| Leave Ct | Root Ct | F-Test Two-Sample for Variance | es | |
|----------|--|---|--|---|
| 21.00 | 18.66 | | | |
| 21.35 | 17.71 | | Leave | Root |
| 23.46 | 25.00 | Mean | 22.31222222 | 20.45568627 |
| 21.27 | 18.62 | Variance | 1.597494444 | 13.23630662 |
| 24.11 | 19.33 | Observations | 9 | 17 |
| 21.99 | 21.00 | df | 8 | 16 |
| 22.13 | 21.33 | F | 0.120690347 | |
| 24.16 | 28.81 | P(F<=f) one-tail | 0.002503307 | |
| 21.34 | 13.95 | F Critical one-tail | 0.312340484 | |
| | 18.52 | | | |
| | 18.36 | t-Test: Two-Sample Assuming U | Jnequal Variance | es |
| | | | | |
| | 25.73 | | | |
| | 25.73 19.37 | | Leave | Root |
| | 25.73 19.37 22.70 | Mean | Leave 22.31222222 | <i>Root</i> 20.45568627 |
| | 25.73 19.37 22.70 18.44 | Mean Variance | <i>Leave</i> 22.31222222 1.597494444 | <i>Root</i> 20.45568627 13.23630662 |
| | 25.73 19.37 22.70 18.44 17.27 | Mean Variance Observations | <i>Leave</i> 22.31222222 1.597494444 9 | <i>Root</i> 20.45568627 13.23630662 17 |
| | 25.73 19.37 22.70 18.44 17.27 22.95 | Mean Variance Observations Hypothesized Mean Difference | <i>Leave</i> 22.31222222 1.597494444 9 0 | <i>Root</i> 20.45568627 13.23630662 17 |
| | 25.73 19.37 22.70 18.44 17.27 22.95 | Mean Variance Observations Hypothesized Mean Difference df | <i>Leave</i> 22.31222222 1.597494444 9 0 22 | <i>Root</i> 20.45568627 13.23630662 17 |
| | 25.73 19.37 22.70 18.44 17.27 22.95 | Mean Variance Observations Hypothesized Mean Difference df t Stat | <i>Leave</i> 22.31222222 1.597494444 9 0 22 1.898674071 | <i>Root</i> 20.45568627 13.23630662 17 |
| | 25.73 19.37 22.70 18.44 17.27 22.95 | Mean Variance Observations Hypothesized Mean Difference df t Stat P(T<=t) one-tail | <i>Leave</i> 22.31222222 1.597494444 9 0 22 1.898674071 0.035400973 | <i>Root</i> 20.45568627 13.23630662 17 |
| | 25.73 19.37 22.70 18.44 17.27 22.95 | Mean Variance Observations Hypothesized Mean Difference df t Stat P(T<=t) one-tail t Critical one-tail | <i>Leave</i> 22.31222222 1.597494444 9 0 22 1.898674071 0.035400973 1.717144374 | <i>Root</i> 20.45568627 13.23630662 17 |
| | 25.73 19.37 22.70 18.44 17.27 22.95 | Mean Variance Observations Hypothesized Mean Difference df t Stat P(T<=t) one-tail t Critical one-tail P(T<=t) two-tail | <i>Leave</i> 22.31222222 1.597494444 9 0 22 1.898674071 0.035400973 1.717144374 0.070801946 | <i>Root</i> 20.45568627 13.23630662 17 |

Appendix A. T-test to evaluate difference of Ct values between leave and root samples



Appendix B. Number of both CLas and CTV positive sweet orange seedlings with time course

a, trees were co-inoculated with any two of CTV-B2, CTV-B6 and CLas-B232 simultaneously; b, trees were pre-inoculated with CLas-B232, and 12 weeks later CTV-B2 and CTV-B6 were inoculated separately, plus 10 replicates inoculated with both CTV-B2 and CTV-B6; B2/B232 (+), trees are both CTV-B2 and CLas-B232 positive; B6/B232 (+), trees are both CTV-B6 and CLas-B232 positive; B2/B6 (+), trees are both CTV-B2 and CTV-B6 positive; arrow, CTV-B2 and/or CTV-B6 were inoculated.

Appendix C. Fisher's exact test to evaluate the presence of CTV-B2 or CLas-B232 on the subsequent establishment of the other

| Group | o * result Crosstabulation | _ | | | Chi-Square Tests | | - | | | |
|-------|----------------------------|---------|----------|-------|------------------------------------|--------|----|-------------|----------------|----------------|
| | | res | sult | | | | | | | |
| | | | | | | | | Asymp. Sig. | Exact Sig. (2- | Exact Sig. (1- |
| | | B2/232 | B2/232 | | | Value | df | (2-sided) | sided) | sided) |
| | | CLas(+) | CLas (-) | Total | Pearson Chi-Square | 7 500ª | 1 | 006 | | |
| | Group I Count | 3 | 7 | 10 | Continuity Correction ^b | 5.208 | 1 | .022 | | |
| | Expected Count | 6.0 | 4.0 | 10.0 | Likelihood Ratio | 8.202 | 1 | .004 | | |
| | Group II Count | 9 | 1 | 10 | Fisher's Exact Test | | | | .020 | .010 |
| | Expected Count | 6.0 | 4.0 | 10.0 | Linear-by-Linear Association | 7.125 | 1 | .008 | | |
| Total | Count | 12 | 8 | 20 | N of Valid Cases ^b | 20 | | | | |
| | Expected Count | 12.0 | 8.0 | 20.0 | | | | | | |

| Group * result Crosstabulation | | | | Chi-Square Tests | | | - | | | |
|--------------------------------|----------------|--------|--------|------------------|------------------------------------|-------|----|-------------|----------------|----------------|
| | | Re | sult | | | | | Asymp. Sig. | Exact Sig. (2- | Exact Sig. (1- |
| | | B2/232 | B2/232 | | | Value | df | (2-sided) | sided) | sided) |
| | | B2 (+) | B2 (-) | Total | Pearson Chi-Square | .000ª | 1 | 1.000 | | |
| Group I | Count | 9 | 1 | 10 | Continuity Correction ^b | .000 | 1 | 1.000 | | |
| | Expected Count | 9.0 | 1.0 | 10.0 | Likelihood Ratio | .000 | 1 | 1.000 | | |
| Group II | Count | 9 | 1 | 10 | Fisher's Exact Test | | | | 1.000 | .763 |
| | Expected Count | 9.0 | 1.0 | 10.0 | Linear-by-Linear Association | .000 | 1 | 1.000 | | |
| Total | Count | 18 | 2 | 20 | N of Valid Cases⁵ | 20 | | | | |
| | Expected Count | 18.0 | 2.0 | 20.0 | | | | | | |

Appendix D. Fisher's exact test to evaluate the presence of CTV-B6 or CLas-B232 on the subsequent establishment of the other

| Group | o * result C | Crosstabulation | | | | Chi-Square Tests | | | | | |
|-------|--------------|-----------------|----------|----------|-------|---|--------|----|-------------|----------------|----------------|
| | | | resul | t | | | | | | | |
| | | | B6/232 | B6/232 | | | | | Asymp. Sig. | Exact Sig. (2- | Exact Sig. (1- |
| | | | CLas (+) | CLas (-) | Total | | Value | df | (2-sided) | sided) | sided) |
| | Group I | Count | 4 | 6 | 10 | Pearson Chi-Square | 3.333ª | 1 | .068 | | |
| | | Expected Count | 6.0 | 4.0 | 10.0 | Continuity Correction ^b | 1.875 | 1 | .171 | | |
| | Group II | Count | 8 | 2 | 10 | Likelihood Ratio | 3.452 | 1 | .063 | | |
| | | Expected Count | 6.0 | 4.0 | 10.0 | Fisher's Exact Test Linear-by-Linear | | _ | | .170 | .085 |
| Total | | Count | 12 | 8 | 20 | Association | 3.167 | 1 | .075 | | |
| | | Expected Count | 12.0 | 8.0 | 20.0 | N of Valid Cases ^b | 20 | | | | |

| Group * resul | t Crosstabulation | Chi-Square Tests | | | |
|---------------|-------------------|------------------|-------|--------------------|-------|
| | | result | | | Value |
| | | B6/232 | | Pearson Chi-Square | .a |
| | | B6 (+) | Total | N of Valid Cases | 19 |
| Group I | Count | 10 | 10 | | |
| | Expected Count | 10.0 | 10.0 | | |
| Group II | Count | 9 | 9 | | |
| | Expected Count | 9.0 | 9.0 | | |
| Total | Count | 19 | 19 | | |
| | Expected Count | 19.0 | 19.0 | | |

Appendix E. Fisher's exact test to verify the presence of CTV-B2 on subsequent establishment of CLas-B438

Result * Treatment Crosstabulation

| Count | | | | | | |
|--------|-----------|---------------------|---------------------|-------|--|--|
| | Treatment | | | | | |
| | | CTV-B2/ CLas-438 | CLas-438/ CTV-B2 | Total | | |
| Result | Alive | 26 | 16 | 42 | | |
| | Dead | 4 | 15 | 19 | | |
| Total | | 30 | 31 | 61 | | |

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2- sided) | Exact Sig. (1- sided) |
|------------------------------------|--------------------|----|--------------------------|--------------------------|--------------------------|
| Pearson Chi-Square | 8.735 ^a | 1 | .003 | | |
| Continuity Correction ^b | 7.177 | 1 | .007 | | |
| Likelihood Ratio | 9.170 | 1 | .002 | | |
| Fisher's Exact Test | | | | .005 | .003 |
| Linear-by-Linear Association | 8.592 | 1 | .003 | | |
| N of Valid Cases [♭] | 61 | | | | |

Chi-Square Tests

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.34.

b. Computed only for a 2x2 table