2019

Ontario Hybrid Corn Performance Trials

Data collected 2018-2019

Conducted by the Ontario Corn Committee • www.gocorn.net

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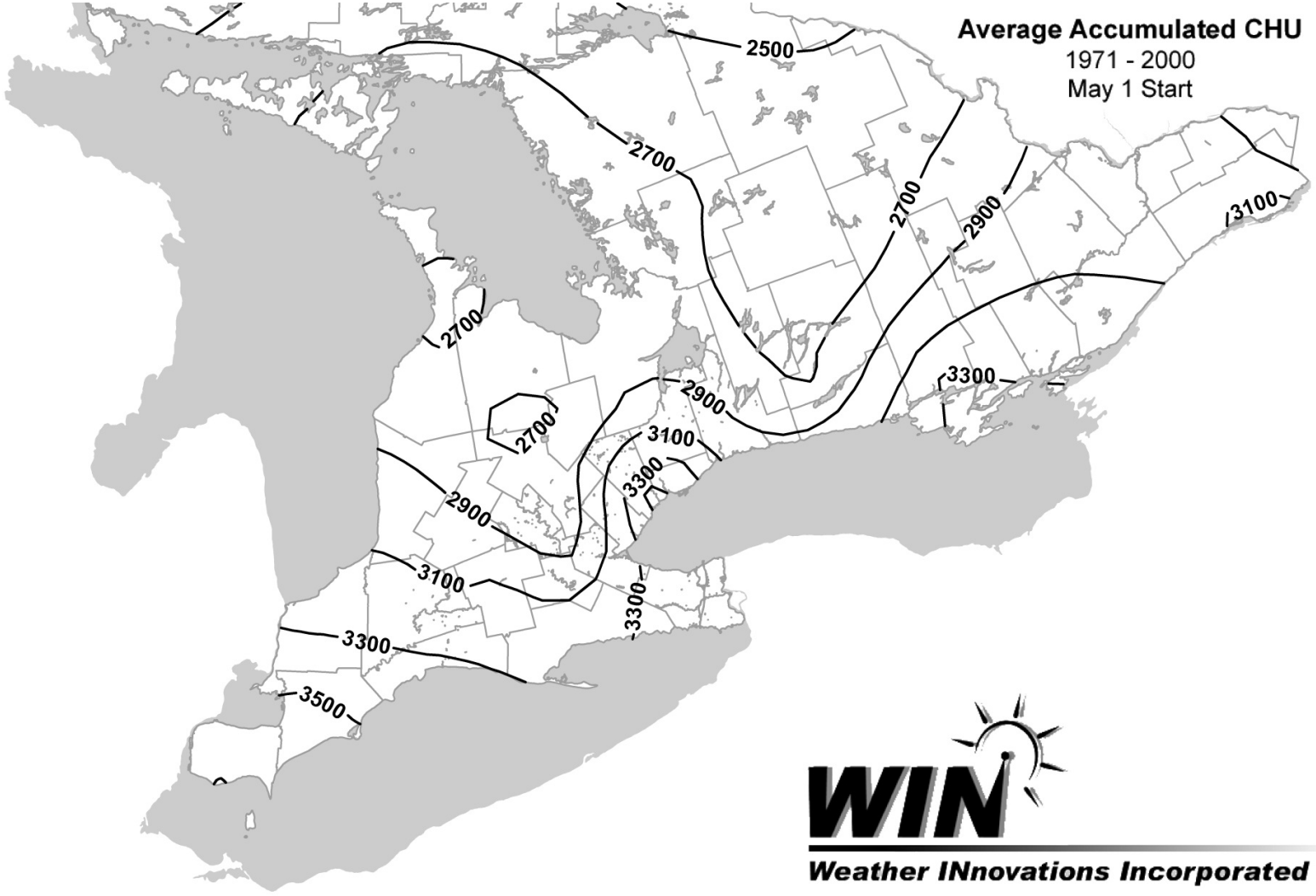
PDF files of this report
Sortable on-line tables
Yield x Moisture Content

Heat Units Available for Corn Production in Ontario



Notes: Corn Heat Unit ratings for all areas of the province are based on the average heat unit accumulation for the period from May 1 to the date in the fall when the long-term average daily temperature falls below 12°C or an occurrence of -2°C, whichever comes first.

ONTARIO CORN COMMITTEE

The ONTARIO CORN COMMITTEE is made up of representatives of Agriculture and Agri Food Canada, the Ontario Ministry of Agriculture, Food and Rural Affairs, the University of Guelph, the Ontario Soil and Crop Improvement Association, the Grain Farmers of Ontario and the Canadian Seed Trade Association. Hybrid Performance trials are conducted each year by the following cooperating agencies:

Ridgetown Campus, University of Guelph;

Plant Agriculture Department, University of Guelph;

Winchester Research Station, University of Guelph,

Kent Ag Research Inc.,

Agriculture and Agri-Food Canada at Ottawa.

TESTING METHODS

Hybrids entered in the Hybrid Corn Performance Trials are selected by the seed companies. A testing fee is charged per hybrid per replication. A hybrid must be entered in all trials within a table.

In each trial, hybrids are replicated in a suitable experimental design. Trials are machine planted with an excess of seed and thinned at an early growth stage to obtain a uniform population. A row width of 30 inches is used in all trials. Plots consist of four rows of which the middle two rows are harvested for yield. Fertilizer rates may be higher than those recommended by OMAF to compensate for any variability in soil nutrient supply.

Most of the hybrids entered in the trials were treated with a seed treatment to control soil insects. Hybrids that were not treated with are not identified in the report. There was no significant damage from soil insects at any of the locations.

To determine the percentage of lodged plant, a count is made, immediately before harvest, of all plants broken below the ear and all plants which are leaning such that the ear is in the adjacent row or is otherwise unharvestable.

The moisture percentage of the grain is measured at harvest time. The weight of grain harvested from each plot is determined and the yield of shelled corn is calculated at 15% moisture. Test weights are recorded either during harvest, using combine-mounted monitoring equipment, or in the laboratory, using accepted procedures.

DUPLICATION OF THIS REPORT:

For further information, contact

The Secretary, Ontario Corn Committee,

109 Maple Ridge Road, R. R. # 2,

Owen Sound, Ontario N4K 5N4.

INTERPRETATION OF RESULTS

Index - The index in the tables indicates a percent of the average of all hybrids included in the trial(s). Index figures above 100 reflect the percentage by which a hybrid is above the average, whereas index figures below 100 show the percent below average. Small differences in index (i.e. less than the LSD shown at the bottom of the table) are not significant. When a hybrid consistently has a higher index over two years, this difference is probably real and should be considered when choosing a hybrid.

Hybrid selection should be based on the most data available. Greater emphasis should be put on averages from several locations and years because these provide a more accurate prediction of future performance than do single location results.

The average yield for each table is given in bushels per acre. You can calculate the actual yield for a hybrid by multiplying the average yield times its yield index and dividing by 100.

The average test weight is given in kg/hl (kilograms per hectoliter). You can calculate the actual test weight of a hybrid by multiplying the average test weight times its test weight index and dividing by 100.

Within each table, hybrids are identified by brand and/or hybrid number or name. Hybrids are listed in approximate order of maturity based on heat unit ratings provided by the companies.

Corn Heat Units - Ratings for all areas of the province are based on the average heat unit accumulation for the period from May 1 to the date in the fall when the long-term average daily temperature falls below 12° C or an occurrence of -2° C, whichever comes first. Hybrid heat unit ratings have been assigned by the sponsoring company.

% Lodging - "Lodged Plants" includes plants with stalks that are broken below the ear and plants leaning such that the ear is in the adjacent row or otherwise unharvestable. Because all hybrids in a trial are harvested on the same date, the early hybrids within each table tend to show a greater amount of stalk breakage than do later hybrids. Stalk strength should be compared only with hybrids of the same maturity.

% Moisture - The accuracy of moisture measurement decreases as moisture content increases. Results for hybrids with very high moisture contents should be interpreted with caution.

LSD (0.10) - The LSD is a measure of variability within the trial. There is a ninety percent probability that yield indices that differ by an amount greater than the LSD are different. Yield indices that differ by an amount less than or equal to the LSD should be considered to be equal. For example, if the LSD is 10, two hybrids with yield indexes of 110 and 101 should be considered to be equal.

Managing Bt Corn - When using Bt corn, it is imperative that a refuge area of non-Bt corn be planted near the Bt corn to reduce the risk of developing insect resistance to Bt. A list of potential refuge hybrids and information related to the practices that must be followed to comply with current regulations can be obtained from the Canadian Corn Refuge Hybrid Selector at www.refugeselector.ca

Explanation of Codes for Special Genetic Traits

Code	GM Traits
0	Conventional Hybrid
3	YieldGard VT Triple
4	Roundup Ready Corn 2
6	Genuity VT Double PRO
7	Genuity VT Triple PRO
8	Dow AgroSciences SmartStax or Genuity SmartStax
10	Herculex I with Roundup Ready Corn 2
12	Herculex XTRA with Roundup Ready Corn 2
14	Agrisure GT
18	Agrisure 3000GT or Agrisure 3011
19	Agrisure GT/CB/LL or Agrisure 3010
20	Agrisure Viptera 3111
21	Agrisure Artesian 3011A
22	Agrisure 3110
23	Optimum AcreMax
24	Optimum AcreMax Xtreme
25	Optimum AcreMax Xtra
26	Agrisure 3122
27	Agrisure Viptera 3220
28	Agrisure 3120
29	PowerCore
30	PowerCore Enlist
31	SmartStax Enlist
32	Trecepta

Notes:
The Ontario Corn Committee does not assess hybrids for Special Genetic Traits. Hybrid descriptions are based on information received from corn companies, as of November 2019. Although the Ontario Corn Committee believes the information contained in this report is accurate, growers are advised to consult dealers of the respective hybrids and products before making purchasing or management decisions. All hybrids included in this report have been fully approved for food and feed use in Canada and the United States. However, a number have not been approved for use in the European Union. Corn harvested from these non-EU approved hybrids must be delivered to a market that will not ship the grain or its processed products to Europe. For more information, contact your seed supplier. Information regarding the genetic traits carried by all commercially available hybrids and their acceptability for export can also be obtained from the Canadian Seed Trade Association's "List of Corn Hybrids Commercially Available in Canada" at http://cdnseed.org/list-of-corn-hybrids

Explanation of Seed Treatment Codes

	Seed Treatments
-	No Treatment
A	Acceleron 250
C	Cruiser Maxx 250
F	Fortenza
L	Lumivia
P	Poncho 250
P5	Poncho 500

Seed Corn Companies

Brand or Identification	Company	Address of Canadian Sponsor	Telephone
Brevant	Corteva Agriscience	7398 Queen's Line, PO Box 730, Chatham, ON N7M 5L1	1 800 265 9435
Country Farm	Country Farm Seeds Ltd.	Box 790, Blenheim, ON N0P 1A0	1-800-449-3990
CROPLAN	WinField United	62 rue de l'Eglise, app 3, McMasterville (QC), QC J3G1G3	1-514-220-9625
De Dell	De Dell Seeds Inc	7095 Century Drive, Melbourne, ON N0L 1T0	1-519-264-2676
DEKALB	Monsanto Canada Inc.	900 - One Research Road, Winnipeg, MB R3T 6E3	1-800-667-4944
DLF PICKSEED	DLF Pickseed Canada Inc.	1 Greenfield Road, Lindsay, ON K9V 4S3	1-705-878-9240
Horizon	Horizon Seeds Canada Inc.	531 Bostwick Rd., Courtland, ON N0J 1E0	1-519-842-5538
Legend Seeds	Seed Solutions Inc	421 Centennial Rd, Lansdowne, ON K0E 1L0	1-613-659-4747
Maizex	Maizex Seeds Inc.	4488 Mint Line, R.R.#2, Tilbury, ON N0P 2L0	1-877-682-1720
NK Brand	Syngenta Seeds Inc.	15910 Medway Rd., R.R.#1, Arva, ON N0M 1C0	1-800-756-SEED
Pioneer	Pioneer Hi-Bred Canada Comp	Box 730, 7398 Queens Line, Chatham, ON N7M 5L1	1-800-265-9435
PRIDE Seeds	AgReliant Genetics Inc.	PO Box 1088, 6836 Pain Court Line, Chatham, ON N7M 5L6	1-519-354-3210
Saatbau	Saatbau Linz	201 rue st louis . 412, St Jean sur richelie, QC J3B 1X9	1-514-609-0881

2019 Trial Locations and General Information - Ontario Hybrid Corn Performance Trials

Location	See Table Number	Heat Unit Rating	5 Year Heat Unit Average [1]	2019 CHU Total [2]	Soil Type	Co-operator	Final plants per acre [3]	Date planted [4]	Date Harvested
Orangeville	1	2700	2936	2798	Sandy Loam	Timstar Farms Ltd.	34000	May 18	Nov 06
Dundalk	1	2600	2632	2474	Sandy Loam	Leo Blydorp	34000	May 18	Nov 05
Elora	2	2800	3054	2803	Silt Loam	University of Guelph	34000	May 21	Oct 29
Port Hope T2	2	2800	N/A	N/A	Sandy Loam	Bruce Hendry	Discarded - extreme lodging		
Winchester T2	2	3000	N/A	N/A	silt loam	Winchester Ag. Research Station	34000	May 07	Nov 13
Wingham	2	2800	N/A	2630	Silt Loam	Rob Warwick	34000	May 16	Nov 18
Bainsville	3E	3000	N/A	N/A	Clay Loam	Rob McDonald	Discarded - did not mature		
Ottawa	3E	3000	N/A	2829	Sandy loam	Agriclture and Agri-Food,ORDC	Discarded - summer drought		
Winchester	3E	3000	N/A	N/A	silt loam	Winchester Ag. Research Station	34000	May 22	Nov 16
Blyth	3W	3000	3091	2902	Silt Loam	Peter Heinrich	34000	May 16	Nov 19
Port Hope	3W	3000	N/A	N/A	Sandy Loam	Bruce Hendry	Discarded - extreme lodging		
Waterloo	3W	2900	3212	2755	Sandy Loam	Rosendale Farms Ltd	34000	May 17	Nov 09
Exeter	4	3050	N/A	N/A			Not planted - wet soil		
Ilderton	4	3100	3265	2618	Silt Loam	John Walls	Discarded - did not mature		
Woodstock	4	3150	3124	N/A	Clay Loam	Wes Hart	Discarded - did not mature		
Belmont	4	3250	3171	2787	Silt Loam	Claire Hooker	34000	Jun 08	Nov 25
Ridgetown	5	3450	N/A	3224	Loam	University of Guelph	34000	May 24	Nov 18
Tilbury	5	3650	N/A	2845	Clay	Gus Ternoey	34000	Jun 12	Nov 29
Dresden	5	3600	3357	2837	Clay Sand	Brent McFadden	34000	Jun 07	Nov 27

Notes:

1 Average total heat unit accumulation 2014 - 2018, inclusive.

2 Total heat unit accumulation at location from day of planting to either occurrence of killing frost (-2 C) or 30-year average end-of-season date.

3 These populations may not be suitable for your farm.

4 All trials planted in 30 inch row widths.

2019 Ontario Hybrid Corn Performance Trial Management Information

		Previous	Tillage		Soil Test Ratings			Fertilizer Applications				Herbicide or Pesticide Applications				Rainfall (mm)					
Location	Table	Crop	Fall	Spring	P	K	pH	N	P2O5	K2O	S	Product	Rate	Date	Method	May	Jun	Jul	Aug	Sep	Total
Orangeville	1	Potatoes	Disk	Cultivator x2	LR	MR	6.5	150	40	120	0	Roundup	1.6 l/ha	May 10		77	57	44	73	58	309
												Primextra	4.0 l/ha	Jun 05	post						
												Callisto	0.3 l/ha	Jun 05	post						
Dundalk	1	White Beans		Cultivator Rolled	MR	RR	7.9	144	69	85	11	Primextra	4.0 l/ha	Jun 05	post	63	56	58	58	91	326
												Callisto	0.3 l/ha	Jun 05	post						
Elora	2	Wheat	Chisel	Cultivator x2	RR	RR	7.6	160	60	80	10	Primextra	4.0 l/ha	May 27	pre	68	82	38	70	56	314
												Callisto	0.3 l/ha	May 27	pre						
Winchester T2	2	winter wheat	chisel plow	cultivator x2	MR	MR	6.2	224	50	18	15	Dual II Magnum	0.7 L/ac	May 07	ppi	88	52				N/A
												Broadstrike	25 g/ac	May 07	ppi						
												Acuron	2 L/ac	Jun 07	post						
												Banvel II	0.5 L/ac	Jun 08	post						
Wingham	2	Winter Wheat	RTS	RTS 2x	MR	MR	7.6	190	50	120	20	Roundup	1 L/ac	May 12	ppi	93	93	39	36	60	321
												Integrity	0.45 L/ac	May 12	ppi						
Bainsville	3E	Soybean	None	RTS x 3							0	Primextra	1.4l/a	May 31	pre						N/A
												Callisto	120ml/a	May 31	pre						
Winchester	3E	soybean	chisel plow	cultivator x2				224	50	18	15	Dual II Magnum	0.7 L/ac	May 07	ppi	88	52				N/A
												Broadstrike	25 g/ac	May 07	ppi						
												Banvel II	0.42	Jun 20	post						
												Accent	13 g/ac	Jun 20	post						
Blyth	3W	Winter Wheat	Strip Till	Strip Till	MR	LR	7.5	180	48	24	0	Roundup	440 mL/ac	May 15	pre	96	81	82	34	50	343
												Integrity	1.2 L/ac	May 15	pre						
Waterloo	3W	Wheat - Oats Cover Crop	Chisel	Cultivator x2	RR	RR	7.3	168	88	124	13	Primextra	3.0 l/ha	May 16	ppi	81	80	65	60	40	326
												Callisto	0.3 l/ha	Jun 05	post						
Woodstock	4	Soybean									0										N/A
Belmont	4	Soybeans	N/A	Cultivate	LR	LR	6.4	190	32	2	0	Primextra	1.3	Jun 10	pre	153	97	196	86	21	553
												Engenia	liter/acre								
Ridgetown	5	Wheat	Chisel Plow	Cultivate	RR	MR	3.4	5	32	2	0	Acuron	1.96liters/ acre	May 31	post	107	80	189	115	36	527
Tilbury	5	Soybeans	Chisel Plow	Cultivate	MR	LR	6.2	190	32	2	0	Acuron	1.96liters/ acre	Jun 18	pre	95	93	127	64	88	467
Dresden	5	Soybeans	Chisel Plow	Cultivate	MR	RR	7.4	190	32	2	0	Primextra	1.5 L/ac	Jun 04	pre	118	76	91	54	46	385
												Callisto	120 ml/ac	Jun 04	pre						