

TO DIG OR NOT TO DIG THE RED TURPENTINE BEETLE FROM INFESTED PINES?

The best way to protect pine trees from bark beetle infestation is to keep them healthy. But the beetle's preference for sick or weak trees does not mean that the red turpentine beetle cannot or will not attack apparently healthy trees. They often do, especially after drought years when a large population builds up.

Recently, I was informed about a remedy to "control" a red turpentine beetle infestation by excising beetles from beneath the bark. This technique was apparently taught at some short course for arborists. **DO NOT DO IT.**

Bark beetles, like many other insects, use long-range chemical communication to announce to their cohorts that host material is suitable for reproduction. In the case of *Dendroctonus* species (of which the red turpentine beetle is one), it is the female that emits odors called pheromones that are carried through the air for long distances; when detected, females and males of the same species respond to them. The pheromones emitted by bark beetles are termed the population aggregation pheromones. However, the mechanism is more complex: the same odor can be beneficial for other bark beetles such as the California five-spined *ips* which can use it as a navigational cue. Those who attended my seminar on the Use of Hormones in Horticulture (May 1988), witnessed another twist in this communication system. I baited apparently healthy Monterey pine with the synthetic pheromone for the California five-spined *ips*, *ips paraconfusus*. Within 24 hours, not only *Ips* beetles but also red turpentine beetles responded in large numbers. HOW DOES THE ABOVE RELATE TO RED TURPENTINE BEETLE EXCISION? Entomologists discovered that the gut of female *Dendroctonus* bark beetles contains the pheromone. Thus, when you attempt to excise red turpentine beetles from beneath the bark almost certainly some will be crushed. As a result, pheromone is released and more beetles arrive. One might ask what if the beetles are not crushed? The answer is found in a study conducted by UCCE Entomologist C.S.Koehler and his co-workers. Trunk-injured pines attracted significantly more beetles than uninjured ones. Therefore do not perpetuate the problem by injuring pines.

What is the best thing to do? To disrupt the pheromone communication of the red turpentine beetle, prevent new attacks by spraying pine trunks with lindane or carbaryl from the ground up to five feet. Apply the insecticide in two directions: clockwise and counterclockwise around the trunk to reach crevices under the bark plates. This should be done in the late winter (mid-February) in our area, so that there is a deposit of insecticide present before beetles begin flight activity in the spring.

Remember, by the time you spot paprika-like boring dust in crevices and in cobwebs and the tree is fading, it is too late to spray. Cut the tree down and haul it away or if you keep the firewood cover it completely with clear plastic. Act quickly or the beetles will spread to other pines.

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