



## Vermont Apple IPM News

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### Stage of Development:

2006 Reports of Apple Bud Stage (McIntosh) for Selected Sites				
Date	UVM HRC South Burlington Chittenden Co. Elev. 71 M	Shoreham Addison Co. Elev. 107 M	South Hero Grand Isle Co. Elev. 54M	Dummerston Windham Co. Elev. 171 M
4/01	Dormant / Slight Swelling	Dormant Silver Tip (4/05)	Dormant	Early Silver Tip
4/10	Silver Tip		Silver Tip	Green Tip (4/13)
4/17	Green Tip (GT) 4/13 Half-Inch Green (HIG) 4/19	GT 4/13 HIG 4/19	GT 4/14	GT 4/13 1/4" GT 4/17
4/24	Early Tight Cluster (TC)	TC 4/27	HIG 4/19	Early Tight Cluster (TC)
5/01	TC 4/27	Pink 5/04	TC	Pink 4/29
5/08	Pink 5/05 King Bloom 5/08	King Bloom 5/05 Full Bloom 5/06	Pink 5/06	King Bloom 5/06 Full Bloom 5/08

### Disease Management Update

**Fire Blight** — We are running the MARYBLYT™ fire blight model with the predictive weather information we receive from Skybit at four sites in Vermont. According to the model, the following four requirements have to be met in order for infection to occur:

1. Flowers must be open with stigmas and petals intact.
2. At least 198 degree *hours* when the temperature is greater than 65 have accumulated from first bloom. [This influences the size of the bacterial population on the surface.]
3. Occurrence of either dew or at least 0.01 inch of rain or at least 0.10 inch rain the previous day. [This allows bacterial to move from colonized stigmas to the nectarhodes to initiate infection.]
4. An average daily temperature of at least 60F. [It is thought that temperature influences the rate of bacterial migration into the nectarhodes.]

If all of the above occur, it is predicted that infection will occur. The model assumes that fire blight inoculum is in the orchard.

We ran MARYBLYT™ with Skybit data starting from the report of first bloom from each orchard and fortunately, the model predicted that all four factors had not been met through May 7th at each orchard. Specifically, it was *estimated* that the threshold of 198 degree hours had not been met in any of the orchards. Although we had warm weather at the end of last week, the cooler temperatures knocked down the risk of infection. However, if weather warms up as predicted and we get showers, *there is a high risk that all factors will be met by mid-week*. If you had fire blight last year or have very susceptible cultivars you should be ready to apply streptomycin. As you know, only those blossoms open at the time of application will be protected. Streptomycin can provide control if applied within 24 hours after a wetting event begins. It has to be absorbed so it should not be applied immediately before or during a rain.

If you are interested in calculating the degree hours base 65 F for your own orchard, the following are the guidelines if you have the high, low, and average daily temperature for each day since 1st bloom:

- \*Assume 6 hours at the high temperature
- \*Assume 6 hours at the low temperature
- \*Assume 12 hours at the average temperature

Example: If daily high temperature was 80F, subtract 80-65= 15 multiplied by 6= 90 degree hours. If the low temp was 60 F, 0 degree hours were accumulated because low temp. was below threshold of 65 F. If the average daily temperature was 70, subtract 70-65 = 5 multiplied by 12 = 60 degree hours. For that day, the accumulated degree hours would be 90 + 0 + 60 = 150 degree hours. Sum accum. degree hours for each day since 1st bloom.

**Apple Scab** - Suffice to say we are still in the high risk 'accelerated phase' of ascospore maturation and the multiple days of rain that are predicted for this week will probable turn into infection period(s). Again, check your orchard for lesions; infections from the earliest infection periods should be present (hopefully not !).

### 2006 Degree Day Accumulation for Apple Scab Ascospore Maturity

2006 <b>Estimated Degree-Day</b> Accumulation (Base 32F, from McIntosh Green Tip) for Selected Sites				
	UVM HRC South Burlington Chittenden Co. Elev. 71 M	Shoreham Addison Co. Elev. 107 M	South Hero Grand Isle Co. Elev. 54M	Dummerston Windham Co. Elev. 171 M
Date	04/13 (GT)	04/13 (GT)	04/13 (GT)	04/14(GT)
5/06	427	434	409	461

## 2006 Degree Day Accumulation for Arthropod Pests

2006 <b>Estimated</b> Degree-Day Accumulation (Base 50F, from Jan. 1) for Selected Sites				
Date	UVM HRC South Burlington Chittenden Co. Elev. 71 M	Shoreham Addison Co. Elev. 107 M	South Hero Grand Isle Co. Elev. 54M	Dummerston Windham Co. Elev. 171 M
4/30	92	96	87	133
5/06	133	137	127	171

Degree Day and other weather information received from Skybit E-Weather Service: <http://www.skybit.com/>

### Arthropod 'Events' Based on Degree-Day Accumulation<sup>1</sup>

Pest Event	Estimated DD Base 50 F for Event (from Jan 1)
European Red Mite (ERM) - egg hatch observed	100-168
STLM - 1st generation adult peak flight	113-209
San Jose Scale (SJS) - 1st adult catch	186-324
CM - 1st adult catch	190-330
STLM -1st sap-feeding mines observed	165-317

<sup>1</sup> Source of Estimated DD (Base 50F) for arthropod pest events: 2006 Pest Management Guidelines for Commercial Tree-Fruit Production. A Cornell Cooperative Extension Publication, Table 14: "Degree-day accumulations (from January 1) corresponding to selected fruit phenology and arthropod pest events." <http://www.nysaes.cornell.edu/ent/treefruit/>

**Reminder:** Bloom is the time to place Codling Moth pheromone traps in the orchard.

## **Contact Information**

A Commitment to Excellence and Service:

If you have any questions, please call or write:

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