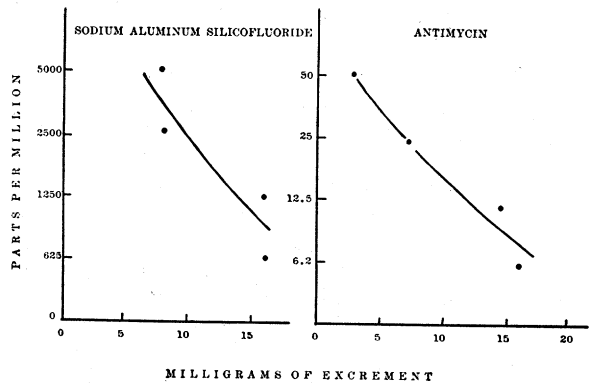

FIG. 1. Relative toxicity of antimycin A and sodium aluminum silicofluoride against larvae of the black carpet beetle. The amount of excrement produced by the larvae is related to the damage to fabric. A specimen is considered satisfactorily resistant to carpet beetles if the quantity of excrement is not over 6 mg.

immersed and saturated with the test subjects, aired, dried, and tested in accordance with the method set forth by the American Society for Testing Materials (ASTM D-582 45T). The data (Fig. 1) show that antimycin A will afford the same degree of fabric protection at 1/100 the concentration of sodium aluminum silicofluoride. The protective action appears to be of a repellent nature, as none of the larvae exposed to the antimycin-impregnated wool was dead at the end of the 28-day exposure period.

Specificity of action to Coleoptera and not to Lepidoptera was also indicated in tests with the Mexican bean beetle larvae, *Epilachna varivestis* Muls. and the Southern army worm, *Prodenia eridania* (Cram.). As in the case of the clothes moth larvae, the fourth instar Southern army worm ate treated Wood Prolific Lima-bean leaves with no ill effects. The results of the test with the second instar Mexican bean beetle larvae are shown in Table 1 and give the approximate relative potency of

TABLE 1

TOXICITY OF ANTIMYCIN TO SECOND INSTAR LARVAE OF MEXICAN BEAN BEETLE INGESTING SPRAYED WOOD PROLIFIC LIMA-BEAN LEAVES

Treatment	Ppm	Amount of leaf consumed	Avg % kill* in 48 hr
Antimycin	50	small	60
"	25	moderate	53
"	12.5	large	15
"	6.3	entire	0
Methoxychlor	500	moderate	43
Untreated	....	entire	0
Starvation	....	.....	0

* Avg of 4 replicates and total of 40 larvae.

antimycin A as compared with methoxychlor (1,1,1-trichloro-2,2-bis(*p*-methoxyphenyl)ethane), which is currently used for the control of this pest. Antimycin A used at the rate of 25 ppm compares favorably in toxicity with 500 ppm of methoxychlor.

The toxicity of antimycin A is apparently not confined

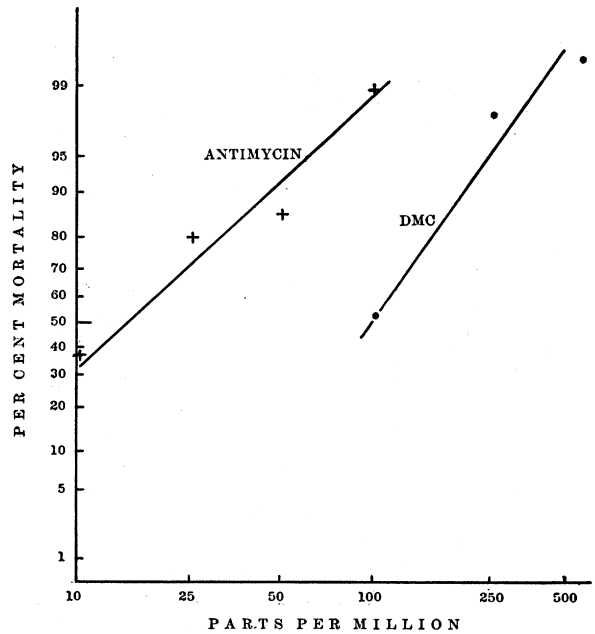

FIG. 2. Relative toxicity of antimycin A and di(*p*-chlorophenyl)methyl carbinol (DMC) against the red spider mite *Tetranychus* sp.

to members of the Insecta, as it shows efficacy for the control of the red spider mite, *Tetranychus* sp. Fig. 2 shows the relative toxicity of antimycin A as compared with di(*p*-chlorophenyl)methyl carbinol (DMC), which has demonstrated merit and is commercially available for mite control. The results of the test are shown graphically (Fig. 2). On the basis of LD_{50} readings, antimycin A appears to be about three or four times more effective than DMC.

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The Solubility of Fibrin Clots Produced by Thrombin and by Snake Venom

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It has been reported by Laki and Lóránd (*3*, *4*) that there are marked differences among fibrin clots with respect to their solubility. The authors reported that fibrin clots formed from a fibrinogen solution by the coagulating action of thrombin and in the absence of two factors, namely, a thermolabile serum factor and Ca ions, are soluble in a concentrated urea solution. The clots are soluble when either of these two factors is absent but insoluble when both are present. The purpose of the present experiments was to find out whether clots formed by

TABLE 1

THE SOLUBILITY OF THE FIBRIN CLOTS PRODUCED BY THROMBIN OR BY *Bothrops atrox* VENOM

Components of the experiments	1*		2*		3*		4*		5*	
Fibrinogen	×	×	×	×	×	×	×	×	×	×
Serum	×	×								
Oxalated serum					×	×				
Inactivated serum									×	×
Ca ions	×	×					×	×		
Thrombin	×		×		×		×		×	
Venom		×		×		×		×		×
Result	−	++	+	+++	+	+++	+	+++	+	+++

* Symbols have the following meanings:
× marks in each column the components used in any one experiment; − insoluble; + soluble; ++ very soluble; +++ spontaneous solution.

the coagulating action of snake venom are influenced in their solubility by the two factors mentioned by Laki and Lóránd. The technique of the tests was similar to that of Lóránd, though smaller quantities were used than those mentioned by him (*4*). *Bothrops atrox* venom solution was used in such concentration as to give similar clotting times to those obtained by thrombin. The concentration of the urea solution was 60% and was added in volume equal to that of the reaction mixture; this mixture consisted of fibrinogen, the clotting agent, and one or two additional components, these being, in turn, serum, oxalated serum, serum inactivated by heat and $CaCl_2$ solution. When one of the additional components was excluded from the mixture saline was added to keep the volume of the mixture constant; a veronal buffer was used to maintain the pH of the mixture at 7.2. It was found that all the fibrin clots formed by the coagulating activity of the *Bothrops atrox* venom were soluble even though Ca ions and the serum factor were present. At the same time Lóránd's results were confirmed, since the clots formed by thrombin in the presence of the two factors were insoluble. The fibrin obtained by snake venom dissolved readily in all cases, and spontaneously when one of the two factors was absent. This cannot be stated of the clots formed by thrombin (Table 1).

Although, when observed with the naked eye, there seems to be no difference between the fibrin clots produced by either of the two agents, there probably is a difference in the degree of their polymerization, i.e., in their molecular structure. This might also explain the difference in their solubility.

The difference in the solubility of fibrin clots produced by thrombin and by venom offers further evidence in support of the opinion presented elsewhere (*1, 2*) that the clotting agent in the snake venoms of the *Bothrops* species is different from thrombin.

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Effect of Evisceration on Renal Glycogen

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The kidneys of eviscerated, hepatectomized rabbits, rats, and dogs were shown to contribute glucose to blood (*1, 2, 4–6*). Although it has been assumed that renal gluconeogenesis is the process responsible for this source of blood sugar, renal glycogen as a precursor has not been excluded. By determining serial kidney glycogen values in eviscerated, hepatectomized dogs, one of these possibilities could be excluded. If original renal glycogen values were great enough and sufficient renal glycogen disappeared, this storage form of carbohydrate could be assumed to play some role in maintaining blood sugar.

Accordingly, kidney glycogen values were determined immediately, and 1½–2½ hr after evisceration and hepatectomy in normal and diabetic dogs. After evisceration, the blood sugar was allowed to fall spontaneously, since it has been under these conditions that the kidney has been shown to contribute glucose to blood. The techniques for pancreatectomy, evisceration, and hepatectomy, and for the chemical analysis of the specimens were described previously (*2, 3*).

TABLE 1

KIDNEY GLYCOGEN AND BLOOD GLUCOSE VALUES IN NORMAL AND DIABETIC EVISCERATED, HEPATECTOMIZED DOGS IMMEDIATELY AND AT VARIOUS TIME INTERVALS AFTER EVISCERATION

Normal dogs	Time after evisceration (min)	Kidney glycogen (g %)	Blood sugar (mg %)
No. 1	0	0.026	64
	70	0.030	16
No. 2	0	0.025	82
	120	0.028	23
No. 3	0	0.031	80
	105	0.043	20
Diabetic dogs			
No. 1	0	0.099	270
	120	0.109	144
No. 2	0	0.079	257
	150	0.108	135
No. 3	0	0.097	336
	125	0.103	170

As can be seen from Table 1, it is impossible to account for the glucose released by the kidney on the basis of the glycogen originally present in these organs. Thus the immediate postevisceration biopsies of kidneys reveal only about 0.05 g of glycogen/100 g of kidney tissue in normal dogs and about 0.1 g of glycogen/100 g of kidney tissue in diabetic dogs. If this glycogen were to serve as a source of blood sugar, the total amount present

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