

Stone Fruits—Biological Control

San Jose Scale

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Laboratory experiments on mating disruption of San Jose scale were conducted in small glass-topped sleeve cages using laboratory colonies of SJS reared on wild gourds. The results of these studies (Table 1) indicate that, in the presence of SJS synthetic pheromones, orientation of flying male scales to calling virgin females can be disrupted and mating prevented when males and females are in close proximity. However, this does not demonstrate yet that walking males can be prevented from finding females. This research on SJS mating disruption is part of a cooperative project with Dr. John Krochta, UCD, Department of Food Science, and Dr. Hike Delwiche, UCD, Department of Ag Engineering.

Table 1. San Jose scale mating disruption laboratory studies, 1990-91.

Test no.	No. SJS disp. ¹	Male scale				Female scale				
		Dead	Alive	Total	% emergence	Dead	Alive	Total	% mortality	% mated
SJS-MD-90-1	0	775	538	1313	41.0	17	281	298	5.7	97.9
	30	722	590	1312	45.0	19	163	182	10.4	0.0
SJS-MD-90-2	0	61	1773	1834	96.7	81	341	422	19.0	95.0
	30	105	1742	1847	94.3	65	361	426	15.3	1.9
SJS-MD-91-1	0	111	364	475	76.6	41	86	127	32.3	98.8
	4	90	508	598	84.9	29	105	134	21.6	10.5
	8	70	544	614	88.6	32	107	139	23.0	0.0
SJS-MD-91-2	0	47	153	200	76.5	19	181	200	9.5	96.7
	4	56	144	200	72.0	40	160	200	20.0	1.9
	6	58	142	200	71.0	37	163	200	18.5	0.0
	8	58	142	200	71.0	39	161	200	19.5	0.0
SJS-MD-91-3	0	120	1325	1445	91.7	21	205	226	9.2	98.0
	4	127	1330	1457	91.3	32	192	224	14.2	6.2
	8	160	1293	1453	89.0	41	189	230	17.8	1.0
	12	91	1359	1450	93.7	33	194	227	14.5	0.5

¹Trécé, Inc., rubber septa each loaded with 300 µg of 3-methylene-7-methyl-7-octen-1-yl propanoate (SJS-2).