Fire Blight

Using the Fire Blight Model on WSU DAS

Timothy Smith
Tree Fruit Specialist – Chelan CO.
The WSU DAS Fire Blight Model Does not indicate that Fire Blight WILL occur In your orchard.
The WSU DAS Fire Blight Model compares current weather conditions to those that have led to blight outbreaks in the past.

Flowers
The most common site fire blight bacteria Infect your tree
An E. a. Colony Develops. How Numerous?
Temperatures

The Key Component of a fire blight infection model
Bacteria multiply at a rate governed by TEMPERATURE and RESOURCES (food, moisture) Available at the Current Moment

These are Temperature Risk Value (TRV) Units, NOT “DEGREE HOURS”
CB 2010EZ - Hourly Temperature Risk Values Over 24 Hours

- Cool Day - 73F High
- Warm Day - 82F High
- Hot Day - 88F High

73F TRV = 48
82F = 256
88F = 435

View By Model

Select a model to view output

- Apple Maggot
- Apple Scab
- Codling Moth
- Fire Blight
- Oblique-b...eafroller
- Peach Twig Borer
- San Jose Scale
- Western C...Fruit Fly
Canker

320+ feet

0.75 acre

140 feet
## FIRE BLIGHT INFECTION RISK

*Re: TRV @ Time of Flower Wetting*

<table>
<thead>
<tr>
<th>Potential Pathogen Presence</th>
<th>LOW</th>
<th>ALERT</th>
<th>HIGH</th>
<th>EXTREME</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Blight in Area for Past Season</td>
<td>0-300</td>
<td>301-500</td>
<td>501-800</td>
<td>801 +</td>
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<tr>
<td>Blight in Your or Neighbors' Orchard Last Year</td>
<td>0-100</td>
<td>101-200</td>
<td>201-350</td>
<td>351 +</td>
</tr>
<tr>
<td>Active Blight is Now in Your or Neighbors' Orchard</td>
<td>No low</td>
<td>0-100</td>
<td>101-200</td>
<td>201 +</td>
</tr>
</tbody>
</table>

### Wetting of Flowers

**The “Trigger” to an infection event**
April 26, 2012

CougarBlight FIRE BLIGHT MODEL – 2012
Tri-Cities/Badger Canyon
CB 2012 EZ ver. 5.1

Temperature Risk Value, TRV

EXTREME RISK
HIGH
CAUTION
IF CANKERS

Temperature
Risk Value

Rain

Dark Blue Bars = Rain, Light Blue Bars = Dew

Tim Smith - WSU
Leaf Wetness Sensor Or “Calculated” Dew?

Lower Humidity Here?

Wetness Events
Konnawac Pass

Fire blight Flower Infection Risk

Your Risk Setting:

Fire blight occurred in your neighborhood last year.

Risk rating is High as of Apr 04, 2013

A 2 hour wetness period has happened today (about 2 hours ago)

Numerous serious blight outbreaks have occurred in past years when degree hours near or exceed this threshold and blossoms are wetted by rain, 2+ hours of dew or light irrigation. The risk of severe damage due to infection increases in later stages of primary bloom and petal fall until late bloom is finished, and may return any time that secondary blossoms are numerous. The potential severity of infection is increased for a series of High risk days occur.

Today's Forecasted Data

Today's Current Data as of 9 am

Yesterday's Data

Blaze Rating: High

Risk: 260.37

Bloom: 60.77

Chance of Rain: 0.09

5-10 PM: 0.31

Soil Temp: 63.5°

Sunrise: 7:05 AM

SUNSET: 8:38 PM

1:28 AM

Clouds: 122°

Wind: 0.84 mph

Graph shows calculated and forecasted risk values over time.

Graph includes data from past years to show historical trends.

Graph also includes a forecast for upcoming days to provide early warnings.
Model Status

Calculated and Predicted Temperature Risk Value

Konnorac Pass

Fire blight

Today's Forecasted Data

Risk: 200.27 TRV
Max. Temp: 87°F
Rain: 0.04 in
Chance of Rain: 3%

Today's Current Data as of 9 am

Sunrise: 6:32 am
Sunset: 7:38 pm
Solar Noon: 12:04 pm
<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Precipitation Probability</th>
<th>Snowfall Amount</th>
<th>Precipitation Type</th>
<th>Probability</th>
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<tbody>
<tr>
<td>04 Apr</td>
<td>41%</td>
<td>0.04</td>
<td>Rain</td>
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<tr>
<td>05 Apr</td>
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<td>Freeze</td>
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<tr>
<td>06 Apr</td>
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</tr>
<tr>
<td>07 Apr</td>
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<td>0</td>
<td>Freeze</td>
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<tr>
<td>08 Apr</td>
<td>0%</td>
<td>0</td>
<td>Freeze</td>
<td>0.00</td>
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**Today's Forecasted Data**

- **Today's Current Data as of 9 am:**
  - Temperature: 36°F
  - Humidity: 70%

**Five Highs:**

- Morning: 40°F
- Afternoon: 65°F
- Evening: 50°F
- Night: 35°F

**Konnawage Pass:**

- East: 5°F
- West: 5°F
- North: 5°F
- South: 5°F

**Weather Conditions:**

- High Winds: 25 mph
- Cloud Cover: 60%

** Advisories:**

- High Elevation Advisories
- Low Elevation Advisories

**Action:**

- Check road conditions before driving.
- Use caution when hiking.

**Forecast:**

- Expect a high chance of precipitation today.
- Monitor snowpack levels.

**Highs:**

- Morning: 40°F
- Afternoon: 65°F
- Evening: 50°F
- Night: 35°F

**Lows:**

- Morning: 20°F
- Afternoon: 40°F
- Evening: 30°F
- Night: 20°F
Forcasting Risk
The Most Important Part of a fire blight infection model
<table>
<thead>
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<th>Low</th>
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Rainfall data for the month of April.
High & + Risk

If your orchard had fire blight last year,
Maximum Control Mode:
Biological, Antibiotic, or LSFO?

Copper dormant

Biological, Antibiotic

Bloom

PF

2nd Bloom

Bar = Wet, Dark Blue Rain, Light Blue Dew