

Spatial distribution of spotted-wing drosophila (Diptera: Drosophilidae) and other insects in fruit of a sweet cherry (Rosaceae) orchard: supplemental material

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Supplementary Table S1. Pesticides applied in study orchard with date and type of material in 2015.

Trade name	Common name of active ingredient	Application date	Activity type
Pristine WG	boscalid + pyraclostrobin	4 May	fungicide
Cheminova	glyphosate	25 May	herbicide
Naturalyte GF120 ^a	Spinosad	10 June	insecticide
Naturalyte GF120	Spinosad	16 June	insecticide
Naturalyte GF120	Spinosad	19 June	insecticide
Senator	thiophanate-methyl	19 June	fungicide
Naturalyte GF120	Spinosad	22 June	insecticide
Naturalyte GF120	Spinosad	29 June	insecticide
Naturalyte GF120	spinosad	14 July	insecticide

^a Selective fruit bait for suppression of *Rhagoletis* species,

(0.2 g L⁻¹ of *a.i.*), maximum of 60 mL per tree.

Supplementary Table S2. Cherry cultivars, number of fruit examined in preliminary samples on given dates for presence of *Drosophila suzukii*, and estimated date of first infestation.

Cultivar	Number of fruit	Date collected	First infestation
Montmorency	10	15 June	
"	6	24 June	24 June
Santina	180 ^a	10 June	10 June
"	3	15 June	
Sonata	20	15 June	15 June
"	4	24 June	
Lapins	20	15 June	15 June
"	3	24 June	
"	10	6 July	
Skeena	20	15 June	24 June
"	6	24 June	
"	10	6 July	
Sweetheart	20	15 June	6 July
"	9	24 June	
"	10	6 July	
Staccato	15	15 June	6 July
"	10	24 June	
"	10	6 July	

^a Date of first collection was 10 June.

Supplementary Table S3. Two-way analysis of variance of *Drosophila suzukii*

adults emerging from cultivar Sonata cherries by row, height, and row X height.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	126.763 ^a	5	25.353	1.779	0.1170
Error	4247.185	298	14.252		
Corrected total	4373.947	303			

df = degrees of freedom.

^a $R^2 = 0.029$, $R^2(\text{Adj.}) = 0.013$.

Supplementary Table S4. Two-way analysis of variance of *Drosophila suzukii*

adults emerging from cultivar Skeena cherries by row, height, and row X height.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	433.527 ^a	5	86.705	2.299	0.0449
Row	178.112	2	89.056	2.361	0.0959
Height	0.487	1	0.487	0.013	0.9096
Row X height	251.906	2	125.953	3.340	0.0367
Error	11993.029	318	37.714		
Corrected total	12426.556	323			

df = degrees of freedom.

^a $R^2 = 0.035$, $R^2(\text{Adj}) = 0.020$.

Supplementary Table S5. Two-way analysis of variance of *Drosophila suzukii* adults emerging from cultivar Sweetheart cherries by row, height, and row X height.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected Model	165.246 ^a	5	33.049	0.960	0.442
Error	12496.971	363	34.427		
Corrected Total	12662.217	368			

df = degrees of freedom.

^a $R^2 = 0.013$, $R^2(\text{Adj}) = -0.000$.

Supplementary Table S6. Two-way analysis of variance of *Drosophila suzukii* adults emerging from cultivar Staccato cherries by row, height, and row X height.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	651.086 ^a	5	130.217	130.217	5.1984
Row	199.712	2	99.856	3.986	0.0194
Height	448.127	1	448.127	17.890	0.0001
Row X height	12.051	2	6.026	0.241	0.7863
Error	9042.909	361	25.050		
Corrected total	9693.995	366			

df = degrees of freedom.

^a $R^2 = 0.067$, $R^2(\text{Adj}) = 0.054$.

Supplementary Table S7. Two-way analysis of variance of *Drosophila suzukii*

adults emerging from cultivar Sonata cherries by row, aspect, and row X aspect.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	232.293 ^a	5	46.459	3.343	0.0059
Row	107.528	2	53.764	3.868	0.0219
Aspect	80.035	1	80.035	5.759	0.0170
Row X aspect	46.329	2	23.164	1.667	0.1906
Error	4141.654	298	13.898		
Corrected total	4373.947	303			

df = degrees of freedom.

^a $R^2 = 0.053$, $R^2(\text{Adj}) = 0.037$.

Supplementary Table S8. Two-way analysis of variance of *Drosophila suzukii*

adults emerging from cultivar Skeena cherries by row, aspect, and row X aspect.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	203.861 ^a	5	40.772	1.061	0.3821
Error	12222.695	318	38.436		
Corrected total	12426.556	323			

df = degrees of freedom.

^a $R^2 = 0.016$, $R^2(\text{Adj}) = 0.001$.

Supplementary Table S9. Two-way analysis of variance of *Drosophila suzukii*

adults emerging from cultivar Sweetheart cherries by row, aspect, and row X aspect.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	208.715 ^a	5	41.743	1.217	0.3006
Error	12453.502	363	34.307		
Corrected total	12662.217	368			

df = degrees of freedom.

^a $R^2 = 0.016$, $R^2(\text{Adj}) = 0.003$.

Supplementary Table S10. Two-way analysis of variance of *Drosophila suzukii* adults emerging from cultivar Staccato cherries by row, aspect, and row X aspect.

Source	Sum of squares	df	Mean square	F-ratio	P-value
Corrected model	654.890 ^a	5	130.978	5.231	0.0001
Row	190.877	2	95.439	3.812	0.0230
Aspect	316.161	1	316.161	12.627	0.0004
Row X aspect	145.581	2	72.790	2.907	0.0559
Error	9039.105	361	25.039	25.039	
Corrected total	9693.995	366	26.486		

df = degrees of freedom.

^a $R^2 = 0.068$, $R^2(\text{Adj}) = 0.055$.