

カシノナガキクイムシ穿孔後に伐採された ウバメガシの萌芽再生の可能性

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Sprouting success of *Quercus phillyraeoides* attacked by *Platypus quercivorus*

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Abstract

Japanese oak wilt disease is caused by fungi, which are brought by *Platypus quercivorus* into the trunk, hinder water supply by filling vessels with its hyphae and then weaken/kill trees. To evaluate the regeneration of *Quercus phillyraeoides* stands damaged by Japanese oak wilt disease by cutting survived trees, we investigated the effects of infection and gallery formation by *P. quercivorus* on sprouting success of *Q. phillyraeoides*. We investigated gallery density and the proportion of xylem discoloration of stumps, and evaluated the sprouting success 1 year and more than 5 years after cutting in two stands in Wakayama Prefecture, Japan. Although there were no significant effects of gallery formation on individual-level mortality rates both 1 or more than 5 years after cutting, the individual-level mortality rate more than 5 years after cutting was larger than that 1 year after cutting. Moreover, there were no significant effects of gallery formation on number and size of sprouts both 1 or more than 5 years after cutting. The number of sprouts 1 year after cutting decreased as increasing in the gallery density. However, gallery density and the ratio of xylem discoloration were positively correlated with stump diameter, which is known to be one of the factors decreasing the sprouting success of *Q. phillyraeoides*. Therefore, we were not be able to quantify the net effect of the gallery formation on sprouting success of *Q. phillyraeoides*. In summary, cutting of survived trees of *Q. phillyraeoides* after attacks of *P. quercivorus* contributes to regeneration of the stand by sprouting, because most individuals can survive and generate sprouts.

摘 要

ナラ枯れは、カシノナガキクイムシの穿入により樹幹内に持ち込まれた真菌類の繁殖によって樹木の水分通道が阻害され枯死に至る萎凋病である。カシノナガキクイムシによる穿孔被害林分の更

新手法を検討するため、穿孔程度がウバメガシの萌芽更新に及ぼす影響を調べた。和歌山県串本町の穿孔被害林伐採地2林分において、ウバメガシの切株状態の個体を対象に穿孔状況と横断面に対する木部変色の割合を調査し、伐採1年後と伐採約5年後の萌芽更新状況を調査した。1年後と約5年後とも個体の枯死率に穿孔の有無による違いはみられなかったが、約5年後の枯死率は1年後よりも高かった。1年後と約5年後の萌芽数と萌芽サイズに穿孔の有無による違いはほとんどみられなかった。1年後の萌芽数は100cm²あたりの穿孔密度が高いほど少なかったが、伐根直径が大きいほど穿孔密度と木部変色の割合が高かったため、伐根直径と穿孔程度のどちらが萌芽数に影響するか分からなかった。以上から、ウバメガシの穿入生存木を伐採した後も、直ちに個体は枯死せずに多くの個体で萌芽が発生し成長することが確認された。