be to blame.

Follow the spacing guidelines specified on your plant labels to maintain proper air circulation as a

preventative measure in addition to clearing away fallen leaves in the fall. Avoid watering from above as well.

Cedar-Quince Rust. This unusual fungus, whose official name is *Gymnosporangium clavipes*, needs a host plant to attack your apple trees. For instance, flowering quince bushes (*Chaenomeles speciosa*, another member of the rose family) can act as hosts if you grow them in your landscape. From there, it will spread to your apple trees.



Pic. 3. Cedar-Quince Rust.

Cedar-quince rust can be identified by the presence of rusty spots on your tree's leaves as well as by the apples' potential for malformation and/or mottling. If you cultivate a plant that can act as a host, you need also watch out for rust galls, which produce

orangey-rusty "horns" in the spring and release the spores that will infect your apple trees.

Phytophthora Rots. A disease that mimics a fungus called phytophthora weakens trees. It can target different tree sections, such as the trunk or roots. Do the same test to determine whether an arborvitae

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shrub (Thuja) is alive or dead if you think your apple tree might be infected with a Phytophthora illness. To verify the color underneath, carefully cut away a small section of the trunk's outer bark with a sharp knife. Here, infected wood is orange or brown; healthy wood is green.

This illness is frequently brought on by contamination, which can be from irrigation water, soil you've brought onto the land, or even the plant itself (if you didn't get it from a reputable nursery).

Take moisture-related precautions as you would for fungus prevention as part of your prevention efforts, in addition to being cautious to avoid contamination (since Phytophthora, too, thrives in moist conditions). To increase drainage, for instance, plant on landscaping berms or in raised beds rather than at ground level. Ask for a tree with a Geneva series rootstock when purchasing; it will have higher resistance.

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