CONTROL OF PINK BOLLWORM

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The objectives of this experiment were to determine if there is any advantage in pink bollworm control by adding molasses to Sevin, and to compare application gallonage rates of 3 and 5 gallons.

The experimental design was a randomized complete block with four replications. Plot size was variable, with treated plots ranging from 6 to 12 acres in size. Check plots were necessarily smaller - approximately 1.5 acres - because of the possibility of large yield losses. However, the checks were adequate to fulfill their primary objective - that sufficient population pressure of the pink bollworm existed to cause severe losses were they to go uncontrolled. This was demonstrated in check plots of two replications which were bordered only on one side by treated plots.

Yields were taken from the center of each plot. The harvested area of each plot varied from approximately 1.5 to 20 acres, except for the untreated check plots which averaged approximately 0.4 acres.

Results indicated that control was similar in both the 3 and 5-gallon total solution rates. This was true whether Sevin was applied alone or in combination with molasses.

There was no significant advantage to adding molasses to the insecticide, Sevin. However, during mid-August when population pressure was greatest, the treatments of Sevin plus molasses did tend to hold infestations at a lower level than those with Sevin alone. These data are presented in Tables 1 and 2.

Figures 1 and 2 present companions of the effect of different gallonage rates, and Sevin or Sevin plus molasses, respectively, on pink bollworm control. Per cent infested bolls in Figure 1 represent a mean of the infestation levels for both insecticidal treatments - Sevin or Sevin plus molasses - at each respective gallonage rate. This permits a comparison of the 3 and 5-gallon application rates based on eight replications.

Figure 2 compares Sevin alone or Sevin plus molasses for effectiveness in pink bollworm control. For each of these treatments, as presented in Figure 2, infestation levels for both gallonage rates were averaged. This provided a better basis to determine the relative effectiveness of the two treatments.

Table 1. Comparison of pink bollworm control with Sevin alone or Sevin plus molasses, each applied at 3 and 5-gal. total solution rates. Wellton, Arizona. 1969.

Treatments[1/]	Appl. Rate	Per Cent infested Bolls On: July 3	July 9	July 16	July 23	July 29	August 5	August 13	August 18	August 26	August 31	Sept. 9	Sept. 24
Check	-	6.5	5.0	1.0	1.3	4.5	19.5	43.5	48.0	20.5	12.0	37.5	32.5
Sevin[2/]	3 gal.	0.5	2.5	3.5	2.0	6.0	16.5	22.5	27.5	13.5	1.5	10.0	9.0
Sevin	5 gal.	0.5	2.0	5.0	2.0	3.5	17.0	23.0	23.0	24.0	5.5	4.0	4.0
Sevin+Mol.	3 gal.	2.0	1.5	4.5	1.0	2.0	11.5	18.5	17.5	5.0	0.5	7.5	1.0
Sevin+Mol.	5 gal.	0.5	0.5	6.0	3.5	4.5	18.0	18.0	18.5	6.0	0.5	8.0	2.0

1/ The initial application was not made on all plots at the same time; starting time was based on infestation level. Maximum number of times any plot was sprayed was 13; minimum No. was 10, while the mean was 11.2 spray applications.

2/ All insecticide treatments were made using 2.0 lbs. active Sevin per acre; however, during the period when population pressure was greatest rates were increased by 50%.

Table 2. Comparison of yields from treatments of Sevin and Sevin plus molasses, each applied at two gallonage rates, for effectiveness in controlling the pink bollworm. Wellton, Arizona, 1969.

Treatments	Tot. gal. Spray Sol/A	Lbs. Seed Cotton / Acre		
		1st Harvest	2nd Harvest	Total Yield 1/
Check	--	3862	514	4407
Sevin	3 gal.	4438	639	5077
Sevin	5 gal.	5046	754	5800
Sevin+1 gal. molasses	3 gal.	4549	637	5186
Sevin+1 gal. molasses	5 gal.	4814	585	5399

1/ Yields were not significantly different.

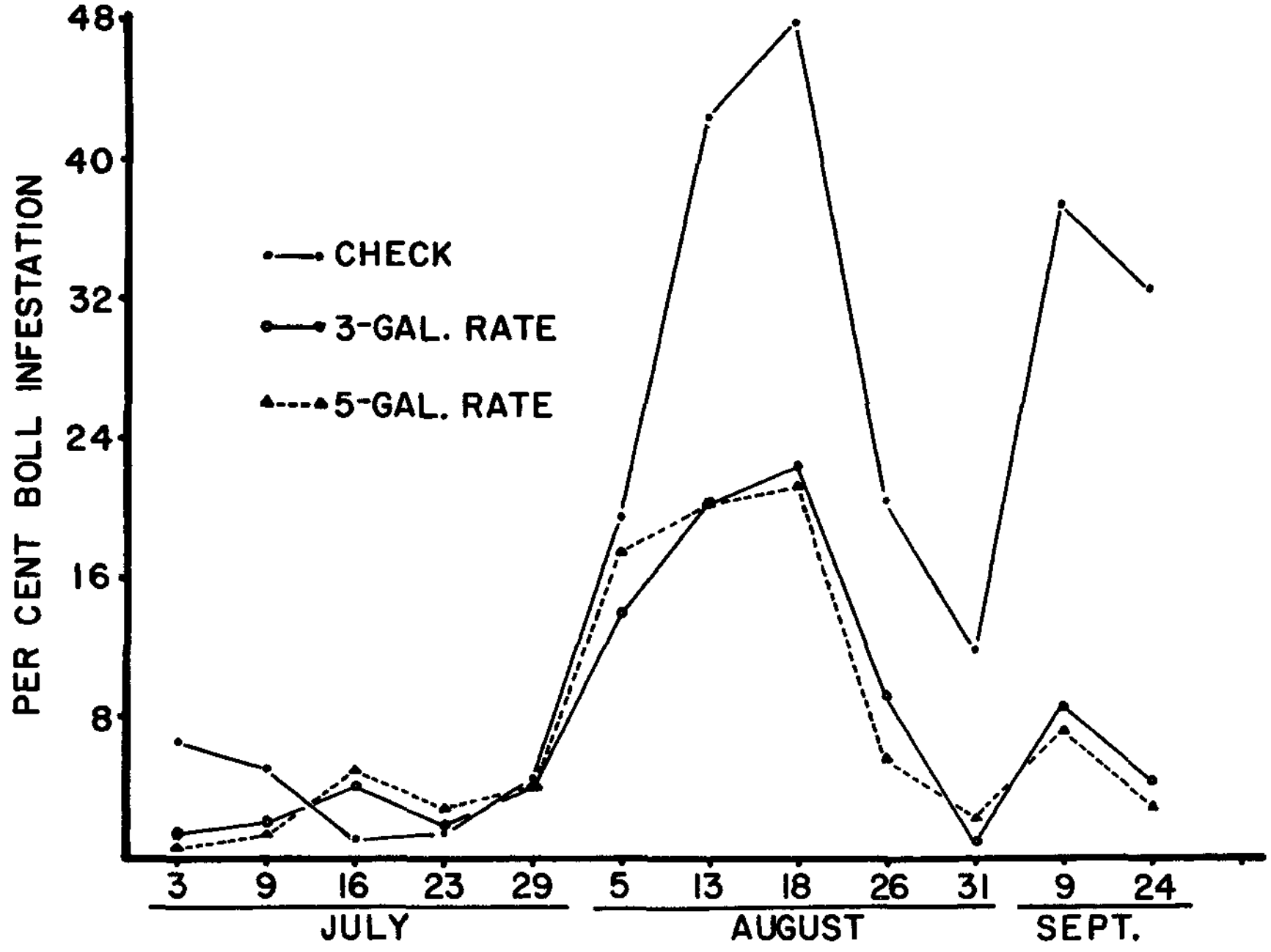

Figure 1. Comparison of two application rates of spray solution with an untreated check for control of the pink bollworm. (Both the Sevin and Sevin plus molasses treatments combined)

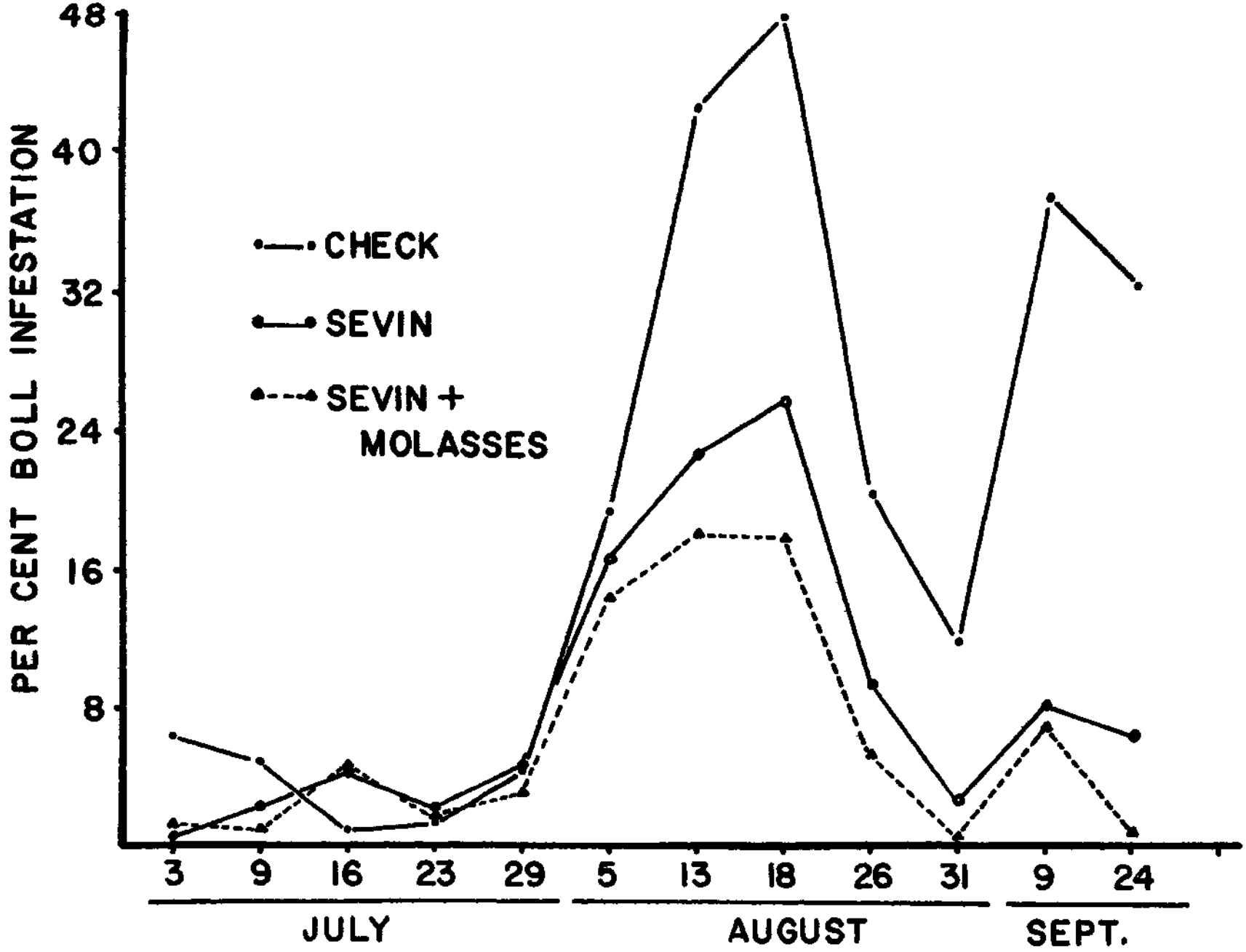

Figure 2. Comparison of two formulations of Sevin with an untreated check for control of the pink bollworm (Results of both the 3 and 5-gal. application rates with each material combined)