

Abstract

Getting Rid of Stumps

Foresters are often asked how to get rid of old tree stumps. Usually these stumps are situated in gardens where explosives or heavy machinery cannot be used.

This problem became acute in the area around Illinois, U.S.A., following the epidemics of phloem necrosis and Dutch elm disease which killed thousands of elms, and was taken up by two research workers in the University of Illinois. They investigated the possibility of using materials which would promote combustion in the stumps but would work better than the commonly recommended saltpeter which was not satisfactory.

In their report¹ they describe how they screened over 400 combinations of eight compounds. Extensive field tests were carried out using the most promising materials. The following method proved best :

Cut the stump as close as possible to the ground. Bore vertical holes, 2 inches diameter, about 6 inches deep, in the stump surface, with centres 4 inches apart (a hardboard template was used to locate the centres). Clear the holes of wood chips. Place in each hole about $\frac{1}{4}$ lb. of the following mixture : 4.5 parts sodium dichromate, 1.5 parts cupric chloride, 1 part lead acetate and 1 part manganese dichloride. Fill the holes with water and leave for about 3 months. At the end of this period place a liberal pile of dry kindling over the stump and ignite it. (If there is still any liquid in the holes it should be removed with a syringe a day or so before burning.) Most of the burning takes place in about two hours but it should be left to smoulder away for up to two weeks. During the whole of the period (except the actual burning) the stump should be protected as it may be dangerous to children or animals. While smouldering it should also be protected from rain.

On average this method resulted in the destruction of over 80 per cent of stump volume. The chemical mixture was subsequently named *Stumpfyre* and patented.

¹C. S. Walters and K. R. Peterson. Inorganic chemicals as aids in burning hardwood stumps. *Bulletin* 678. *University of Illinois, Agricultural Experiment station*, 1961.

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