NEWA and 'Real-time IPM': How to make the most of web-based monitoring systems



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NEWA is a knowledge network

- Farmers share weather information through the network, providing feedback and guidance
- Data is collected every 15 minutes and tabulated in hourly and daily summaries
- Precip, temp, RH, leaf wetness, solar radiation, wind
- Land grant universities, grower organizations
- Research & extension faculty support development
- 329 weather stations in 16 states
- Connecticut, Delaware, Iowa, Maryland, Massachusetts, Minnesota, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, Wisconsin







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Via the Home Page Via the Station Page Apple Home Page information Blue Menu

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Weather tools

Climate and weather data Hourly readings Daily summaries Degree days

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Daily summary								Weather Data All Weather Data Hourty Data Daily Summary Degree Days Degree Day Forecasts - M Degree Day Forecasts - M	
Dete	Avg	Max	Min	LW	Total	RH	Avg Wind	Solar Rad	NY Crop Weather
Date	Temp (F)	Temp (F)	Temp (F)	Hours	Rain (in)	Hrs >= 90%	Speed (mph)	(langley)	Climate Center
2/6/2015	5.0	18.9	-14.4		0.00	2	1.4	119	
2/7/2015	11.5	15.7	0.7		0.00	12	1.9	44	
2/8/2013	4.0	1.4	2.0		0.00	10	0.0	2	
2/10/2015	10.1	13.0	0.0		0.00	12	2.1		
2/11/2015	11.3	17.0	-0.0	3	0.00	23	2.0	154	
2/12/2015	14.0	22.5	4 3	2	0.00	10	2.0	131	
2/13/2015	-16	5.0	11.6	õ b	0.00	10	2.4	171	
2/14/2015	43	16.3	-14.4	ŏ			Dor	1 NIV	,
2/15/2015	0.6	7.7	.8.5	0			- Perio	a, 19 I	
2/16/2015	-3.1	8.1	-10.1	0	Dai	N OUD	mon	chow	ing the cold
2/17/2015	-2.0	9.2	-14.9	ō	Dai	iy sun	imary	SHOW	ing the cold
2/18/2015	8.4	23.3	-9.7	ō			· · · · É ·		m O Ath
2/19/2015	10.5	15.0	0.3	ō		snap	on Fe	ebrua	ry 24".
2/20/2015	3.0	12.4	-5.2	0	N.000		49.9	674	
2/21/2015	8.9	19.0	-6.4	0	0.00	5	2.0	171	
2/22/2015	24.1	32.1	15.7	0	0.02	10	3.0	259	
2/23/2015	3.3	25.2	-8.8	0	0.00	0	7.1	351	
2/24/2015	2.4	15.2	-15.6	20	0.00	0	3.2	234	
	100	24.6	0.2		0.00	0	5.0	254	









New & Future Tools

Apple scab & apple insect 5-day forecasts Fire blight – Epiphytic Infection Potential (EIP) calculated Flyspeck & sooty blotch improvements San Jose scale phenology model Degree day calculator & forecasts Chilling hour accumulations Growing degree hour accumulations to predict green tip Bloom phenology estimator Harvest model

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Anecdotes and outcomes

- In a 2007 survey, NEWA users reported they can save, on average, \$19,500 per year in spray costs and prevent, on average, \$264,000 per year in crop loss as a direct result of using NEWA pest forecast models.
- the orchard largely "scab-free" for the first time in several years, the manager depended heavily on NEWA and could see significant differences between their onsite station and the one they had been using.
- use the NEWA site almost every day early in the season.





SCRI grant proposal

Mobile responsive website NWS virtual data weather stations Cloud technology – *You're NEWA* for premium products *Developer Sandbox* for building and testing new tools

> Participate on our grower advisory panel Weigh in on our survey on NEWA You're NEWA blog

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