SUPPLEMENTARY MATERIAL

Monitoring and spatial distribution pattern of the red scale insect *Aonidiella aurantii* (Hemiptera: Diaspididae) infesting guava trees

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Table S1. Different models to evaluate initial sampling methods, and distribution indices of *Aoinidella aurantii* per leaf sampling unit composed of combinations of all canopy quadrants, vertical strata, and leaf surfaces of guava trees in 2022–2023

Coordinates		Initial sampling		Distribution indices											
		RV	***RNP***	S^2/m	I_L	***Ca***	***K***	I_D	***Z***	I_{DM}	$\overset{*}{X}$	$\overset{*}{X}/m$	***GI***	**1/*K***	λ
Quadrant	southeast	4.86	34.31	15.53	3.94	0.21	4.72	1475.31	40.57	14.53	83.07	1.21	0.15	0.21	0.87
	southwest	4.83	34.51	15.28	3.91	0.21	4.78	1451.58	40.13	14.28	82.51	1.21	0.15	0.21	0.86
	northeast	4.95	33.65	15.97	4.00	0.22	4.53	1517.51	41.34	14.97	82.81	1.22	0.16	0.22	0.90
	northwest	5.15	32.38	16.68	4.08	0.24	4.18	1584.70	42.55	15.68	81.26	1.24	0.17	0.24	1.07
Strata	basal	5.00	33.31	18.90	4.35	0.23	4.39	1795.52	46.18	17.90	96.53	1.23	0.19	0.23	1.22
	apical	4.83	34.47	12.67	3.56	0.21	4.84	1203.65	35.32	11.67	68.13	1.21	0.12	0.21	0.70
Leaf surface	upper	4.34	38.36	6.75	2.60	0.15	6.48	640.78	22.05	5.75	42.96	1.15	0.06	0.15	0.25
	lower	6.14	27.12	10.99	3.32	0.33	3.03	1044.34	31.95	9.99	40.32	1.33	0.11	0.33	0.94
Quadrant-strata-leaf surface[1)]	SE.B.U	4.62	36.06	9.26	3.04	0.18	5.47	879.51	28.19	8.26	53.40	1.18	0.09	0.18	0.44
	SE.B.L	6.18	26.96	12.63	3.55	0.34	2.96	1199.44	35.23	11.63	46.05	1.34	0.12	0.34	1.34
	SE.A.U	4.42	37.74	5.85	2.42	0.16	6.44	555.52	19.58	4.85	36.09	1.16	0.05	0.16	0.21
	SE.A.L	5.67	29.39	8.11	2.85	0.27	3.69	770.32	25.50	7.11	33.37	1.27	0.07	0.27	0.56
	SW.B.U	4.32	38.56	7.99	2.83	0.16	6.37	758.58	25.20	6.99	51.50	1.16	0.07	0.16	0.31
	SW.B.L	6.19	26.94	12.87	3.59	0.34	2.95	1222.88	35.71	11.87	46.91	1.34	0.12	0.34	1.37
	SW.A.U	4.02	41.48	4.77	2.19	0.12	8.16	453.59	16.37	3.77	34.59	1.12	0.04	0.12	0.12
	SW.A.L	5.76	28.92	8.32	2.88	0.28	3.57	790.35	26.01	7.32	33.42	1.28	0.08	0.28	0.58
	NE.B.U	4.26	39.16	7.56	2.75	0.15	6.63	718.01	24.15	6.56	50.03	1.15	0.07	0.15	0.27
	NE.B.L	6.54	25.49	14.66	3.83	0.38	2.61	1393.14	39.04	13.66	49.39	1.38	0.14	0.38	1.58
	NE.A.U	4.40	37.87	5.58	2.36	0.15	6.55	530.32	18.82	4.58	34.60	1.15	0.05	0.15	0.19
	NE.A.L	5.87	28.37	8.76	2.96	0.29	3.41	832.29	27.05	7.76	34.21	1.29	0.08	0.29	0.73
	NW.B.U	4.62	36.08	8.84	2.97	0.18	5.50	839.36	27.22	7.84	50.95	1.18	0.08	0.18	0.38
	NW.B.L	6.87	24.27	14.97	3.87	0.42	2.37	1422.06	39.58	13.97	47.04	1.42	0.15	0.42	2.10
	NW.A.U	4.38	38.09	5.41	2.33	0.15	6.67	513.92	18.31	4.41	33.84	1.15	0.05	0.15	0.18
	NW.A.L	6.10	27.31	9.13	3.02	0.32	3.14	867.63	27.91	8.13	33.68	1.32	0.09	0.32	0.76

[1)] quadrant (SE = southeast, SW = southwest, NE = northeast, and NW = northwest), vertical strata (B = basal, and A = apical) and leaf surfaces (U = upper, and L = lower).
Explanations: *RV* = relative variance, *RNP* = relative net precision, S^2/m = variation to mean, I_L = Lewis index, *Ca* = Cassie index, *K* = one measure of aggregation that can be used for insect species that have a clumped or aggregated spatial pattern, I_D = departure from a random distribution, *Z* = as in Eq. (8), I_{DM} = mean clumping $\overset{*}{X}$ = mean crowding, *m* = mean of population, *GI* = Green's index, 1/*K* = an aggregation index, λ = population aggregations mean.

Table S2. Different models to evaluate initial sampling methods, and distribution indices of *Aoinidella aurantii* per leaf sampling unit composed of combinations of all canopy quadrants, vertical strata, and leaf surfaces of guava trees in 2023–2024

Coordinates		Initial sampling		Distribution indices											
		RV	***RNP***	S^2/m	I_L	***Ca***	***K***	I_D	***Z***	I_{DM}	$\overset{*}{X}$	$\overset{*}{X}/\mathbf{m}$	***GI***	**1/*K***	λ
Quadrant	southeast	3.83	43.57	9.41	3.07	0.13	7.96	894.25	28.54	8.41	75.41	1.13	0.09	0.13	0.29
	southwest	3.85	43.32	9.48	3.08	0.13	7.87	900.45	28.69	8.48	75.19	1.13	0.09	0.13	0.22
	northeast	3.93	42.40	9.84	3.14	0.13	7.50	934.87	29.49	8.84	75.17	1.13	0.09	0.13	0.31
	northwest	4.07	40.99	10.17	3.19	0.14	6.99	965.93	30.21	9.17	73.25	1.14	0.10	0.14	0.37
Strata	basal	3.95	42.20	11.50	3.39	0.14	7.31	1092.35	32.99	10.50	87.28	1.14	0.11	0.14	0.39
	apical	3.83	43.49	7.80	2.79	0.12	8.13	740.53	24.74	6.80	62.07	1.12	0.07	0.12	0.22
Leaf surface	upper	3.53	47.25	4.41	2.10	0.09	10.83	419.28	15.21	3.41	40.37	1.09	0.04	0.09	0.08
	lower	4.95	33.65	6.85	2.62	0.20	4.97	650.38	22.32	5.85	34.92	1.20	0.06	0.20	0.35
Quadrant -strata-leaf surface[1)]	SE.B.U	3.80	43.87	6.19	2.49	0.12	8.61	588.13	20.55	5.19	49.88	1.12	0.05	0.12	0.16
	SE.B.L	4.87	34.21	7.53	2.74	0.20	5.06	714.89	24.06	6.53	39.54	1.20	0.07	0.20	0.35
	SE.A.U	3.58	46.52	3.81	1.95	0.09	11.01	361.92	13.16	2.81	33.73	1.09	0.03	0.09	0.07
	SE.A.L	4.54	36.69	5.03	2.24	0.16	6.30	477.64	17.16	4.03	29.40	1.16	0.04	0.16	0.18
	SW.B.U	3.54	47.05	5.31	2.30	0.10	10.23	504.12	18.01	4.31	48.37	1.10	0.05	0.10	0.11
	SW.B.L	5.03	33.14	8.12	2.85	0.21	4.70	771.83	25.54	7.12	40.58	1.21	0.07	0.21	0.43
	SW.A.U	3.31	50.29	3.24	1.80	0.07	13.72	308.03	11.07	2.24	33.00	1.07	0.02	0.07	0.04
	SW.A.L	4.66	35.79	5.23	2.29	0.17	5.94	497.32	17.79	4.23	29.38	1.17	0.04	0.17	0.20
	NE.B.U	3.51	47.52	5.13	2.26	0.10	10.52	487.10	17.46	4.13	47.55	1.10	0.04	0.10	0.10
	NE.B.L	5.41	30.82	9.55	3.09	0.25	3.98	907.68	28.86	8.55	42.58	1.25	0.09	0.25	0.67
	NE.A.U	3.55	46.89	3.61	1.90	0.09	11.41	342.59	12.43	2.61	32.34	1.09	0.03	0.09	0.06
	NE.A.L	4.79	34.82	5.60	2.37	0.18	5.53	532.27	18.88	4.60	30.07	1.18	0.05	0.18	0.22
	NW.B.U	3.77	44.19	5.85	2.42	0.11	8.83	555.92	19.60	4.85	47.70	1.11	0.05	0.11	0.15
	NW.B.L	5.58	29.84	9.47	3.08	0.27	3.73	899.25	28.66	8.47	40.08	1.27	0.09	0.27	0.67
	NW.A.U	3.53	47.19	3.50	1.87	0.09	11.69	332.30	12.03	2.50	31.71	1.09	0.03	0.09	0.06
	NW.A.L	4.91	33.98	5.66	2.38	0.19	5.26	537.32	19.03	4.66	29.14	1.19	0.05	0.19	0.25

[1)] As in Tab. S1.

Explanations as in Tab. S1.