Section III Root-Feeding Coleoptera and Symphylans

WIREWORM CONTROL WITH RAPESEED OIL MEAL, 1989 Robert L. Stoltz University of Idaho, District III Office 1330 Filer Avenue East, Twin Falls, ID 83301

'Russet Burbank' potatoes were planted 3 May at Caldwell, ID in Greenleaf-Owyhee silt loam soil. Individual plots were four rows wide (36 inch row spacing) by 25 ft long and treatments were replicated five times in a randomized complete block design. Rapeseed oil meal was broadcast at a rate of 4,000 lb/acre and incorporated pre-plant to a depth of 8-10 inches with rototiller for the first treatment. An untreated check plot was the second treatment. In the check plots ammonium sulfate was used to bring the nitrogen level to 200 lb/acre, the same as in treated plots.

Wireworm evaluations were made on 27 Sep. Fifty potatoes were randomly selected from the two center rows. Wireworm damaged potatoes and the total number of wireworm holes in the 50 tubers were recorded. All the potatoes from the two middle rows were weighed for yield determinations. Data were analyzed using ANOVA and Newman-Keuls.

The plots treated with rapeseed oil meal showed a 40% reduction in the number of damaged tubers, a 51% reduction in the total number of wireworm holes, and a 16% yield increase compared to the untreated check. The statistical differences for the number of holes/50 tubers was, however, only significant at the 10% level compared to the 5% level for damaged tubers and yield. While these reductions are significant, the tubers in the treated plots still sustained 47.6% damage. This amount is commercially unacceptable. Rapeseed oil meal does show some promise and different rates or other factors need to be investigated.

		Damaged potatoes and yield		
		% Damaged	No. holes/50	lb potatoes/50
Treatment and rate lb AI/acre		tubers	tubers	row ft
Rapeseed oil meal	4,000	14.2 a	21.0 a	66.0 a
Untreated Check		23.8 b	42.6 b	57.0 b