



Weather INnovations Consulting LP



2013 Growing Season

Lake Erie North Shore Report

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Overview

The 2013 growing season in the Lake Erie North Shore appellation was a more characteristic vintage, following a few consecutive seasons of above-normal heat units. Daytime and nighttime temperatures averaged below normal in early spring and throughout the summer, while above-normal temperatures occurred in late spring and fall. Above-normal rainfall during the summer led to extremely high soil moisture conditions and above-average disease pressure. A warm and dry fall harvest period was a welcome change following the challenges of an extremely wet summer.

All of these attributes are examined in the following report. The 30-year normals used for comparisons in this report were taken from Environment Canada's Kingsville location. The station locations referred to in this report are shown in the following map.

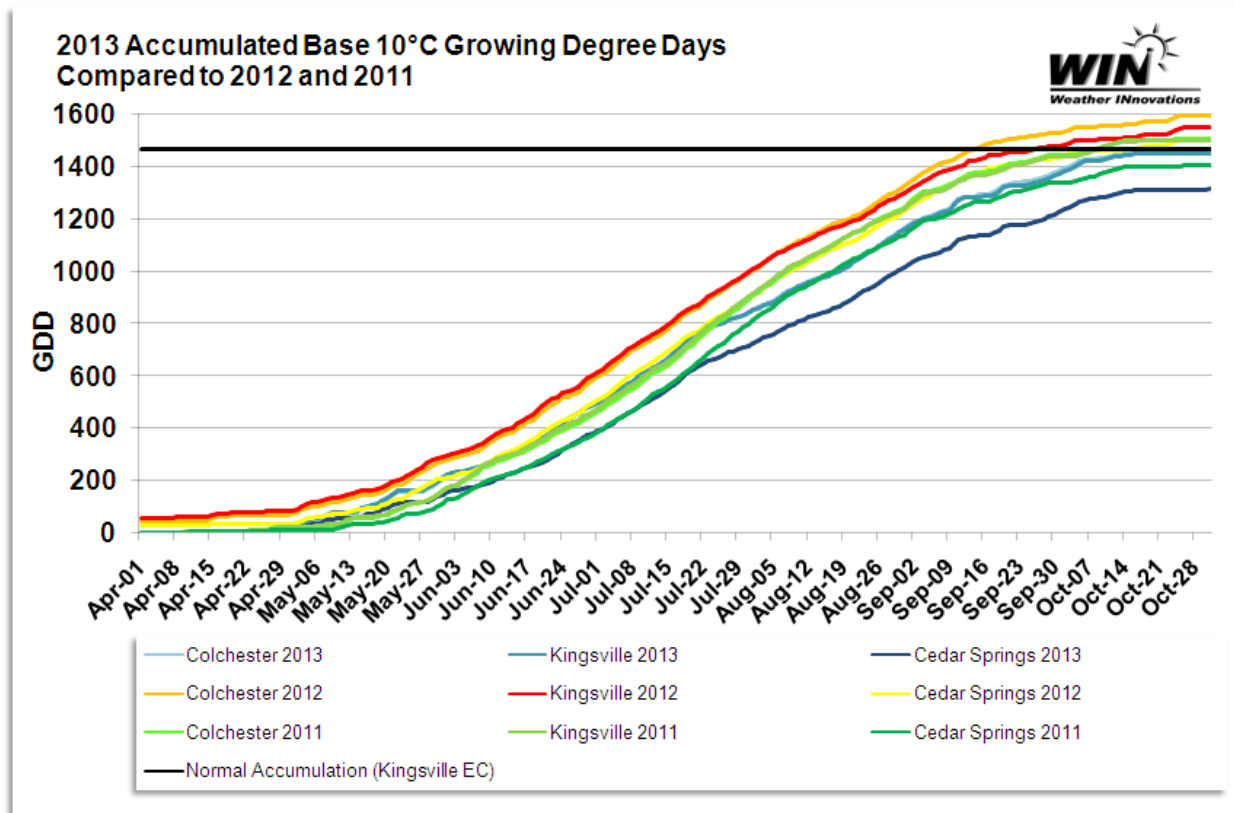


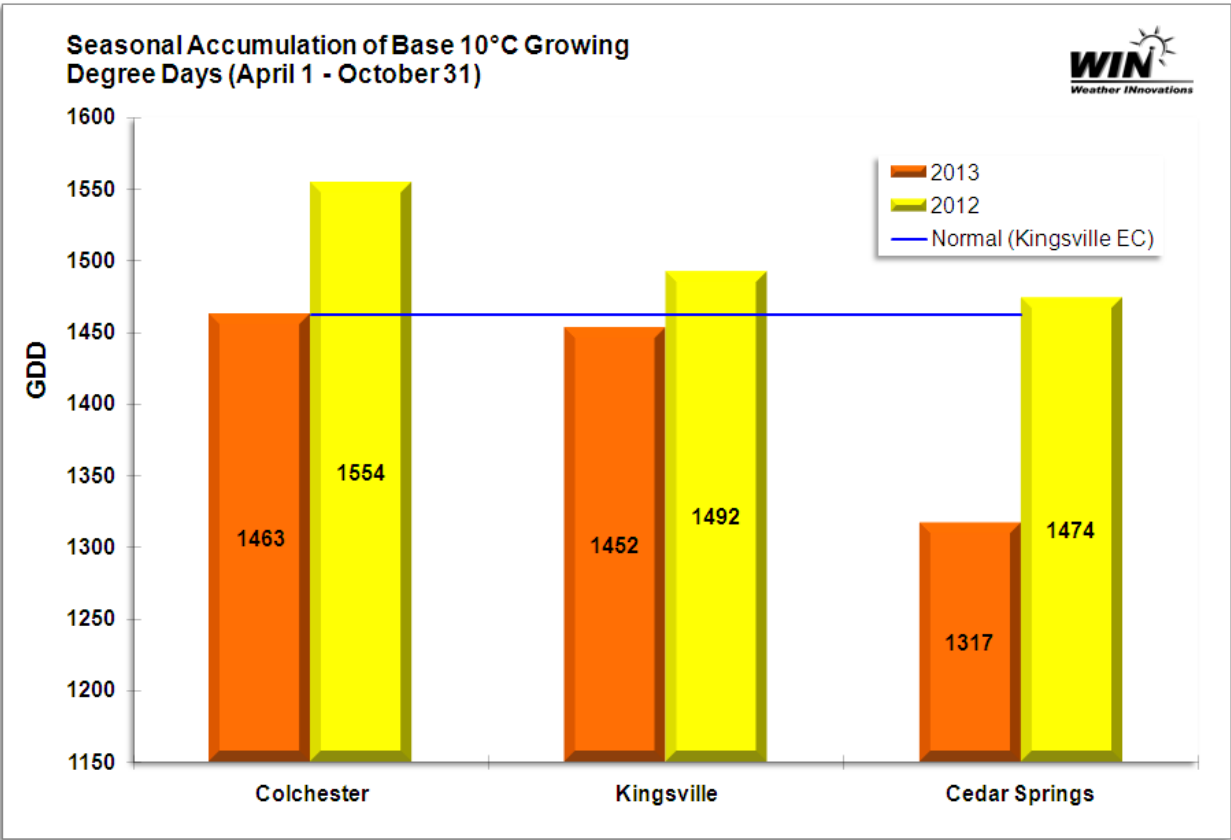
Temperature and Growing Degree Days

Below-normal March and April temperatures resulted in a much slower, but closer-to-normal launch to the growing season, as compared to the previous year. Day-time highs approximately 2°C above normal and overnight lows averaging slightly above normal marked the month of May. June temperatures transitioned to near normal. The first half of July was seasonal, with one extremely hot and humid period between July 15 and 19, where daily maximum temperatures exceeded 30°C. Seasonably cooler temperatures followed, however, and continued into the beginning of August. August and September

transitioned into above-normal daytime temperatures but cool nights; appropriate conditions for ripening grapes. Approximately 1°C above-normal daytime highs and 0.5°C above-normal lows marked the month of October.

The lack of daytime highs exceeding 30°C and the recurring near-normal temperatures throughout a majority of the growing season, led to a steady and near-normal progression of heat unit accumulation. Colchester accumulated the highest seasonal total of 1463 growing degree days. All stations accumulated a near-normal number of days over 30°C, unlike the previous few growing seasons where all stations accumulated over twice as many days over 30°C compared to the seasonal normal. The following graphs illustrate these temperature attributes:





LENS: Average Daily Maximums Compared to Normal (2013)

	Apr	May	June	July	Aug	Sept	Oct
Normal (Kingsville EC)	11.8	18.9	23.8	26.5	25.5	21.6	14.9
Colchester	10.8	21.1	23.5	25.9	25.3	22.3	16.2
Kingsville	10.9	21.2	23.7	26.2	25.5	22.0	15.9
Cedar Springs	9.4	18.6	21.3	24.5	23.9	21.1	16.0

— Normal
 — Above-normal
 — Below-normal

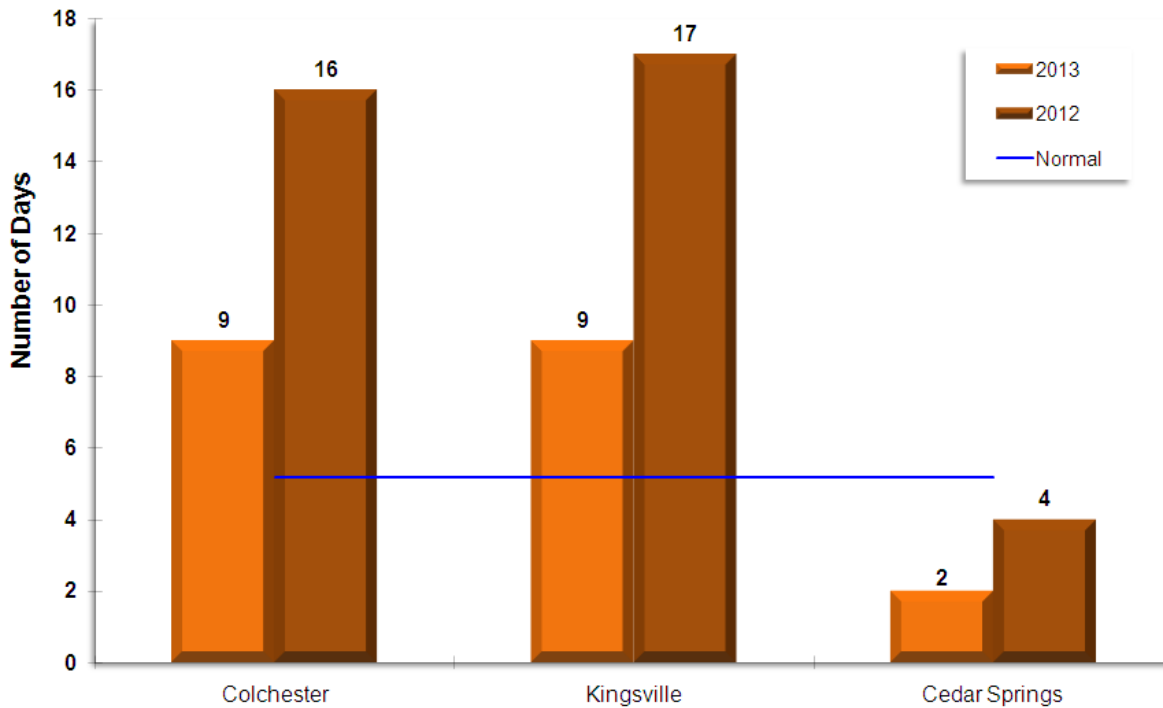
LENS: Average Daily Minimums Compared to Normal (2013)



	Apr	May	June	July	Aug	Sept	Oct
Normal (Kingsville EC)	2.9	9.5	15.1	17.8	16.8	12.9	6.6
Colchester	2.4	10.4	15.4	17.1	15.4	11.8	6.8
Kingsville	1.9	9.9	14.9	16.5	15.1	11.7	6.7
Cedar Springs	1.7	9.0	14.3	17.1	15.5	12.3	7.7

- █ Normal
- █ Above-normal
- █ Below-normal

The Number of Days from Apr-Oct Where Tmax was Greater Than 30°C

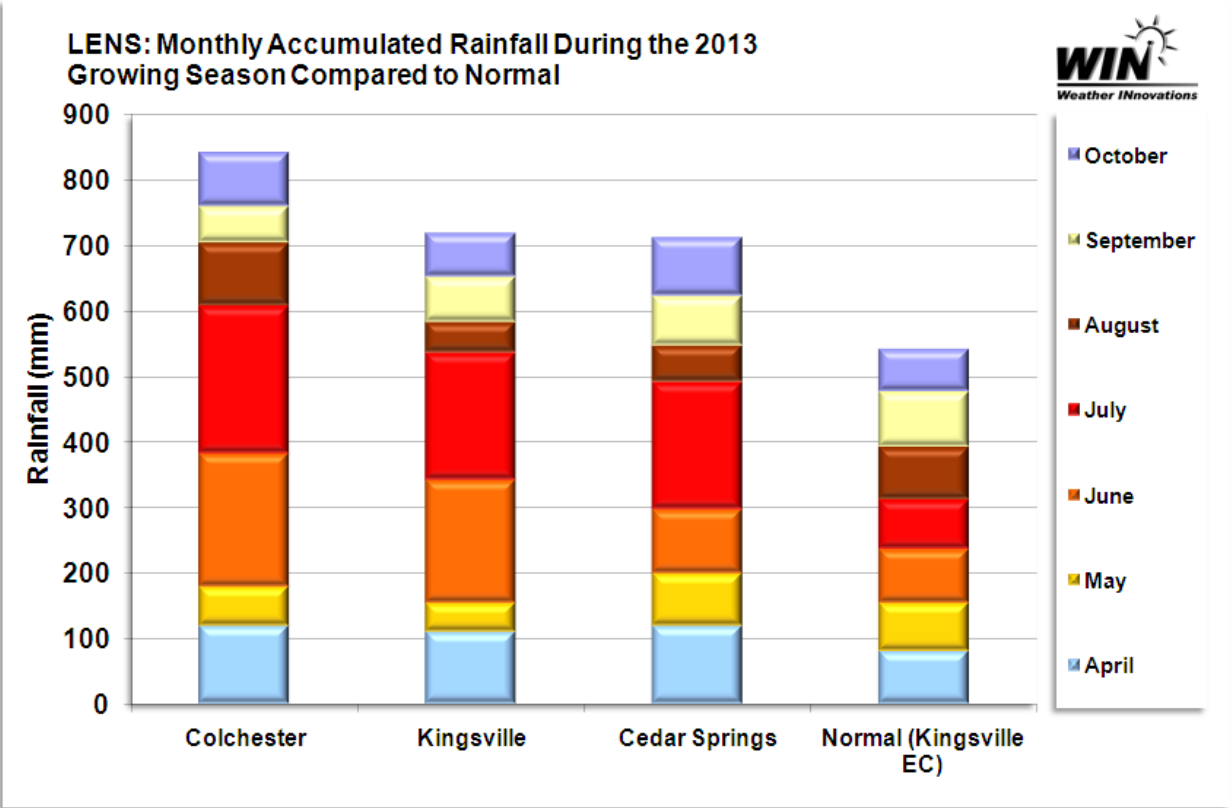
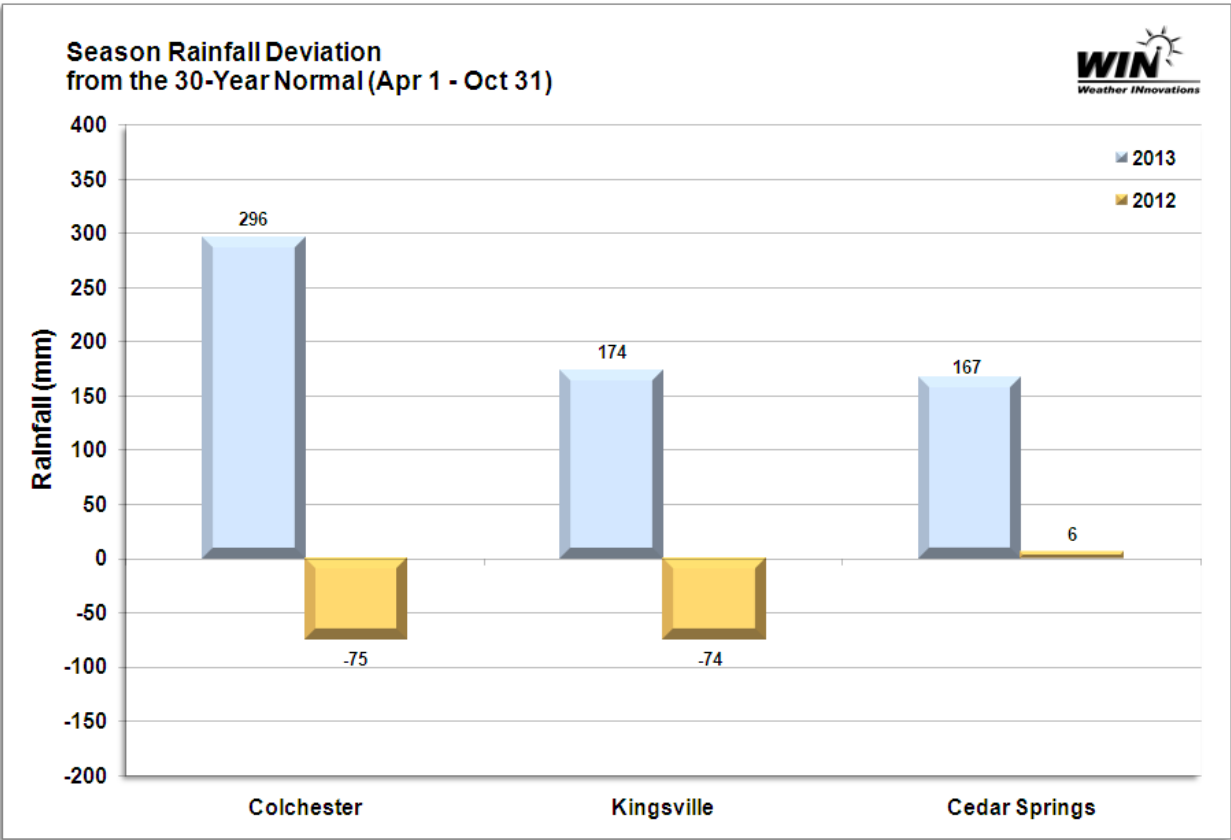


Precipitation

The 2013 growing season can be summarized as having typical spring and fall precipitation, but excessive June and July rainfall. The growing season commenced with 45% above-normal April rainfall. The month of May brought minimal rainfall until the end of the month.

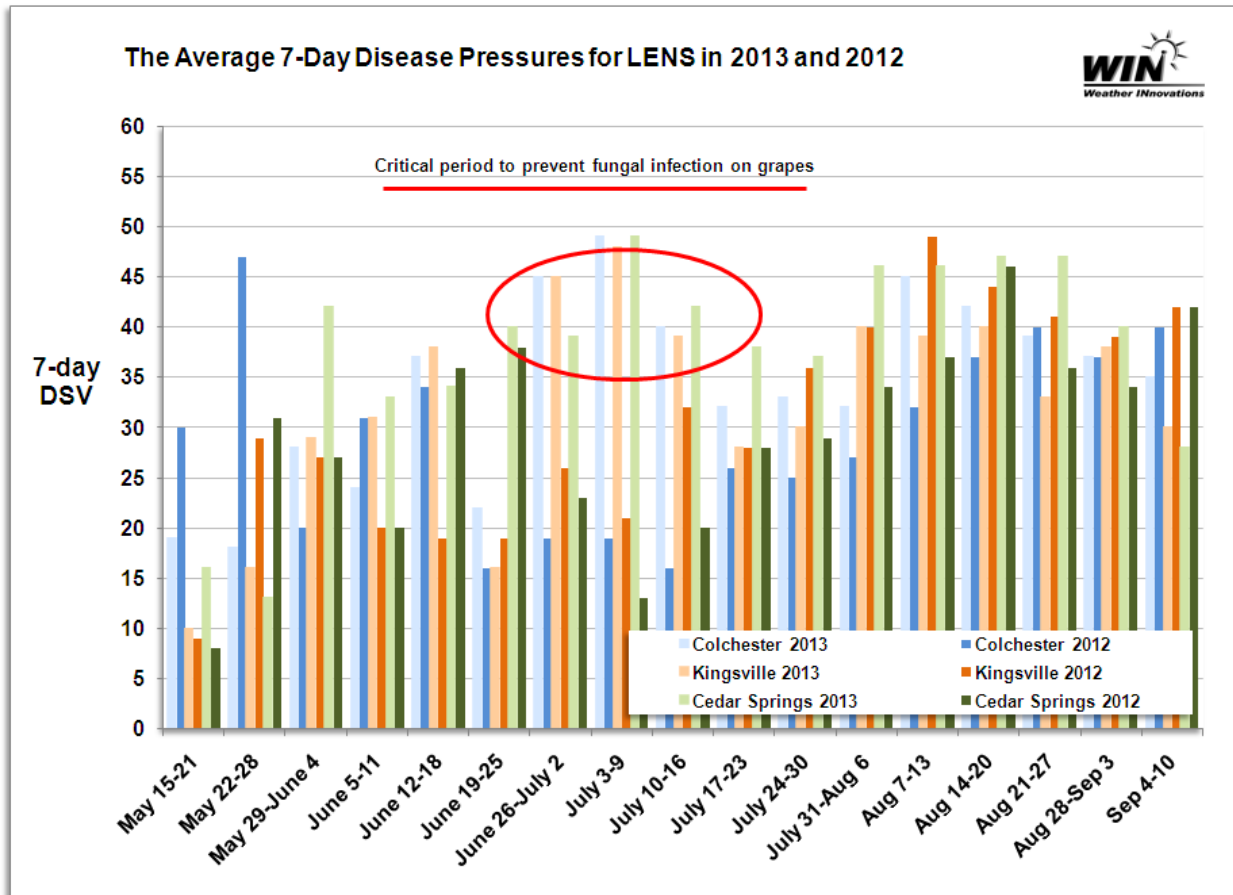
Excessive rainfall continued after May's month-end into June, despite week-long dry periods occurring from June 3-9 and 18-24. As a result, June rainfall equaled a staggering 248% of normal at Colchester, 227% of normal at Kingsville and 118% of normal at Cedar Springs. Likewise, the month of July followed with excessive rainfall, equaling a further staggering 296% of normal at Colchester, 254% of normal at Kingsville and 255% of normal at Cedar Springs! As of the end of July, Colchester had already surpassed the normal rainfall accumulation for the entire growing season, with Kingsville nearly equal to the entire growing season total and Cedar Springs not too far behind.

Below-normal rainfall in August for Kingsville and Cedar Springs was a welcome change, but Colchester continued to see above-normal rainfall. Fortunately, all three locations experienced extensive periods with negligible rain between August 2-11 and 13-26. Below-normal and infrequent rainfall followed in September; in fact, almost three-quarters of the monthly rainfall fell during a single event on September 20-21. The month of October brought 130% of normal rainfall at Colchester, 105% of normal at Kingsville and 138% of normal at Cedar Springs; however, approximately half of the monthly total did not occur until October 31st. Consequently, the 2013 harvest period brought positive attributes following an extremely wet summer. The high June and July rainfall totals led to excess vigour, but also contributed to higher yields. Seasonal rainfall amounts ranged from 167 mm above normal at Cedar Springs, to 296 mm above normal at Colchester.



Disease Pressure

The Lake Erie North Shore appellation experienced high seasonal disease pressure as compared to the 2012 growing season. The graph below shows that the majority of June and July were the most critical periods for keeping a tight spray schedule to reduce the chances of infection on the fruit. These periods had a high accumulation of disease severity values. In particular, June 26 to July 16 show significantly higher disease pressure as compared to 2012 and overall.



Conclusion

The 2013 growing season was a reminder of an average heat unit growing season. The growing degree day accumulation was close to normal but behind growing seasons in recent memory. Near-normal daytime temperatures prevailed on the whole, with cooler-than-normal overnight temperatures. Typical precipitation occurred throughout the spring and fall but the summer months experienced well-above normal rainfall. A seasonably warm and drier-than-normal fall harvest period was a welcome sight and a pleasant end to the growing season following the challenges of a wet summer.

Contact Us

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