

INSECTS AFFECTING COTTONWOOD IN FOREST NURSERIES ^{1/}

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A series of stem and trunk borer control tests on cottonwood were conducted at the Mississippi Forestry Commission's nursery at Winona, Mississippi, by broadcast application of systemic insecticides for borer control. The broadcast applications of Di-Syston, Thimet, and Temik were purposely applied at very high rates because of the close distance (in row and between rows) of the cottonwood. The systemics were applied with a cyclone seeder from a hydraulic lift on a tractor to only two outside rows in each plot. The materials were applied on July 7, 1967, and were not worked into the soil.

During the winter months, 20 saplings were cut randomly from each treatment plot. Each sapling was divided into a lower, middle, and upper section. The larvae found infesting these saplings were re-recorded according to the section in which they were found.

The results of the borer control tests were inconclusive (table 1). It appeared that no appreciable control was obtained in both the lower and middle one-third of each sapling. There was a very light infection in the upper one-third of all treatments, including the controls, except in the Temik treatment (Compartment II). It would seem that the number of borers in the upper one-third of the stem would be valid indicators of the control or lack of control obtained since this part of the plant was actively growing at the time the treatments were applied during the latter part of July. However, all of the upper one-third section of the controls were very lightly infected.

Results of granular applications of Thimet, Di-Syston, and Temik which were applied to control stem and trunk borers in a cottonwood nursery were inconclusive. The reason for the apparent lack of control was probably due to one or both of these factors: (1) the materials were applied too late in the season and (2) they were not disked or worked into the soil.

1/ A study to evaluate new systemic insecticides as dip treatments for control of certain cottonwood insect pests.

Table 1.--Results of granular systemic insecticide applications for
the control of stem and trunk borers of cottonwood, 1967,
Winona, Mississippi

		Larvae found in stems of cotton-				
		wood saplings <u>1/</u>				
Material	Rate of 10G	Lower	Middle	Upper	Total	
	(per acre)	one-third	one-third	one-third		
Pounds		Number				
<u>Compartment 4B</u>						
Phorate 10G	73.5	8	4	0	12	
Phorate 10G	73.5	8	6	1	15	
Phorate 10G	140.0	2	1	0	3	
Phorate 10G	441.0	3	2	0	5	
Di-Syston 10G	73.5	18	5	0	23	
Di-Syston 10G	140.0	11	3	1	15	
Temik 10G	147.0	3	0	0	3	
Control		4	3	1	8	
<u>Compartment 11</u>						
Phorate 10G	147.0	2	0	2	4	
Di-Syston 10G	147.0	1	0	0	1	
Temik 10G	140.0	4	9	8	21	
Control		8	3	2	13	
<u>Compartment 12</u>						
Di-Syston 10G	441.0	3	3	0	6	
Control		2	7	2	11	
<u>Compartment 6</u>						
Di-Syston 10G	73.5 (1)	8	4	0	12	
Phorate 10G	59.0 (2)	6	0	0	6	
Temik 10G	51.5 (3)	3	3	1	7	
Control	(4)	5	3	2	10	

1/ The number of cottonwood saplings sampled for each treatment was 20.