

USE OF HORMONE HERBICIDE FOR KILLING *LEUCAENA GLAUCA*

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DIESELENE or kerosene solutions of the hormone herbicide 2,4,5-T have proved effective in killing *Leucaena glauca*. The solution when applied directly to the bark causes yellowing of the leaves within a few days. By the end of the fourth week the *Leucaena* is completely defoliated, and the tree dries out completely in a further two to three months.

Dieselene or kerosene alone will also kill *Leucaena*, but these oils are much slower than the hormone solutions. Yellowing of the leaves does not start until the third or fourth week after application, defoliation is complete within six to eight weeks and the tree may take longer than six months to dry out.

Water suspensions of 2,4,5-T failed to kill *Leucaena*.

Method of application

One-quarter per cent. solution of 2,4,5-T in kerosene or dieselene is painted directly on to the bark of the *Leucaena* in a band six to eight inches wide, right around the trunk of the tree, at ground level. If the herbicide is painted higher up, the tree will sucker below the point of application.

A four-inch paint brush is suitable for applying the solution.

The herbicide should preferably be painted directly on to dry bark and not on to very wet bark. However, applications when the bark is slightly damp have proved effective.

The solution will also kill the tree if it is not painted completely around the trunk, but the action is much slower. The tree will take up to six months to dry out.

Method of action

The bark at the point of application blisters and splits, dies and usually lifts away from the trunk. The tree dries out from the top, down to the band of application. The effect is that of ring-barking and the tree remains alive below the herbicide band. If, however, the band extends to the base of the tree there will be no suckering and the tree will die completely.

Experimental Observations

1. One-quarter per cent. solution of 2,4,5-T has been found to be the best. Below one-eighth per cent. or above two and a half per cent. the effectiveness of the treatment is reduced.

2. Kerosene and dieselene are the most suitable diluents. Both are equally effective, but dieselene is preferred because it spreads more evenly over the bark.

3. A mixture of 2,4,5-T and 2,4-D had no advantage over the 2,4,5-T solution. The herbicide 2,4-D had no effect whatsoever, apart from that which could be attributed to the dieselene.

4. Frilling of the bark prior to treatment has shown no distinct advantage over direct bark applications.

5. Weather conditions are unimportant. However, the herbicide should not be applied directly to wet bark. Slight dampness is of no consequence.

6. Unless the herbicide comes into direct contact with cacao trees, it will not harm them.

Use of 2,4,5-T for Shade Thinning

This method of killing can be employed for thinning *Leucaena glauca* shade in cocoa and coffee plantations. The trees so treated can be

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left to decay *in situ* or removed when dead, when the smaller branches have fallen away and the main trunk is brittle and light and thus easily handled.

The method is useful where labour is not immediately available for shade thinning, as the shade can be effectively reduced using a small amount of labour, and the cleaning up done later.

Summary

To thin *Leucaena glauca*, paint a one-quarter per cent. solution of 2,4,5-T in dieselene directly onto the bark of the tree, in a band from *ground level* to six to eight inches above. Maximum effect is obtained by completely encircling the trunk. The application is best made by using a four-inch paint brush on to dry bark, although slightly damp bark is of no consequence.

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