**Table 1.** Berry quality ratings for varieties of Red Primocane­Fruiting raspberries evaluated for *Drosophila suzukii* infestations in 2014 and 2015.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vatiety** | **Hardiness** | **Harvest** | **Productivity** | **Fruit Size** | **Attractiveness** | **Firmness** | **Flavor** | **Freezing** |
| Autumn Bliss | fair | early | very good | large | very good | good | very good | very good |
| Polana | good | early | excellent | medium | very good | fair | fair | good |
| Autumn Britten | fair | early | good | large | very good | very good | excellent | good |
| Caroline | fair | mid late | good | large | very good | good | very good | good |
| Joan J | excellent | mid | very good | large | excellent | very good | very good | very good |

**Table 2.** Varieties of Red Primocane­Fruiting raspberries evaluated for *Drosophila suzukii* infestations in 2014 and 2015.

**Average Larvae Per Fruit**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **10‐Aug** | **12‐Aug** | **14‐Aug** | **15‐Aug** | **17‐Aug** | **19‐Aug** | **20‐Aug** | **21‐Aug** | **22‐Aug** | **24‐Aug** | **28‐Aug** |
| Autumn Bliss | 45.75a | 15.75a | 27.63a | 11.50ab | 1.70b | 4.64b | 1.80a | 1.33b | 4.80ab | 2.88b | 3.17b |
| Autumn Britten | 36.125a | 25.43a | 36.38a | 8.50b | 3.20b | 5.55b | 5.60a | 5.00a | 0.90b | 10.17a | 5.00ab |
| Caroline | 26.5a | 28.75a | 29.25a | 22.90a | 6.43ab | 12.92a | 5.45a | 4.50ab | 6.00a | 4.92ab | 5.10ab |
| Joan J | 24.57a | 14.00a | 27.13a | 14.10ab | 10.82a | 5.10b | 3.80a | 2.33ab | 6.00ab | 2.50b | 8.43a |
| P‐value | 0.21 | 0.21 | 0.45 | *0.02* | *0.002* | *0.007* | 0.18 | *0.02* | *0.02* | *0.02* | *0.005* |

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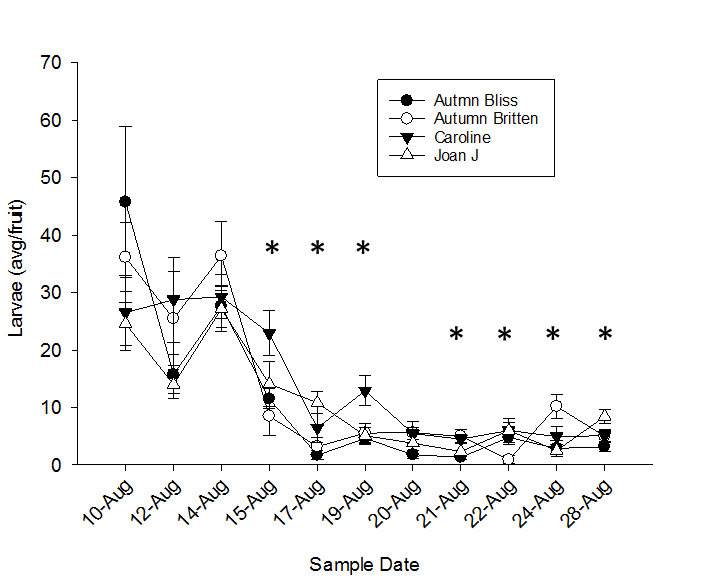
**Fig 1.** Varieties of Red Primocane-Fruiting raspberries evaluated for *Drosophila suzukii* infestations by percent of infested berries in 2014.

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**Fig 2.** Regression of percent infested fruit over time for the varieties of Red Primocane-Fruiting raspberries evaluated for *Drosophila suzukii* infestations in 2015.

****

**Fig 3.** Average larvae per fruit for each variety of Red Primocane-Fruiting raspberries evaluated for *Drosophila suzukii* infestations in 2015.

**Fig 4.** Average number of larvae per fruit over time by varieties of Red Primocane-Fruiting raspberries evaluated for *Drosophila suzukii* infestations in 2014 and 2015.Dates marked with an asterisk are significantly different.



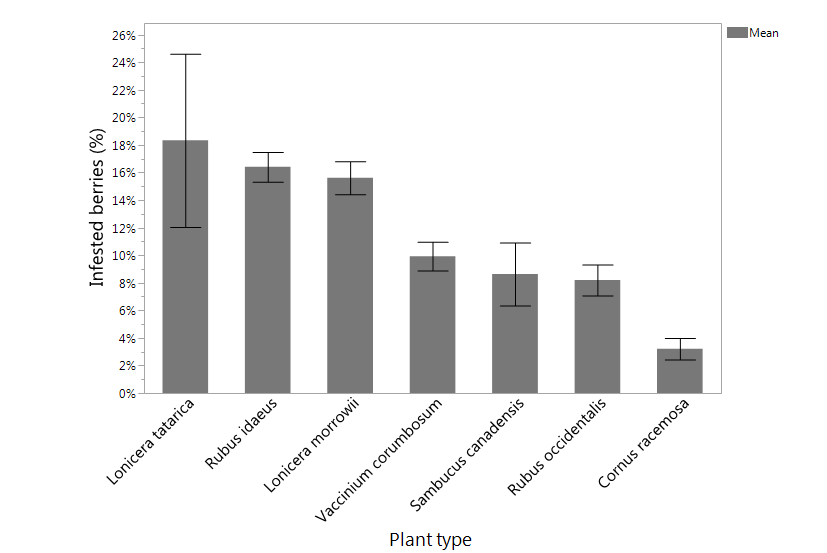
**Fig 5.** Regression of the average number per berry over time for the varieties of Red Primocane-Fruiting raspberries evaluated for *Drosophila suzukii* infestations in 2015.

**Table 3.** Infestations of identified potential alternative host plants, expressing both average number of *D. suzukii* per berry and average percent of fruit infested.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Family | Scientific name | Common name | 2015  Mean infestation totals | 2015  Mean % fruit infested | 2016  Mean infestation totals | 2016  Mean % fruit infested |
| Caprifolicaceae | *Lonicera tatarica* | Tartarian honeysuckle | N/A | N/A | 0.492 | 18.3% |
|  | *Lonicera morrowii* | Morrow’s honeysuckle | 0.204 | 13.1% | 0.386 | 18.6% |
| Rosaceae | *Rubus occidentalis* | Wild black raspberry | 0.236 | 13% | 0.121 | 6.06% |
|  | *Fragaria vesca* | Wild strawberry | 0 | 0% | 0 | 0% |
|  | *Prunus americana* | Wild plum | 0 | 0% | 0 | 0% |
| Cornaceae | *Cornus racemosa* | Gray dogwood | 0.0778 | 6.67% | 0.0435 | 2.32% |
| Rhamnaceae | *Rhamnus cathartica l.* | Common buckthorn | 0.0015 | 0.15% | 0 | 0% |
| Grossulariaceae | *Ribes spp.* | Wild gooseberry | 0 | 0% | 0 | 0% |

**Table 4.** Infestations of identified crop host plants, expressing both average number of *D. suzukii* per berry and average percent of fruit infested.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Family | Scientific name | Common name | 2015 mean infestation totals | Mean % fruit infested  2015 | 2016 mean infestation totals | Mean % fruit infested 2016 |
| Rosacea | *Rubus ideaus* | Red raspberry | 0.251 | 10% | 1.59 | 32.2% |
| Ericacea | *Vaccinium corymbosum* | Highbush blueberry | 0.0897 | 6.09% | 0.332 | 18.8% |
| Capricoliaceae | *Samucus canadensis* | Elderberry | 0 | 0% | 0.121 | 10% |



\*

\*

\*

C

B

B

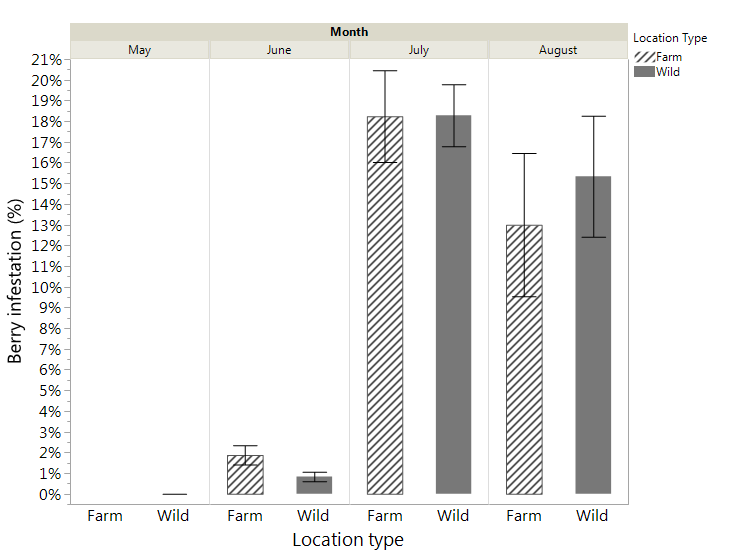
B

A

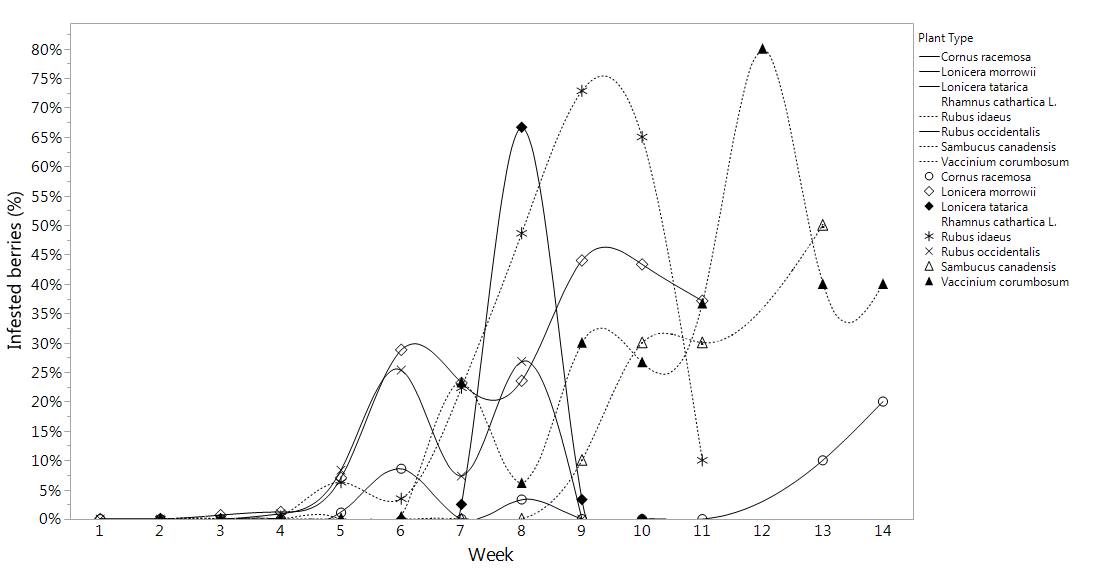
A

A

**Figure 5.** Infestation rates for plants to be found to have infestations averaged through both years 2015 and 2016 at 95% confidence interval. Ordered differences are A, B, and C. Asterisks represent crop hosts.

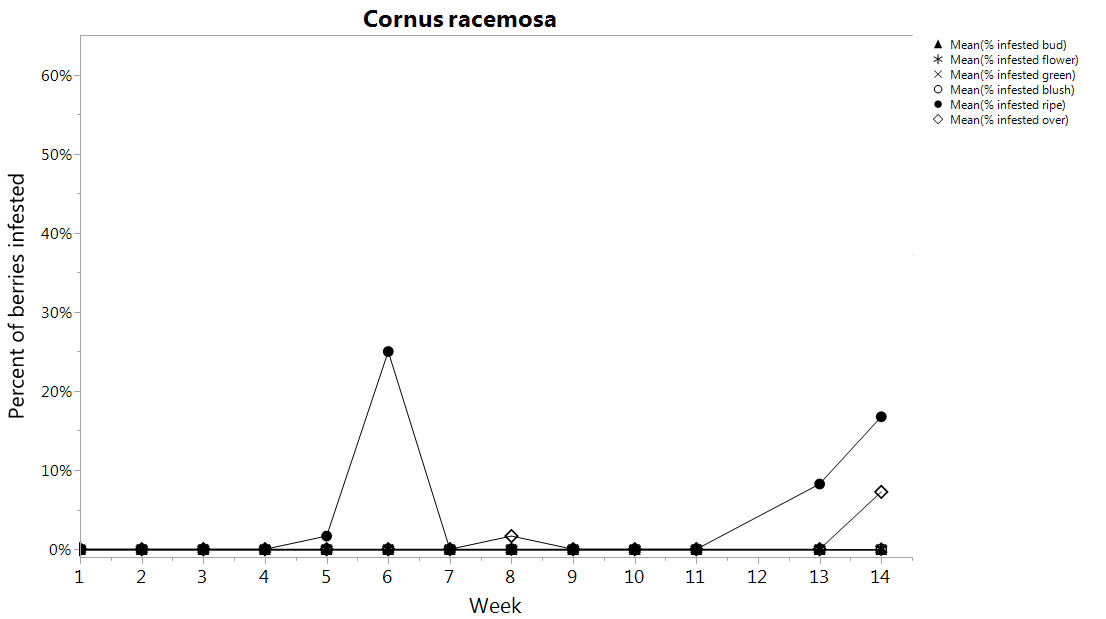
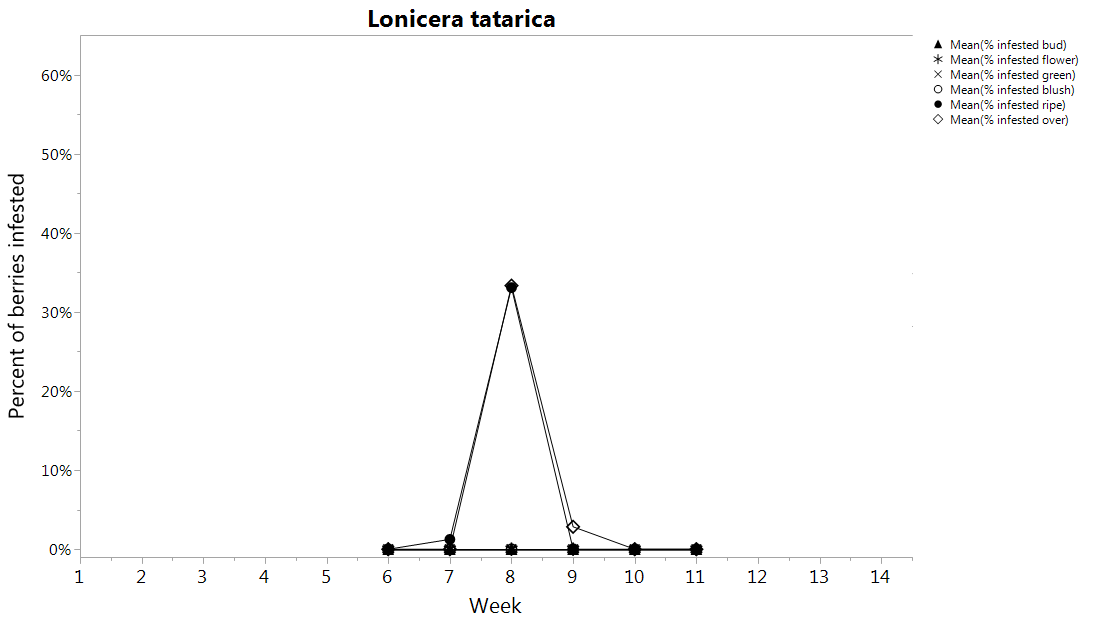
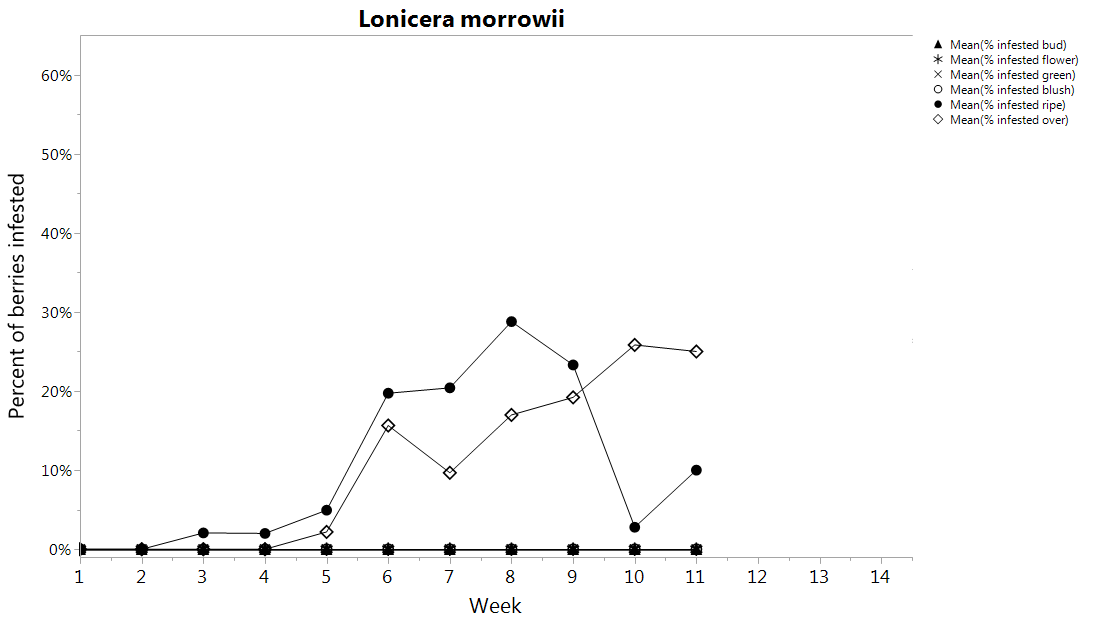


**Figure 6.** Percent of alternative host fruit infested by *D. suzukii* over the course of growing seasons 2015 and 2016. Differences are observed between farm and wild locations over time, May through August.



**Figure 7.** Percent of berries infested by plant type over time for both years 2015 and 2016.

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Berry stages infested

Berry phenology

Bud

Flower

Green

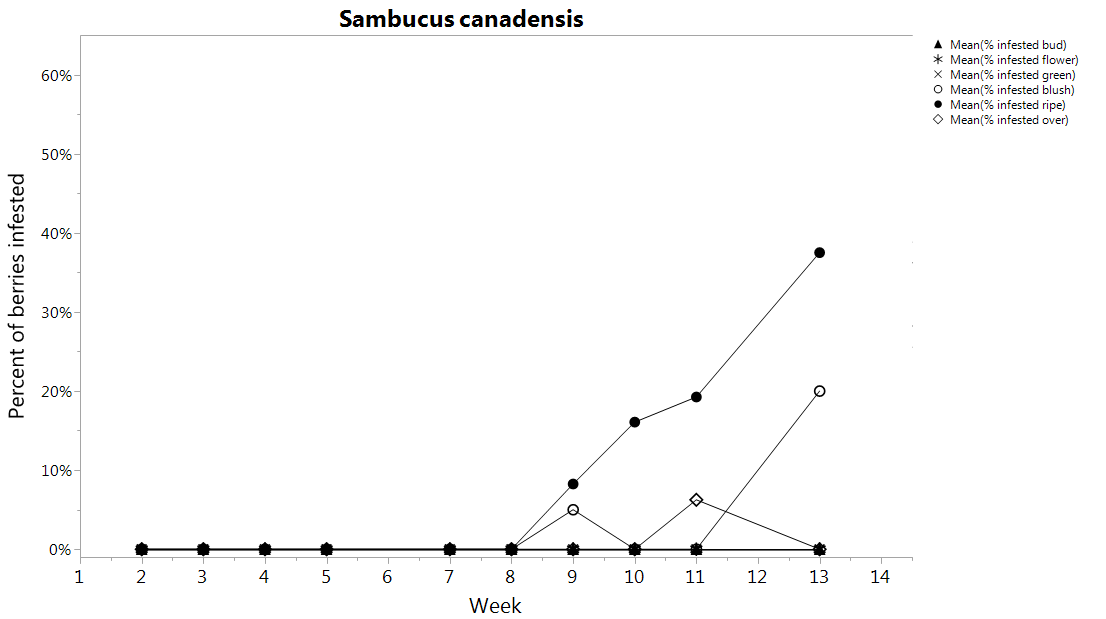
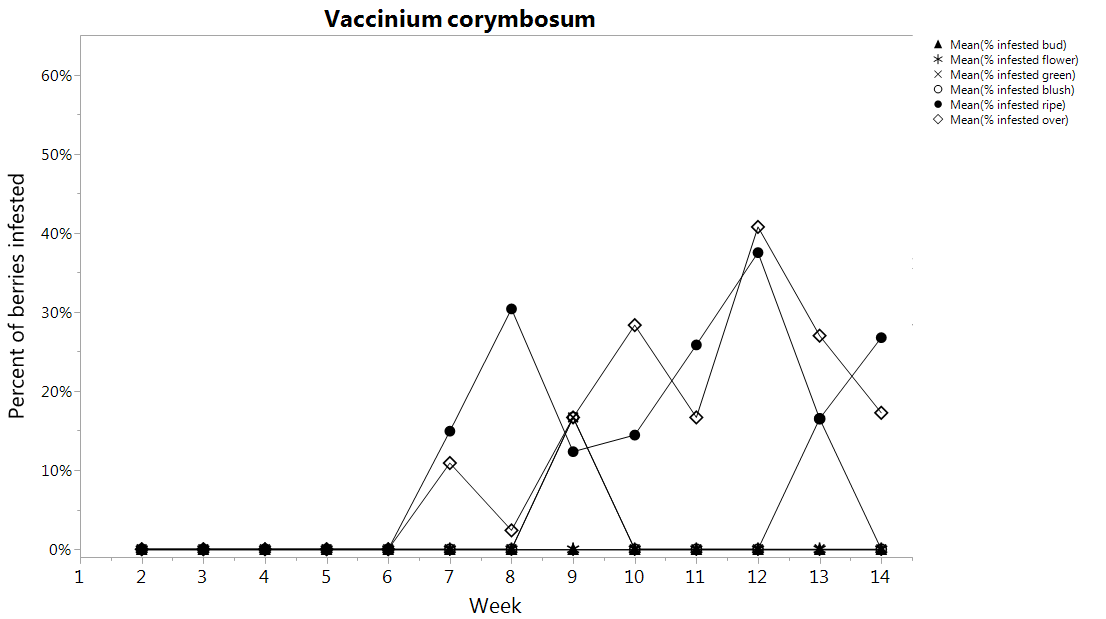
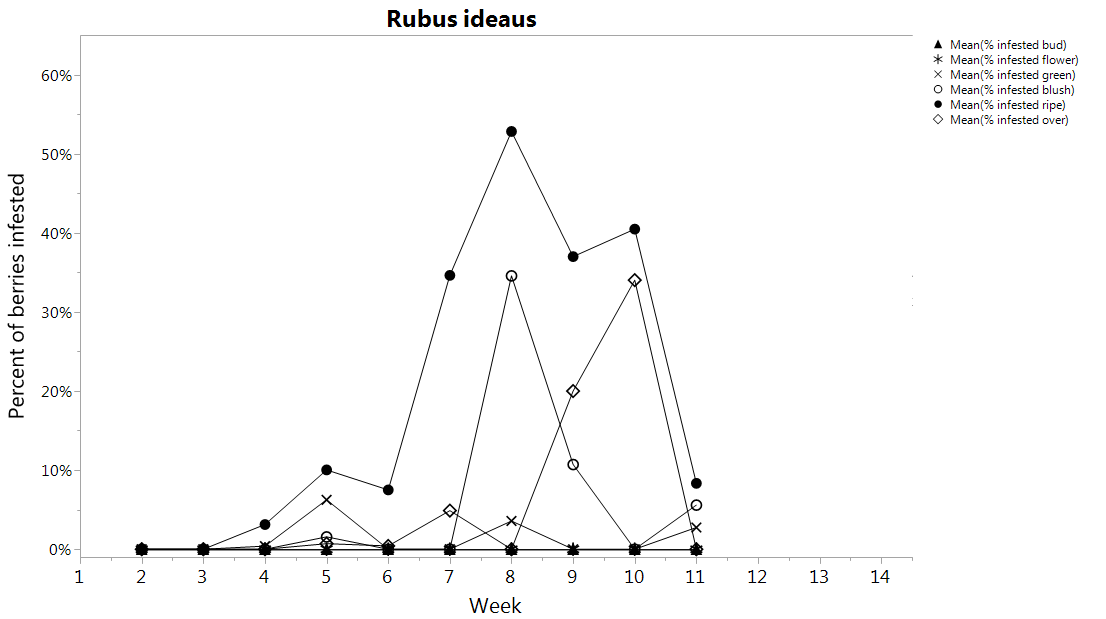
Blush

Ripe

Over ripe



**Figure 8.** Comparison between the berry ripening phenology of each alternative host plant (lower bars) and infestation percent for their respective fruit over time.



Berry stages infested

Berry phenology

Bud

Flower

Green

Blush

Ripe

Over ripe



**Figure 9.** Comparison between the berry ripening phenology of each crop host plant (lower bars) and infestation percent for their respective fruit over time.