The University of Vermont
The UVM Apple Program

2024 Vermont Apple Season Highlights

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McIntosh Phenology at
UVM Horticulture Research & Education Center, South Burlington, VT

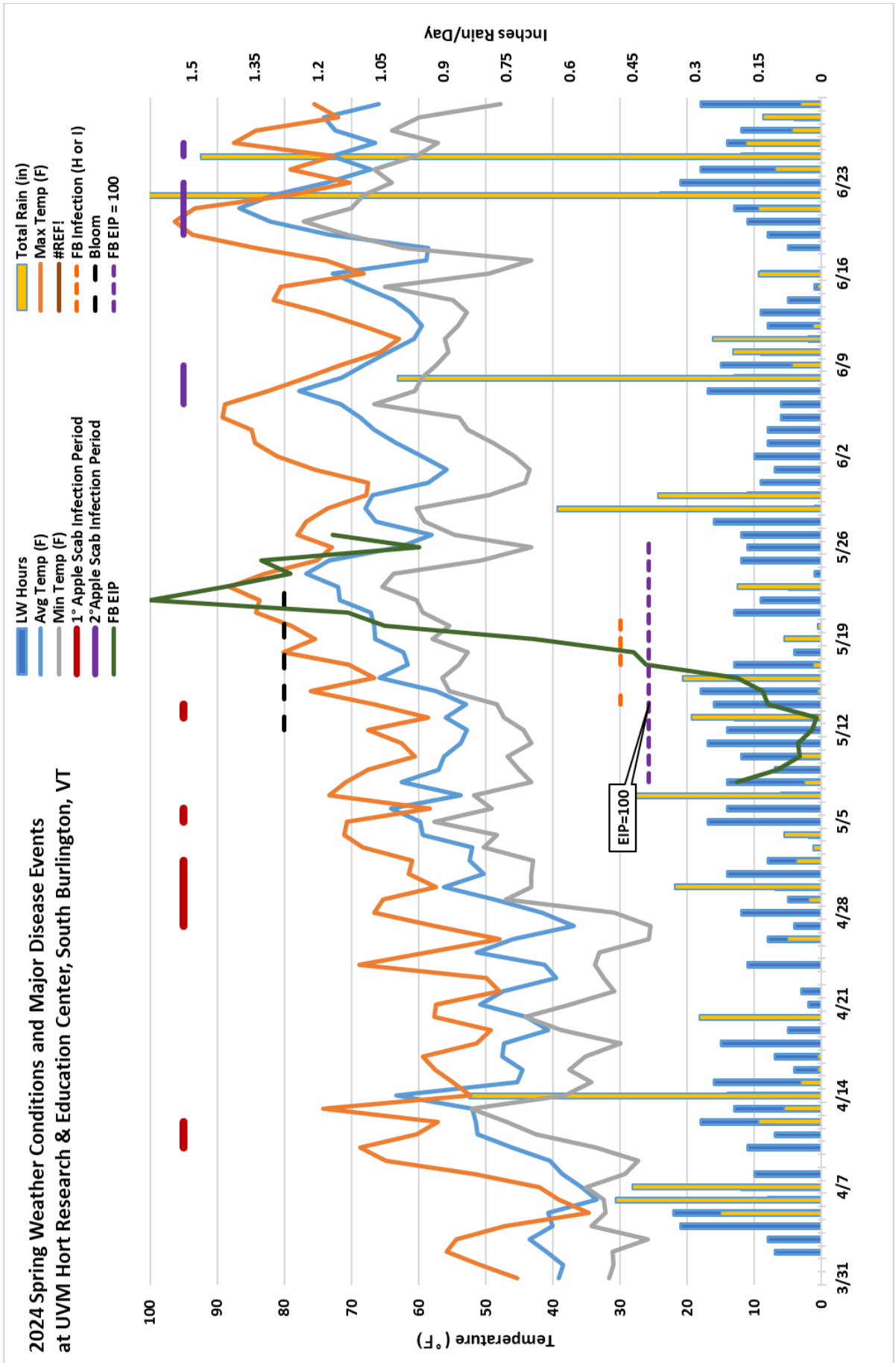
Year	Silver Tip	Green Tip	Half Inch Green	Tight Cluster	Pink	First Bloom	Full Bloom	95% Petal Fall
2024	4/08	4/13	4/20	4/25	5/1	5/10	5/13	5/22

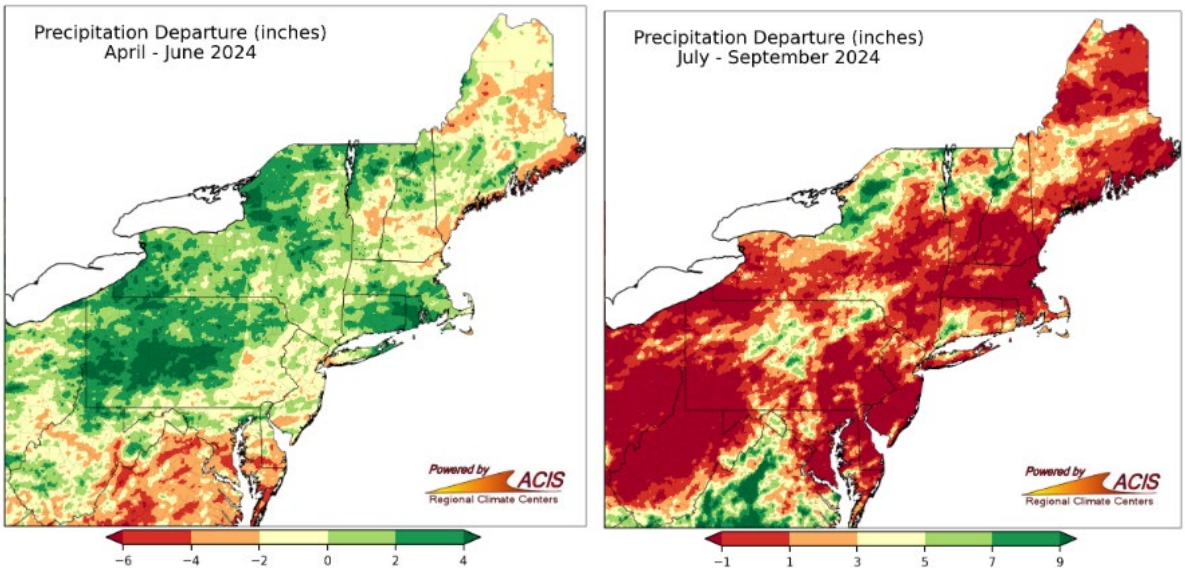
General Weather Conditions - *Weather data collected from Onset RX-2102 weather station at UVM Horticulture Research Center (HREC), South Burlington, VT, and at NEWA-networked stations on grower farms throughout the state.*

Acclimation conditions after the generally poor-to-terrible 2023 harvest (or lack thereof due to widespread frost) were sufficient to allow good hardening off and no substantial early-winter cold events occurred that would be likely to cause tree injury. Winter was relatively mild, with a low of 3°F in late January. Late winter and into spring, temperatures rose gradually and trees budded out right around 'normal'- phenology progressed at nearly the same rate as 2023. A cold snap April 25-26 that saw temperatures in the low 20s across the state affected the few orchards in the Champlain Islands or right on the lake that were unaffected by the 2023 freeze and generally were overcropped last year. One orchard lost 75% of its crop from bud damage two weeks prior to bloom. Bloom started May 10 and was accompanied by dry, sunny, warm weather that turned hot (>80°F) at the tail end. Full bloom on McIntosh occurred at UVM HREC on May 13, which is right on our 28-year average (1997-2024).

Spring precipitation was normal to slightly dry from late April until mid-June, so disease management initially was not a major concern for growers and orchards were easily covered with fungicides. Then in mid-June, the weather pattern turned rainy, with rain nearly every week in most orchards and periods of very heavy rain.

Fall was mild- the UVM HREC saw a light frost October 17 but still has not seen a hard frost. Nights were relatively warm with resulting poor color on McIntosh and similar varieties on large, shaded trees.


2024 Spring Weather Conditions and Major Disease Events
at UVM Hort Research & Education Center, South Burlington, VT
LW Hours
Avg Temp (F)
Min Temp (F)
1° Apple Scab Infection Period
2°Apple Scab Infection Period
FB EIP
Total Rain (in)
Max Temp (F)
#REF!
FB Infection (H or I)
Bloom
FB EIP = 100
EIP=100
Temperature (°F)
Inches Rain/Day
100
90
80
70
60
50
40
30
20
10
0
1.5
1.35
1.2
1.05
0.9
0.75
0.6
0.45
0.3
0.15
0
3/31
4/7
4/14
4/21
4/28
5/5
5/12
5/19
5/26
6/2
6/9
6/16
6/23



Northeast Regional Climate Center precipitation departure maps. Note change in scale in for summer map (right). http://www.nrcc.cornell.edu/regional/monthly/monthly.html

Horticulture Overview

Bloom weather was very good for pollination and fertilization. After the 2023 freeze that affected most of the state, orchards overall were expecting a better than average crop with generally good to great bloom density. Weather during bloom was warm and dry- perfect for pollination and fruit set. Warm weather post-bloom was only decent at best for thinning, but some orchards saw reduced fruit set likely due to the April freeze. Overall, the crop was larger than normal, despite a couple of orchards that had heavy crops in 2023 due to strong lake effect during the freeze having reduced crops in 2024.

Pest Management Overview

Primary Apple Scab Infection Periods:
4/10-14; 4/27-5/2; 5/5; 5/8; 5/11; 5/13-14; 5/17; 5/21; 5/27.

***McIntosh Green Tip Date:** 4/13

Estimated date of 100% Ascospore Release (NEWA): May 27

According to the NEWA apple scab model, primary apple scab season lasted for approximately six weeks in 2024. While nine primary apple scab infection periods were recorded in 2024, overall, scab was well-managed in most orchards. Late-season, secondary scab however was terrible, and growers who started to cut sprays after seeing extensive crop loss from the freeze got behind on sprays. In many orchards, substantial scab inoculum exists that threatens to make 2025 a potentially difficult season.

Fire Blight Blossom Blight Infection Periods at UVM HREC:

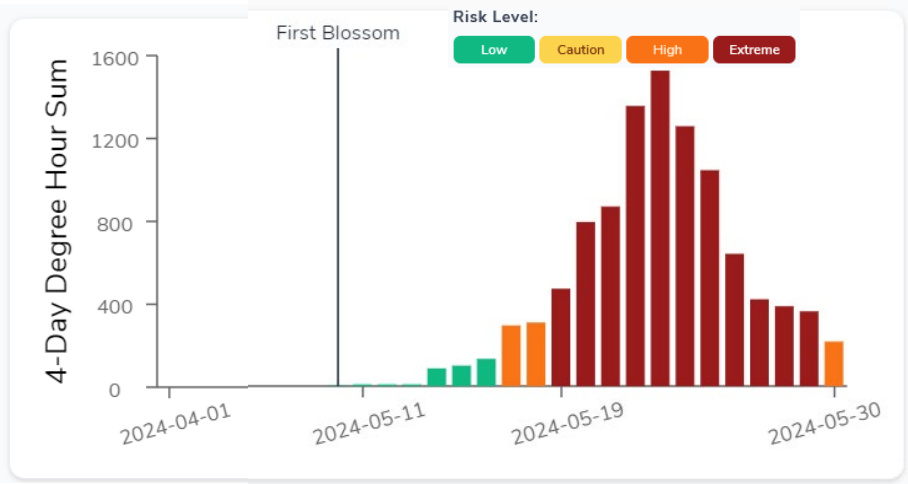
Fire blight conditions during the tail end of bloom were, according to Cougarblight and (NEWA) Maryblyt models, conducive to fire blight infection. Cool temperatures during early bloom prevented substantial buildup of epiphytic infection potential, although a few warm days right around peak-late bloom May 10-12 did allow bacteria populations to increase. However, the weather was dry and with low humidity for that entire week.

Date (2024)	Cougar Blight V8 Daily TRV Risk Levels: Marginal / High / Extreme	Infection Potential EIP value Risk Levels: Low / Moderate / High / Infection
May 8	71	46
May 9	73	24
May 10	43	12
May 11	15	13
May 12	10	5
May 13	21	3
May 14	84	29
May 15	97	32
May 16	129	46
May 17	287	95
May 18	301	102
May 19	461	156
May 20	777	237
May 21	850	257
May 22	1326	308
May 23	1493	324

May 24	1230	288
May 25	1022	304
May 26	626	218
May 27	411	153
May 28	378	138
May 29	354	126
May 30	211	79

NEWA output for fire blight infection potential in South Burlington, VT in May, 2024.

Despite high expected infection risk, according to the models, generally low to moderate fire blight infection was observed in orchards around the state.



NEWA calculated Cougarblight risk levels for fire blight infection, South Burlington, VT, May 2024.

Arthropod Pests

Broadly speaking, insect management was good overall.**Redbanded leafroller** and Oriental **fruit moth** continue to be caught in pheromone traps, but few growers manage for them specifically. **Codling moth** is now widespread in the state and some farms trapped over fifty per week during peak flights. **Apple leafcurling midge** was reported in most orchards. **Apple maggot fly** was caught in very high numbers in many orchards, damage was not hard to find on fruit. **Spotted lanternfly** is present in Vermont but, like **brown marmorated stinkbug**, has still not yet reached worrisome levels. **Obliquebanded leafroller** generally peaked in late-June to mid-July, and are commonly targeted as a primary pest using degree-day models. Many growers are using mating disruption for **dogwood borer**, and many are also making trunk applications of Assail to manage

that pest. Mites, especially **European red mite**, were a problem in some orchards. **San Jose scale** continues to be problematic as growers are using less prebloom oil than once was common