

Smooth Patch of Oak Trees

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Smooth patch is actually a fungal infection of the bark on several species of oak trees. Several fungi can cause smooth patch; however, *Aleurodiscus oakesii* is the most common. This fungus was originally described as *Corticium oakesii* in 1873. This saprophytic fungus actually colonizes and decomposes the corky, dead outer layers of bark on living trees. Smooth patch is also often referred to as white patch, smooth bark, bark patch or bark rot. Smooth patch can readily be seen occurring any time of the year throughout the oak tree range in Arkansas.

The infection is restricted to the outer bark, causing it to slough off, leaving smooth, depressed areas. This effect gives the bark a somewhat

sunken appearance. The smooth, light gray colored depressions are usually irregular in shape and size, ranging from a few inches to more than a foot across (Figure 1). Smaller areas may coalesce to become larger patches. Exfoliation of the bark results in smooth, grayish patches adjacent to the normally rough bark (Figure 2). Infection can occur anytime during the growing season.

Symptoms are most noticeable on the lower trunk of the tree but can occur on larger branches. Small patches may expand slowly over time, coalescing to form smooth grayish areas that are several feet in length. Depressed areas appear to advance more rapidly in a vertical direction than radially around the trunk.



Figure 1. Smooth patch symptoms on post oak



Figure 2. Exfoliation of outer bark by smooth patch

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Spread of the fungus is primarily by wind and water splashes during rain or overhead irrigations. Symptoms of this disease are often very subtle thus easily overlooked by the casual observer. Smooth patch can be found on oaks in both urban and forested areas. Once a person is able to recognize the disease, they become quickly aware of how common this disease is.

The smooth patch fungus produces clusters of flat, disc-like spore-bearing structures (basidiocarps) on the surface of the smooth bark. These structures are gray or beige in color, are usually less than 1/2 inch in diameter and are curled at the edges (Figure 3). These tough, leathery fruiting bodies become confluent with each other to form larger groups of bodies. The reproductive structures are oftentimes more noticeable in wet weather. They grow in clusters on the affected bark and sometimes resemble lichens. In dry weather, the fruiting bodies shrivel up and become inconspicuous. Fruiting bodies may persist on the tree all year. The presence of these structures may be mistaken for indications of wood decay fungi, but they do not cause cankers or internal decay.

Smooth patch is most commonly associated with trees in the white oak group; however, it can also be found periodically on birch, ash, willow, pecan, hickory and sweet gum. Related fungi cause similar symptoms on several other hardwood and conifer species. In central Arkansas, smooth patch is most common on post oak (*Quercus stellata*) and white oak (*Q. alba*). Since the bark lesions are so universally present in white and post oak in the southeastern United States, they are often used as a means of identifying these two oak species.



Figure 3. Cup-shaped fruiting bodies of *Aleurodiscus oakesii* on bark (Courtesy of R. Kerner, Indiana Mushrooms)

Since the patch fungi invade only the nonliving, outer bark tissues, this disease is not harmful to the tree and has no long-term effects on either tree health or on structure. Smooth patch may indirectly affect the health of the tree by reducing the bark thickness and thus decreasing protection against desiccation and mechanical injury.

No control is recommended for smooth patch other than promoting vigorous tree growth by proper watering and fertilization. Care should also be taken to avoid wounding the trunk and branches, since these are common sites of fungal or bacterial infection that can lead to internal wood rot.