

## Eradicating Decay in Exterior Timbers

Although large, exterior structural timbers are usually pressure treated, deep seasoning checks can develop that penetrate the treated shell. Water for the growth of decay fungi is trapped in the checks, resulting in interior decay.

Preservatives applied by ordinary flooding from a brush or spray penetrate the wood only slightly and so cannot stop this decay. Research at the Forest Products Laboratory has shown that fumigants such as Vapam (sodium N-methyl dithiocarbamate), chloropicrin (trichloronitromethane), and methylisothiocyanate (MIT) applied through holes drilled in the timbers can stop internal decay.<sup>1</sup>

Before the fumigant is applied, timbers must be inspected thoroughly so that the pattern for drilling the treatment holes avoids metal fasteners, seasoning checks, and severely rotted wood. The treatment holes are drilled straight down to within about 1 inch (25.4 mm) of the bottom of the timber. The holes can be drilled in pairs or clusters.

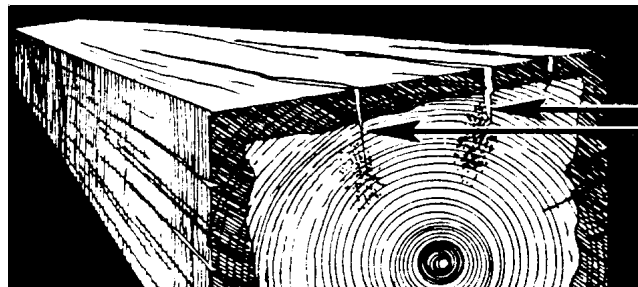
Treatment holes should be drilled no more than 4 ft (1.2 m) apart. The amount of chemical and the size and number of treatment holes depend on timber size. For example, a 7- by 8-inch (178- by 203-mm) timber can be protected by applying 0.13 pint (60 ml) of Vapam or chloropicrin into four equally spaced holes above a decayed area.

Liquid fumigants can be squirted into the holes with a polyethylene squeeze bottle. Solid fumigants can be applied with a special device that does not expose the applicator to the chemical. The treater must wear protective clothing and work upwind of the timber being treated. Immediately after the fumigant is added, the holes are plugged with preservative-treated dowels or rubber stoppers. Enough room must be left in the treatment holes so that the plugs can be driven in without releasing the chemical.

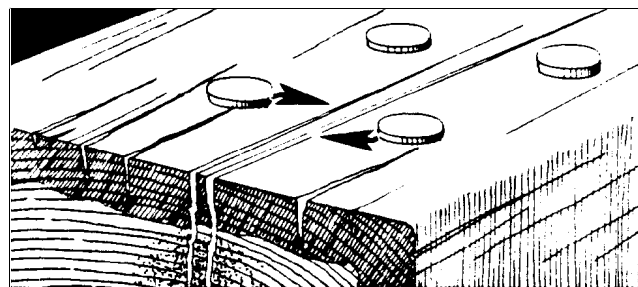
Eventually, these fumigants lose effectiveness and re-treatment is necessary. The length of effectiveness varies. Chloropicrin will remain effective for 10 or more years whereas Vapam and MIT need to be reapplied in about 5 years.

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<sup>1</sup>The use of trade or firm names is for reader information only and does not imply endorsement by the U.S. Department of Agriculture of any product or service.



*Decay originates in deep seasoning checks.*



*Treatment holes should be situated on both sides of checks.*

### References

- Highley, T.L. 1987. Longevity of chloropicrin and Vapam in controlling internal decay in creosoted Douglas-fir timber exposed above ground. *Material und Organismen* 22(3): 225-233.
- Highley, T.L.; Eslyn, W.E. 1989. Evaluation of fumigants for control of decay in non-pressure-treated southern pine timber. I. Unwrapped timbers. *Holzforschung* 43: 225-230.
- Highley, T.L.; Eslyn, W.E. 1989. Evaluation of fumigants for control of decay in non-pressure-treated southern pine timber. II. Wrapped timbers. *Holzforschung* 43: 335-357.

*This document reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and/or Federal agencies before they can be recommended. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.*

