## THE CANADIAN ENTOMOLOGIST

Table 1. Value of substitutes for bran in poison bait.

Bran Versus Sawdust.				P			
Number Expts.	Number larvæ represented	Per cent.	er cent. Killed with		Number		
		Sawdust	Bran	Expts.	larvæ represented	Per cent. Killed with	
18	216	52.7+	86.1+			bran bait	bait
				18	216	72.5	90.7+

It is thus evident that bran is noticeably superior to sawdust alone and even the combination of sawdust and bran, but these laboratory experiments in connection with the field experiments at Johnson and Akron, Indiana, show that sawdust does have some value and can be recommended where it is impossible or very difficult to obtain bran but where it is used, a second application will probably be necessary and a combination with some bran which will provent the mixture from scattering into too fine particles and drying quickly, is preferable.

Three kinds of sawdust were used: viz., old hardwood (oak and hickory), new hardwood (hickory) and pine. The pine sawdust seemed to have a decided repellant effect and should not be used as a filler for the poison bait. In comparing new and old hardwood sawdust we found a larger percentage killed where the new was used, but our comparative tests with these materials are not sufficient to draw satisfactory conclusions. The new hardwood (hickory) was used in all experiments in comparison with bran.

The most important data obtained was a comparison between Paris green and other arsenicals. In the total number of experiments where Paris green was used, 16 in number, we killed 75.8%while calcium arsenate in 5 experiments killed 70%; sodiumarsenite in 4 experiments killed 80.8%; lead arsenate in 3 experiments, 85.8; arsenous acid (white arsenic) in 2 experiments gave 20.8%, and crude arsenous acid, a by-product of copper refineries which contained 88% of arsenous oxid, killed in 14 experiments 74.4%. It might be stated that these materials were used 1 lb. to 40 of filler, excepting in one experiment with crude arsenous oxid and one experiment with arsenous acid where it was used 1-25, and in all three experiments with lead arsenate where it

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