

## **Climate model using temp & RH data from Broadfield AWS**

This document provides a summary of the response of the climate model for the 07~08 season. It uses temp & RH data from the Broadfield weather station accessed from the cliflo database and Tim's climate model.

The data presented is for Lightfoot walnuts where the final bud burst spray was applied on 31Oct07 thus the climate model was 'started' on 07Nov07.

Two sets of data are shown. In 'Ruth's timings' the spray is assumed to be applied at the first possible date after the trigger has been activated and the climate model restated 7 days after the spray. Sometimes this results in ~10 days between triggers and restarts. Also presented are data where the spray is assumed to be applied immediately after a trigger and the restart is always 7 days after a trigger. The outcomes are essentially similar.

It is noted that Lightfoot Walnuts did not actually apply the sprays as recommended by the climate model since the 19Oct frost made the yield level too low to commercially justify spraying, thus subsequent blight assessments/measurements do not relate to the 'input scenario' described here.

### Ruth's timings

| Date of spray | Date climate index started | Date of trigger | comments  |
|---------------|----------------------------|-----------------|---|
| 31Oct07       | 07Nov07                    | 21Nov07         | Spray on 31Oct07 was last bud burst spray. 15 days to trigger – quite dry & cool    |
| 26Nov07       | 03Dec07                    | 12Dec07         | Spray done on 26 Nov.. the next working day. 9 days to trigger.. wetter and warmer. |
| 15Dec07       | 22Dec07                    | 10Jan08         | Possibly too late to spray now. 19 days to trigger – quite dry.                     |

### Timings assuming immediate sprays

| Date of spray | Date climate index started | Date of trigger | comments   |
|---------------|----------------------------|-----------------|--|
| 31Oct07       | 7Nov07                     | 21Nov07         | Spray on 31Oct07 was last bud burst spray. 15 days to trigger – quite dry & cool     |
| 21Nov07       | 29Nov07                    | 10Dec07         | Spray done on 21 Nov.. the next working day. 12 days to trigger.. wetter and warmer. |
| 10Dec07       | 18Dec07                    | 07Jan08         | Possibly too late to spray now. 19 days to trigger – quite dry.                      |

### Discussion & Conclusions

- Generally quite a dry season with 2 in-season sprays recommended plus a spray in early Jan which could be interpreted as in-season or may be concluded to be too late to be of use.
- Dry season reflected in quite long times to reach trigger levels – typically 10~15 days.
- There was a period of warm, humid weather from 13 Dec through ~16Dec, the 'score' rose by a factor of 6 in this period, so it would have gone from restart to trigger in ~3days. However, this period fell during a 7-day ceasefire following a spray. Thus, this analysis is more a reflection of what could be expected to happen had the spray schedule been followed rather than a complete measure of the season.
- The difference in the outcome of the 'restart 7 days after trigger' and restart 7 days after spray which is first 'possible' day after trigger approaches was not significant in this case.