



## Severn Sound Environmental Association

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### **2021 Crop Heat Units and Rainfall Weather Stations Data Summary Monpiero Farms, Lafontaine and Water/Wastewater Operations Facility Midland**

November 26, 2021

Crop Heat Units (CHU) are a method to quantify the effect of temperature on crop development. The 2021 results for Crop Heat Units and rainfall were processed by the Severn Sound Environmental Association (SSEA) using data compiled from the weather stations located at Monpiero Farms, in Lafontaine and the Water and Wastewater Operations Facility in Midland, Ontario. Using daily maximum and minimum temperatures, CHU accumulation was calculated by following Ontario's Ministry of Agriculture, Food and Rural Affairs, Agronomy Guide for Field Crops.

The 2021 CHU results for the Lafontaine station showed an increase compared with 2020, from May through to November. Overall a higher CHU accumulation for the growing season, totalling 3096, was calculated with a higher year end total than in 2020. Based on the data, the first killing frost in 2021 occurred on November 16, two weeks later than 2020 and four weeks later than 2019.

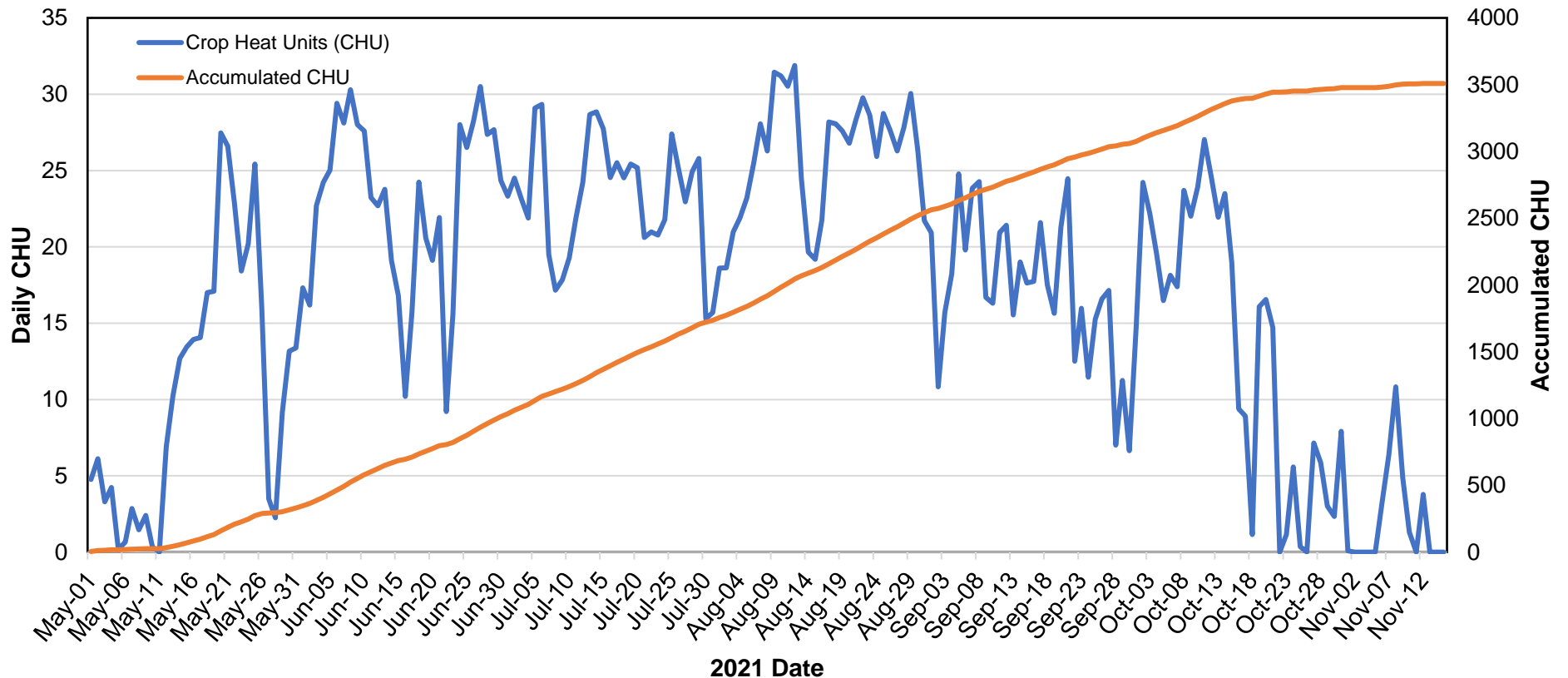
The 2021 accumulated CHU results for the Midland Station are 3136 CHUs with the first killing frost occurring on November 21. A year over year comparisons will be available in 2022, the second full year of the ADCON equipped station in Midland.

Both weather station locations recorded similar rainfall results for 2021. From May to the end of October the data shows long periods with little to no rainfall, resulting in a dry spring season. Significant rainfall events occurred spontaneously on June 26<sup>th</sup> and September 22<sup>nd</sup>, producing as much as 81 mm of rain in 24 hours in the September event. Over the ice free season 2021 saw an increase in total rainfall compared to 2020.

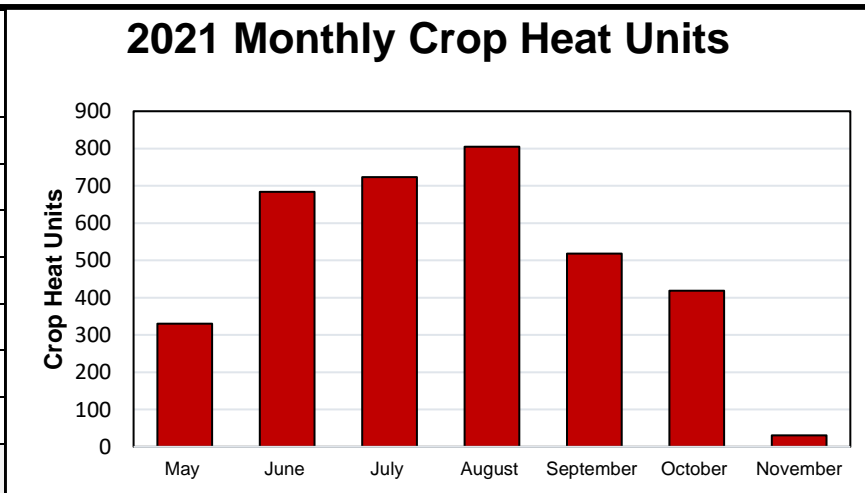
2021 is the final year for the Davis weather station equipment located at Monpiero Farms. The station has been relocated to a nearby Township of Tiny municipal property where a new ADCON equipped weather station was installed in October. Yearly summary results from the new station will be reported in the fall of 2022. Special Thanks to Pierre Paul Maurice for hosting the Davis station at Monpiero Farms for the past nine years.

For more information: <https://www.severnsound.ca/programs-projects/monitoring/weather-stations>  
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# 2021 Crop Heat Units at Monpiero Farms, Lafontaine Ontario



Month	Monthly Crop Heat Units
May	330
June	684
July	723
August	805
September	518
October	419
November	31
<b>Total</b>	<b>3096</b>

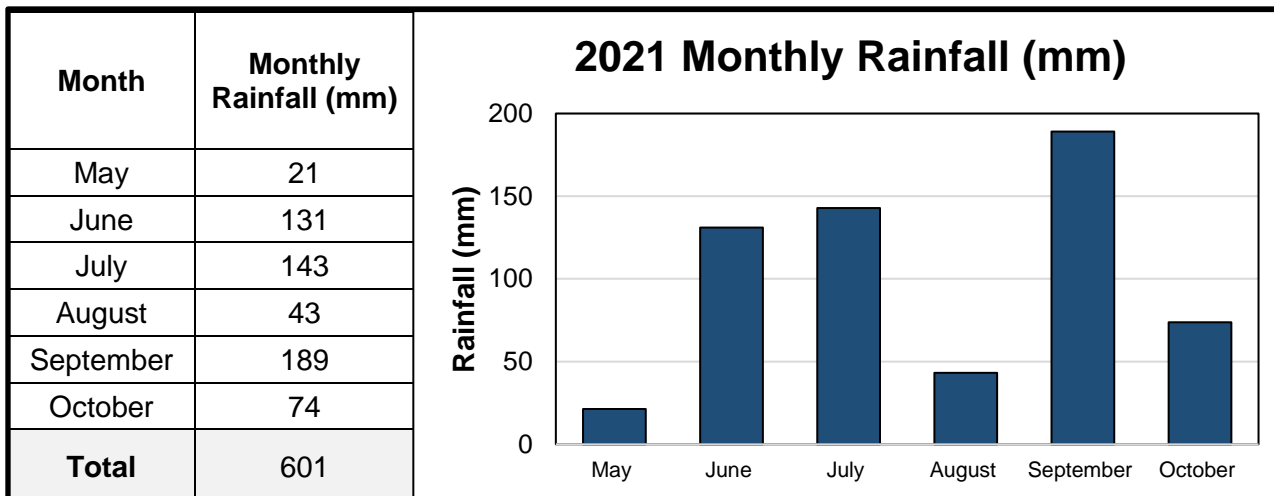
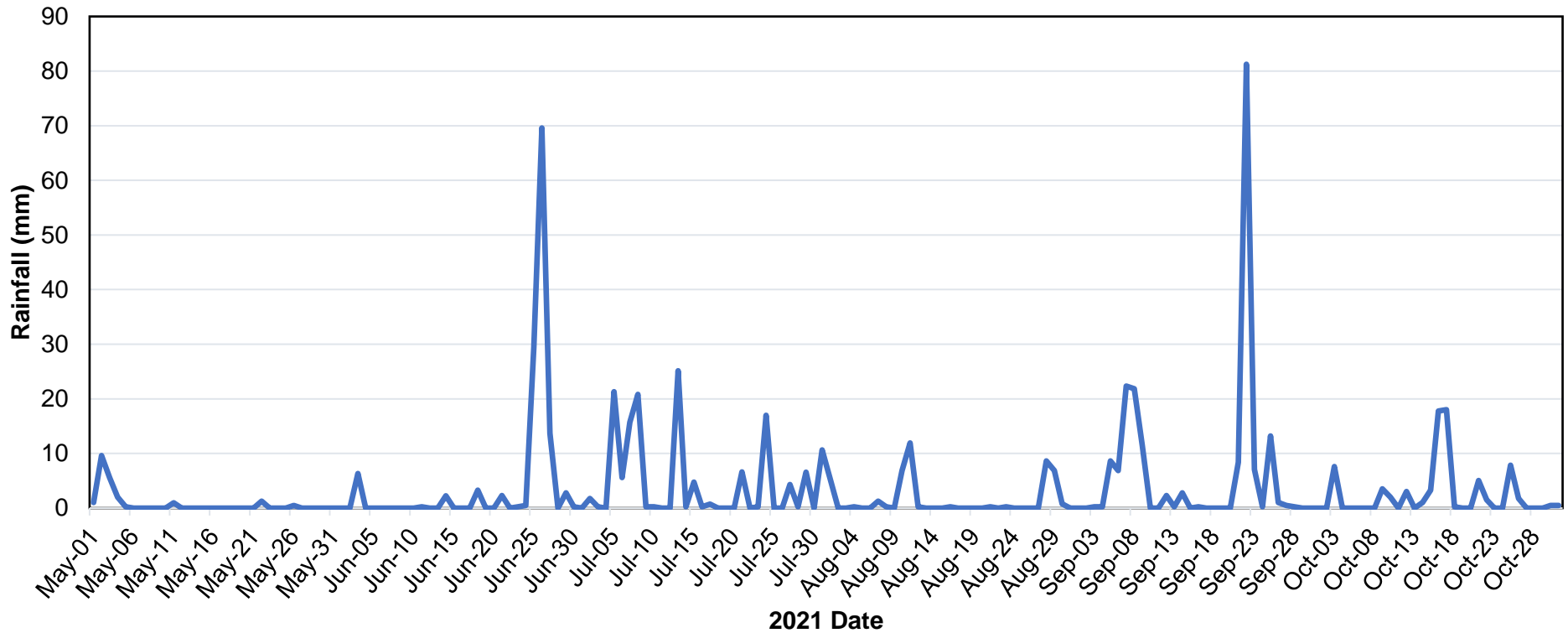


Crop Heat Unit calculations were based on Daily Max. and Min. Air Temperatures collected in Lafontaine, at the Monpiero Farm, using a Davis Vantage Pro 2 weather station. Data from May 1 to November 16, 2021 (first occurrence of -2°C or lower) was used to compile the results. The calculation method can be found at: <http://www.omafra.gov.on.ca/english/crops/pub811/pub811ch10.pdf> (Page 254)

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## 2021 Daily Rainfall at Monpiero Farms, Lafontaine Ontario

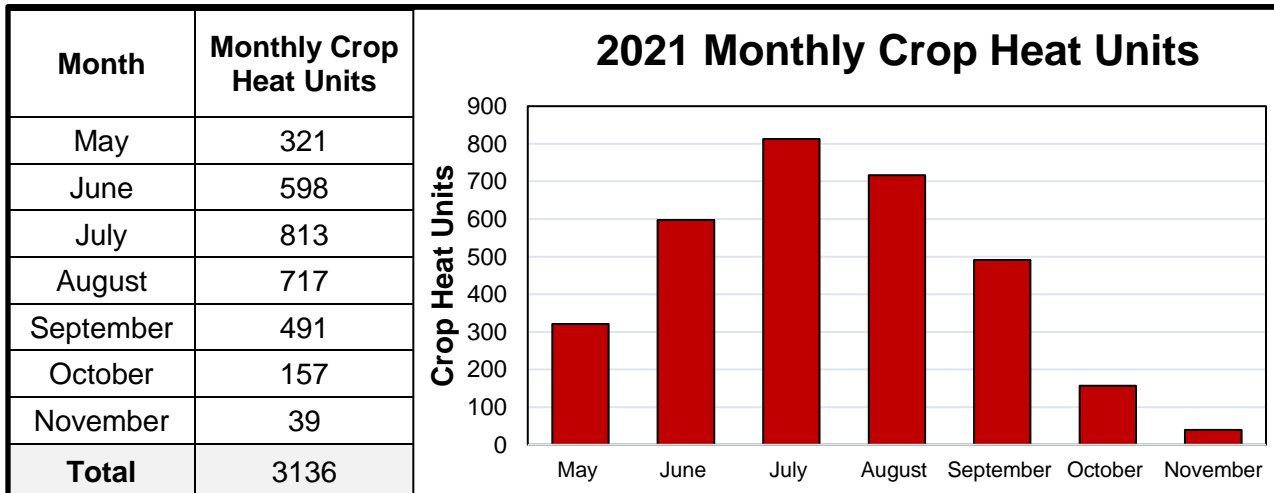
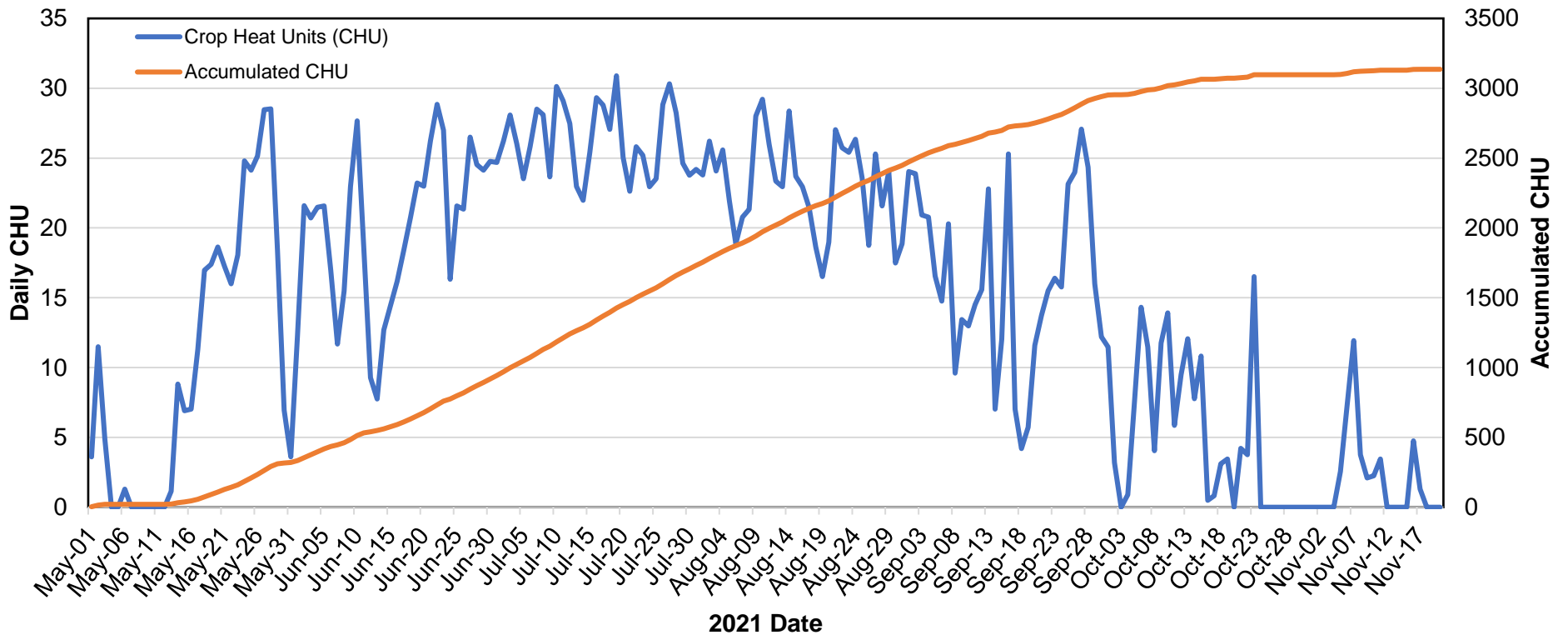


Rainfall amounts were based on continuous measurements recorded at the Lafontaine Ontario, Monpiero Farms, using a Davis Vantage Pro 2 weather station equipped with a tipping bucket rain gauge. Data from May 1 to October 31, 2021 was used to compile the results.

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# 2021 Crop Heat Units Water and Wastewater Operations Facility, Midland Ontario



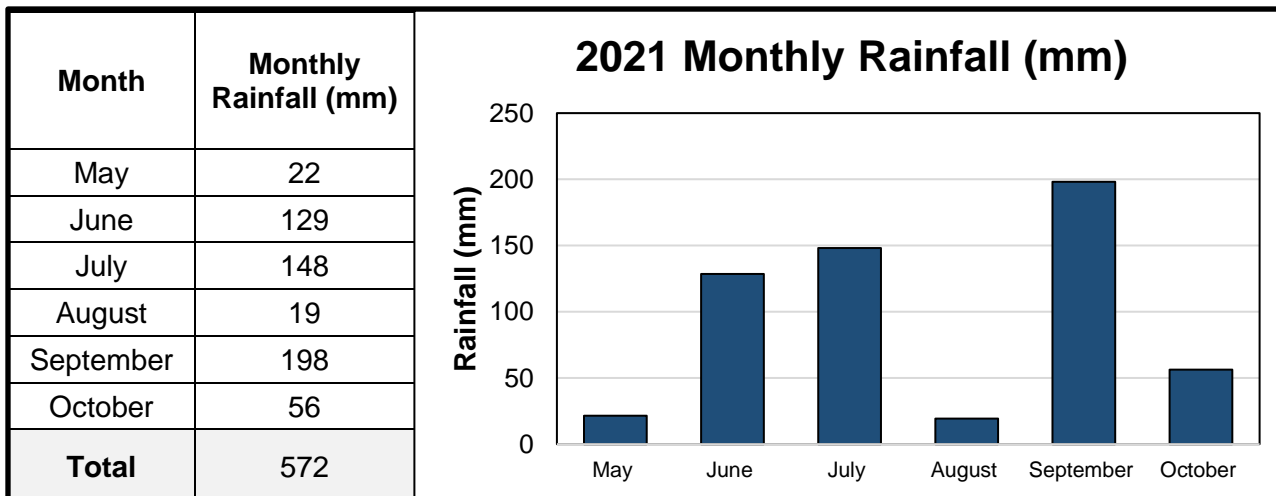
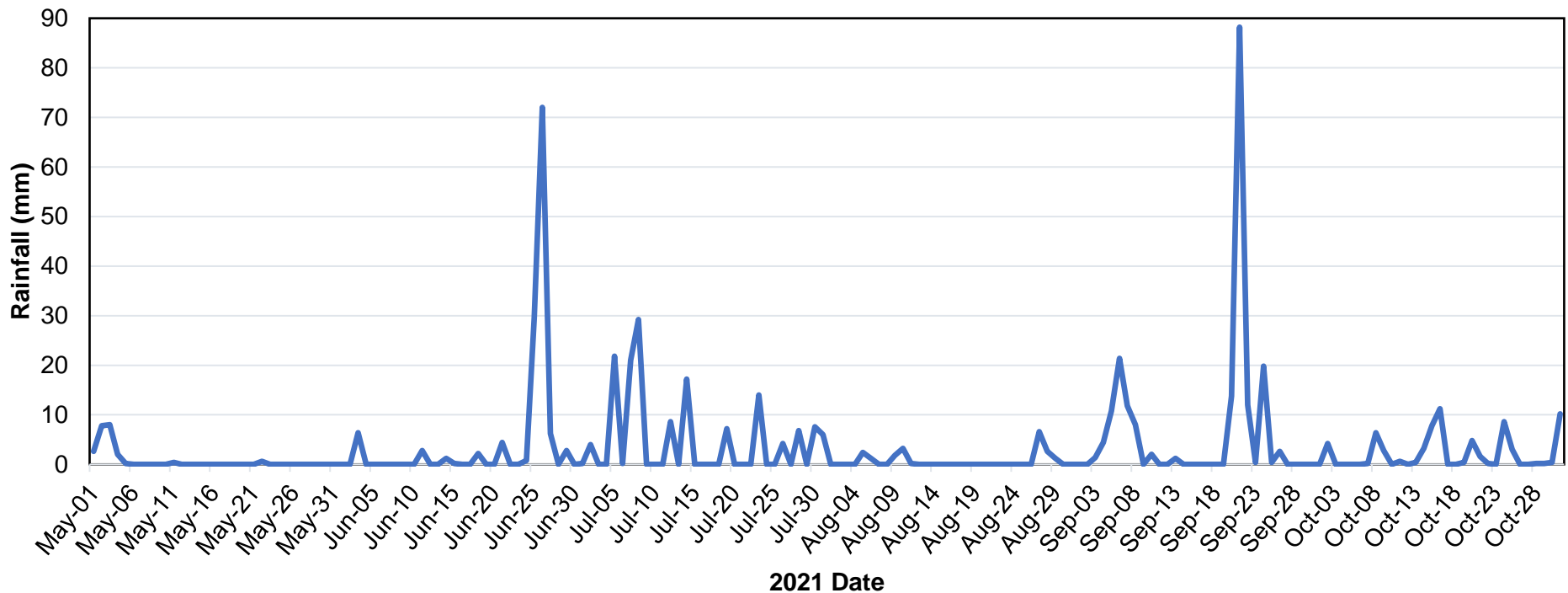
Crop Heat Unit calculations were based on Daily Max. and Min. Air Temperatures collected in Midland, at the Water and Wastewater Operations Facility, using an ADCON weather station. Data from May 1 to November 21, 2021 (first occurrence of -2°C or lower) was used to compile the results. The calculation method can be found at:

<http://www.omafra.gov.on.ca/english/crops/pub811/pub811ch10.pdf> (Page 254)

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## 2021 Daily Rainfall at the Water and Wastewater Operations Facility, Midland Ontario



Rainfall amounts were based on continuous measurements recorded at the Midland, Ontario, Water and Wastewater Operations Facility, using an ADCON weather station equipped with a tipping bucket rain gauge. Data from May 1 to October 31, 2021 was used to compile the results.

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