2015 Intensive Report from the Ontario Corn Committee

Introduction. The Canadian Seed Trade Association (CSTA) approved a proposal from the Ontario Corn Committee (OCC) in 2014 to test the response of leading hybrids to an intensively managed or high input system. Information on hybrid-specific responses to intensive management will help improve hybrid selection decisions and the understanding of hybrid interactions with crop inputs by environment.

The new OCC performance trial design in 2015. Intensive managed trials were conducted at two field locations in each of OCC Zones 2-5 (Table 1). Note that the previously termed "OCC Table" will be herein referred to as "OCC Zone". Site information and cropping histories are presented in Table 3.

Table 1. Field locations of traditional performance trials and the new intensive performance trials across Ontario in 2015.

OCC Table or Zone	Intensive performance trial locations	
1		
2	Elora	Alma
3	Winchester	Waterloo
4	Exeter	Belmont
5	Ridgetown	Dresden
Total	8	

Intensive trial design. At each intensive field location, standard and intensive treatments were arranged in a split-strip-plot design with 4 replications per location. The intensive trials were designed to minimize interference across hybrids within and between management systems with the use of 4-row plots (the centre 2-rows harvested for data). The main treatment consisted of the hybrid entry, which was planted in triplicate plots in-line with each other. The standard management system was applied in a "strip" across the first block of the triplicated plots of hybrid entries, and the intensive management system was applied across the third block or strip of the same hybrid entries. The middle block or strip was used as a buffer strip between the management systems to minimize any fungicide drift from the intensive treatments, and it also facilitated the installation of the N treatments.

See Table 2 for a general description of standard vs. intensive management treatments. See Table 3 for site-specific N rates.

Table 2. General description of standard and intensive management treatments across the eight intensive field sites.

Management variable	Standard Practice	Intensive Practice
Final plant population	32,000 plants/ac	38,000 plants/ac
Total nitrogen	Determined by the Ontario Corn N Calculator, depending on location	N Calculator rate plus 40-60 kg N/ha
Fungicide applied at VT	None	Priaxor @ 0.3 L/ha

Hybrids were entered into the intensive trial by the seed companies in consultation with the OCC.

Plots at all locations were overseeded then thinned to the desired plant population (Table 2) before the corn developmental stage V3. Nitrogen was split-applied in all plots; one uniform rate was applied at planting across the standard and intensive treatments, with the balance subsurface injected between crop rows between development stages V3 and V8, depending on the location. Site-specific details of the N treatments are presented in Table 3. The fungicide Priaxor® (BASF) was applied at 0.3 L/ha in the intensive treatments when at least 75% of the hybrids were silking. Priaxor was chosen mainly because it was not affiliated with any of the seed companies.

All plots were assessed for high quality data according to OCC Guidelines.

Measurements. The following measurements were recorded (not all are presented in this report):

- Weather data were recorded at all locations (courtesy of Weather Innovations Inc.)
- Crop development was monitored by recording the date when 50% of plants reached V7, silking and 95% dent (R5).
- Leaf disease severity was recorded 1-2 days before fungicide application of the 4 common leaf diseases (Northern Leaf Blight, Eye Spot, Gray Leaf Spot, and Common Rust) on the 3 leaves centred around the ear leaf
- Leaf disease severity was recorded by disease at R5.5 (50% milkline) or before a frost.
- Stay green in all plots (% greenness whole plant; start when first plot is 0-5% green leaf area).
- Final plant population
- Yield, grain moisture at harvest, lodging, test weight

Results.

All trial locations were planted on a timely basis in early May. June rainfall was higher than normal at most locations, and August rainfall tended to be lower than normal. Severe frost occurred in late May at Elora and Waterloo; injury tended to be vary spatially and probably reduced yields in affected areas. All hybrids at all locations reached physiological maturity before a frost in the fall.

Only a portion of the data collected is presented in this report. A more detailed report containing additional information will be released at a later date. Please note that caution is advised with interpreting one-year data (and from only 2 locations per zone).

Table 4 is annotated as an illustration of how to interpret grain yield, harvest moisture, and lodging responses to intensive management using the data from OCC Zone 2 (previously, OCC Table 2) as an example. It is important to note that hybrid responses may appear different but may not be different statistically.

Hybrids are sorted in each Table according to the CHU ratings as supplied by the seed company. In the annotated Table 4 and in Table 5, the average yield was 205 bu/ac across hybrids and locations with the standard management practice. In this column in Tables 4 and 5, if the difference in yield between any two hybrids is less than 11, the yields of those hybrids were not different statistically. The data in the intensive management columns represent the differences from the standard practice. If the LSD at the bottom of the table in the intensive column is "ns", then all hybrids responded similarly to intensive management; in other words, there was no statistical evidence to support hybrid-specific responses to intensive management if the LSD at the bottom of the column was "ns". However, if an asterisk follows a response with intensive management, then the magnitude of the response to intensive management was statistically greater than zero.

Because of the design of these trials, it is not possible to determine which factor(s) contributed most to the increased yield from the intensive management system. It is also not possible to predict what the results might be in another year or under different growing conditions.

Some of the data from this report were presented by Dr. Dave Hooker (dhooker@uoguelph.ca) at the Southwest Agricultural Conference at Ridgetown on January 5 and 6, 2016. The audio and slides of this session can be viewed on the website: https://www.southwestagconference.ca. It is located through a link under the "2016 Proceedings" tab.

Acknowledgments

- University of Guelph Research technicians: Byron Good (Alma, Elora, Waterloo locations), Katina Wren and Holly Byker (Winchester location), Jonathan Brinkman (Exeter location), and Scott Jay/Ken Van Raay for Belmont, Dresden, and Ridgetown locations).
- Seed companies provided the direct funding for these trials
- Ontario Corn Committee
- BASF for fungicide
- Weather Innovations Inc.
- Summer students

Questions may be directed to the Ontario Corn Committee Secretary, Mr. David Morris davidtmorris@rogers.com

Table 3. Intensive OCC site characteristics and treatments

Location	Elora	Alma	Winchester	Waterloo	Belmont	Exeter	Dresden	Ridgetown
GPS coordinates	43.642933, -80.404666	43.717946, -80.468190	45.055333, -75.336168	43.498203, -81.465800	42.870251, -81.074507	43.286278, -81.465800	42.554098, -82.149385	42.451473, -81.881902
Soil test P (ppm), K (ppm), pH	24, 73, 7.6	38, 204, 7.5	12, 99, 6.9	45, 153, 6.9	16, 109, 6.6	15, 131, 7.6	11, 126, 7.6	39, 97, 6.0
Soil type	Silt loam	Loam	Clay loam	Sandy loam	Loam	Silt loam	Loam	Loam
Previous crop	Soybean	Soybean	Soybean	Winter wheat	Winter wheat	Winter wheat/red clover	Soybean	Soybean
Previous crop tillage	No-till	Plow	Plow	No-till	No-till	Plow	No-till	Chisel plow
Previous crop 2 years ago	Soybean	barley	Winter wheat	Soybean	Soybean	Edible Beans	Corn	Corn
Previous crop tillage 2 years ago	No-Till	Fall chisel	Plow	Conventional	No-till	No-Till	Conventional	Chisel plow
Tillage system description current year	Fall plow + spring cultivate	Fall chisel + spring cultivate	Spring cultivate	Fall plow + spring cultivate	Fall plow + spring cultivate	Fall plow + spring cultivate	Fall plow + spring cultivate	Fall plow + spring cultivate
Planting date	05-May	07-May	06-May	30-Apr	11-May	07-May	01-May	07-May
Starter fertilizer applied at planting (analysis, rate, placement)	5-20-20 @ 150 kg/ha 2x2 band	5-20-20 @ 275 kg/ha 2x2 band	none	5-20-20 @ 150 kg/ha 2x2 band	7-35-20 @ 165 kg/ha 2x2 band	8-32-16 @ 165 kg/ha 2x2 band	7-35-20 @ 165 kg/ha 2x2 band	7-35-20 @ 165 kg/ha 2x2 band
Preplant N applied (date, method, analysis, rate, placement)	03-May broadcast urea @ 115 kg N/ha	03-May broadcast urea @ 90 kg N/ha	05-May broadcast urea 90 kg N/ha	27-Apr broadcast UAN @ 100 kg N/ha	12-May broadcast UAN @ 65 kg N/ha	05-May broadcast UAN @ 100 kg N/ha	28-Apr broadcast UAN @ 85 kg N/ha	28-Apr broadcast UAN @ 85 kg N/ha
Sidedress N applied (date, N source, application method, rate in standard and intensive, respectively.)	18-Jun UAN sidedress 35 or 90 kg N/ha	18-Jun UAN sidedress 45 or 90 kg N/ha	06-July urea broadcast 35 or 95 kg N/ha	16-Jun UAN sidedress 60 or 120 kg N/ha	26-Jun UAN sidedress 80 or 140 kg N/ha	17-Jun UAN sidedress 30 or 100 kg N/ha	26-May UAN sidedress 90 or 150 kg N/ha	25-May UAN sidedress 80 or 140 kg N/ha
N Summary (kg/ha)								
N at planting	120	100	90	110	80	110	100	100
N at sidedress	35 or 90	45 or 90	35 or 95	60 or 120	80 or 140	30 or 80	90 or 150	80 or 140
Total N	160 or 210	150 or 190	125 or 185	170 or 230	160 or 220	140 or 190	190 or 250	180 or 240
Priaxor (BASF) fungicide at VT	24-Jul	24-Jul	29-Jul	24-Jul	29-Jul	29-Jul	22-Jul	22-Jul
Harvest date	21-Oct	22-Oct	03-Nov	14-Oct	07-Nov	03-Nov	09-Nov	20-Oct

Table 4. Annotated data for interpretating hybrid responses to intensive management (see Table 5 without the annotation).

Hybrids sorted in ascending order by CHU rating.

			Average of Alma and Elora						Alma						Elora					
			Standard practice[1]			Intensive practice[2]			Standard practice			Intensive practice			Standard practice			Intensive practice		
CHU	Company	Hybrid	Yield bu/ac	Moist %	Ldg %	Yield diff[3] bu/ac	Moist	Ldg			%	Yield di bu/	Moist				t Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %
2300	Legend Seeds	LR9573	**173**	**19.9**	**1**	**+26 *[4]**					1	+1					0	+19 *	+1.4 *	0
2425	Legend Seeds	LR9579	**191**	**21.8**	**0**	**+38 ***					1	+1					0	+25 *	+1.1 *	+1
2450	Legend Seeds	40J380 G.T.	**195**	**20.8**	**2**	**+25 ***					2	+1					3	+20 *	+1.1 *	-2 *
2550	Pioneer	P8542AM	**197**	**21.5**	**1**	**+29 ***					2	+1					0	+26 *	+1.6 *	0
2625	PICKSEED	PS 2676VT2P RIB	**197**	**21.7**	**0**	**+31 ***					0	+1					0	+33 *	+1.1 *	0
2650	Dow Seeds	8211RA									0						0	+19 *	+1.2 *	0
2650	Pioneer	P9188AM															1	+22 *	+0.9	-1
2675	DEKALB	DKC38-03RIB										+1					1	+26 *	+0.7	0
2700	Dow Seeds	8295RA				**+0.8**			211		0	+1					0	+21 *	-0.1	0
2700	PICKSEED	PS 2793GSX RIB	**189**	**.7**	**0**	**+38 ***	**+1**	**0**	20	22.2	0	+31 *	+2.2 *	0	170	25.3	0	+45 *	+1.2 *	+1
2750	Horizon	HZ 877	**224**	**23.3**	**1**	**+20 ***	**+1.6 ***	**0**	231	22.1	2	+35 *	+0.9 *	-1	216	24.6	1	+5	+2.4 *	0
2750	Maizex	MZ 3066DBR	**20**	**23.9**	**0**	**+26 ***	**+1.4 ***	**1**	215	22.0	1	+24 *	+1.7 *	1	189	25.8	0	+28 *	+1.1 *	+1
2750		[5]EXP SH2642	**232**	**26.7**	**0**	**+21 ***	**+1.2 ***	**0**	240	25.0	0	+22 *	+1.4 *	0	223	28.5	0	+19 *	+1.1 *	0
2750	NK Brand	N27P-3110A	**229**												221	25.4	0	+26 *	+0.9	0
			217												205	26.2	1	+16 *	+0.3	0
			214												210	28.3	0	+11	+0.2	0
			181												157	26.8	1	+46 *	+0.8	-1
2825	PRIDE Seeds	RIB	**209**												199	25.7	1	+22 *	+2.2 *	0
	LSD (0.10) across hybrids[6]		**11**	**0.9**	**1**	**ns**	**0.8**	**ns**	13	1.2	1	ns	ns	ns	18	1.4	1	16	ns	ns
	Average across hybrids		**205**	**23.7**	**1**	**+29 ***	**+1.2**	**0**	215	22.2	1	+34 *	+1.4 *	0	195	23.9	0	+24 *	+1.1	0

Hybrid EXP yielded +21 bu/ac higher with intensive mgmt (253 bu/ac). The asterisk (*) indicates that the response was statistically different than zero.

Harvest grain moisture of Hybrid EXP was +1.2% higher with intensive mgmt (27.9%). The asterisk (*) indicates that the response was statistically different than zero.

Hybrid EXP yielded 232 bu/ac with standard mgmt.

Average yield across hybrids with standard mgmt.

If the yield diff between two hybrids is less than 11, the yields are not different.

Yield responses are not statistically different across hybrids, averaged across Alma and Elora.

At Elora, if the yield response to intensive mgmt between 2 hybrids is less than 16, the 2 hybrids had a similar response.

ALWAYS INTERPRET ONE YEAR DATA WITH CAUTION.

[1]Final stand 32,000 plants/ac, N determined by Ontario N Calculator, no foliar fungicide.

[2]Final stand 38,000 plants/ac, N determined by Ontario N Calculator plus approx 50-60 kg N/ha, plus foliar fungicid

[3]Difference in grain yield, grain moisture at harvest, or stalk lodging compared to standard practice.

[4]Values followed by an asterisk indicate a significant difference at P=0.10 from standard practice; a value with no a practice.

[5]Hybrid name withheld by company request.

[6]Yields, moisture, or stalk lodging values that differ less than or equal to the LSD value are not significantly different, ns = no significant difference (P=0.10) across hybrids.

Table 5. Intensive management trials at Alma and Elora in Zone 2 ("Table 2") in 2015.

			Average of Alma and Elora						Alma						Elora					
			Standard practice[1]			Intensive practice[2]			Standard practice			Intensive practice			Standard practice			Intensive practice		
CHU	Company	Hybrid	Yield bu/ac	Moist %	Ldg %	Yield diff[3] bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %
2300	Legend Seeds	LR9573	**173**	**19.9**	**1**	**+26 *[4]**	**+1.9 ***	**0**	178	18.1	1	+34 *	+2.3 *	0	169	21.8	0	+19 *	+1.4 *	0
2425	Legend Seeds	LR9579	**191**	**21.8**	**0**	**+38 ***	**+1.3 ***	**0**	197	20.4	1	+51 *	+1.5 *	-1	184	23.1	0	+25 *	+1.1 *	+1
2450	Legend Seeds	40J380 G.T.	**195**	**20.8**	**2**	**+25 ***	**+1.0 ***	**0**	200	19.4	2	+29 *	+0.9 *	1	190	22.3	3	+20 *	+1.1 *	-2 *
2550	Pioneer	P8542AM	**197**	**21.5**	**1**	**+29 ***	**+1.2 ***	**0**	210	20.2	2	+32 *	+0.8 *	-1	185	22.8	0	+26 *	+1.6 *	0
2625	PICKSEED	PS 2676VT2P RIB	**197**	**21.7**	**0**	**+31 ***	**+1.3 ***	**0**	206	20.8	0	+29 *	+1.6 *	0	187	22.7	0	+33 *	+1.1 *	0
2650	Dow Seeds	8211RA	**188**	**21.7**	**0**	**+27 ***	**+1.3 ***	**0**	193	20.2	0	+35 *	+1.5 *	0	183	23.3	0	+19 *	+1.2 *	0
2650	Pioneer	P9188AM	**221**	**24.7**	**1**	**+27 ***	**+0.5**	**0**	230	23.7	1	+31 *	+0.0	1	212	25.7	1	+22 *	+0.9	-1
2675	DEKALB	DKC38-03RIB	**222**	**24.0**	**0**	**+29 ***	**+0.8 ***	**0**	233	23.1	0	+33 *	+0.8 *	0	212	24.9	1	+26 *	+0.7	0
2700	Dow Seeds	8295RA	**207**	**28.5**	**0**	**+24 ***	**+0.8 ***	**0**	211	26.3	0	+27 *	+1.6 *	0	203	30.6	0	+21 *	-0.1	0
2700	PICKSEED	PS 2793GSX RIB	**189**	**23.7**	**0**	**+38 ***	**+1.7 ***	**0**	208	22.2	0	+31 *	+2.2 *	0	170	25.3	0	+45 *	+1.2 *	+1
2750	Horizon	HZ 877	**224**	**23.3**	**1**	**+20 ***	**+1.6 ***	**0**	231	22.1	2	+35 *	+0.9 *	-1	216	24.6	1	+5	+2.4 *	0
2750	Maizex	MZ 3066DBR	**202**	**23.9**	**0**	**+26 ***	**+1.4 ***	**+1**	215	22.0	1	+24 *	+1.7 *	1	189	25.8	0	+28 *	+1.1 *	+1
2750		[5]EXP SH2642	**232**	**26.7**	**0**	**+21 ***	**+1.2 ***	**0**	240	25.0	0	+22 *	+1.4 *	0	223	28.5	0	+19 *	+1.1 *	0
2750	NK Brand	N27P-3110A	**229**	**24.1**	**0**	**+30 ***	**+1.1 ***	**0**	236	22.8	0	+34 *	+1.2 *	0	221	25.4	0	+26 *	+0.9	0
2775	Country Farm	CF15204	**217**	**24.3**	**1**	**+28 ***	**+0.8 ***	**0**	230	22.3	0	+39 *	+1.3 *	0	205	26.2	1	+16 *	+0.3	0
2775	Maizex	MZ 3202SMX	**214**	**26.2**	**0**	**+28 ***	**+0.9 ***	**0**	219	24.1	1	+46 *	+1.6 *	-1	210	28.3	0	+11	+0.2	0
2825	Country Farm	CF15301	**181**	**25.1**	**1**	**+43 ***	**+1.0 ***	**-1**	205	23.5	0	+39 *	+1.2 *	0	157	26.8	1	+46 *	+0.8	-1
2825	PRIDE Seeds	A6455G8 RIB	**209**	**24.3**	**0**	**+32 ***	**+2.3 ***	**0**	219	22.8	0	+42 *	+2.3 *	0	199	25.7	1	+22 *	+2.2 *	0
	LSD (0.10) across hybrids[6]		**11**	**0.9**	**1**	**ns**	**0.8**	**ns**	13	1.2	1	ns	ns	ns	18	1.4	1	16	ns	ns
	Average across hybrids		**205**	**23.7**	**1**	**+29 ***	**+1.2**	**0**	215	22.2	1	+34 *	+1.4 *	0	195	23.9	0	+24 *	+1.1	0

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[1]Final stand 32,000 plants/ac, N determined by Ontario N Calculator, no foliar fungicide.

[2]Final stand 38,000 plants/ac, N determined by Ontario N Calculator plus approx 50-60 kg N/ha, plus foliar fungicide Priaxor applied at VT.

[3]Difference in grain yield, grain moisture at harvest, or stalk lodging compared to standard practice.

[4]Values followed by an asterisk indicate a significant difference at P=0.10 from standard practice; a value with no asterisk indicates no difference vs. standard practice.

[5]Hybrid name withheld by company request.

[6]Yields, moisture, or stalk lodging values that differ less than or equal to the LSD value are not significantly different. Ns = no significant difference (P=0.10) across hybrids.

Priaxor® fungicide was gratefully provided by BASF.

Table 6. Intensive management trials at Waterloo and Winchester in Zone 3 ("Table 3") in 2015.

			Average of Waterloo and Winchester						Waterloo						Winchester					
			Standard practice[1]			Intensive practice[2]			Standard practice			Intensive practice			Standard practice			Intensive practice		
CHU	Company	Hybrid	Yield bu/ac	Moist %	Ldg %	Yield diff[3] bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %
2625	Legend Seeds	5084	**192**	**21.0**	**2**	**+22 *[4]**	**+0.9 ***	**+1**	217	22.3	0	+33 *	+1.5 *	0	168	19.7	3	+11 *	+0.3	+1
2650	Pioneer	P9188AM	**199**	**22.1**	**3**	**+19 ***	**+0.9 ***	**0**	232	24.2	0	+21 *	+1.4 *	0	165	19.9	5	+18 *	+0.5 *	0
2675	Elite	E57L60 R	**201**	**21.9**	**4**	**+11 ***	**+1.8 ***	**0**	243	24.3	0	+5	+2.9 *	0	159	19.5	8	+18 *	+0.7 *	-1
2675	Pioneer	P9224AM	**183**	**21.7**	**3**	**+20 ***	**+0.5 ***	**0**	221	23.7	0	+22 *	+0.6	0	146	19.6	5	+17 *	+0.4	-1
2800	Dow Seeds	DS90R27RA	**179**	**21.2**	**4**	**+32 ***	**+1.4 ***	**0**	211	22.9	0	+29 *	+2.4 *	0	147	19.4	8	+35 *	+0.5 *	0
2800	Maizex	MZ 3484SMX	**189**	**22.8**	**2**	**+26 ***	**+2.0 ***	**0**	220	25.9	0	+33 *	+3.0 *	0	157	19.6	5	+20 *	+1.0 *	-1
2825	Dow Seeds	8315RA	**200**	**22.3**	**4**	**+15 ***	**+0.9 ***	**-1**	240	24.7	0	+13	+1.2 *	0	161	19.9	8	+16 *	+0.7 *	-1
2850	Horizon	HZ 922	**189**	**24.5**	**3**	**+19 ***	**+1.2 ***	**-1**	224	29.0	0	+25 *	+1.4 *	0	154	20.1	5	+13 *	+1.0 *	-2 *
2850	NK Brand	N35T-3110	**205**	**23.8**	**1**	**+18 ***	**+1.3 ***	**0**	232	27.1	0	+25 *	+2.4 *	0	179	20.6	2	+11 *	+0.3	-1
2875	Country Farm	CF441	**190**	**23.0**	**4**	**+24 ***	**+1.6 ***	**-1** *	217	26.4	0	+27 *	+2.5 *	0	163	19.7	8	+21 *	+0.6 *	-2
2875	Country Farm	CF466	**191**	**23.7**	**4**	**+24 ***	**+1.0 ***	**-1**	221	27.0	0	+32 *	+1.5 *	0	161	20.4	8	+16 *	+0.5 *	-2
2875	DEKALB	DKC46-07RIB	**192**	**23.8**	**3**	**+19 ***	**+1.1 ***	**-2** *	232	27.4	0	+17 *	+1.1 *	0	151	20.3	7	+21 *	+1.2 *	-4 *
2875	Pioneer	P9644AM	**197**	**23.7**	**1**	**+23 ***	**+1.6 ***	**+1**	225	27.3	0	+28 *	+2.8 *	0	170	20.0	2	+18 *	+0.4	+2 *
2900	Maizex	MZ 3515DBR	**194**	**24.0**	**3**	**+27 ***	**-0.2**	**-1**	225	28.1	0	+31 *	-0.5	0	162	20.0	5	+22 *	+0.1	-2
2900	PICKSEED	PS 2902VT2P RIB	**205**	**22.4**	**4**	**+21 ***	**+0.9 ***	**0**	241	25.0	0	+33 *	+1.2 *	0	168	19.8	7	+9 *	+0.6 *	-0
2900	PRIDE Seeds	XP6848	**210**	**25.0**	**4**	**+13 ***	**+1.3 ***	**0**	249	29.3	0	+21 *	+1.5 *	0	170	20.8	8	+7	+1.1 *	-1
3050	NK Brand	N45P-3011A	**195**	**24.0**	**4**	**+22 ***	**+0.9 ***	**-1**	225	27.7	0	+25 *	+1.5 *	0	165	20.4	7	+20 *	+0.3	-1
	LSD (0.10) across hybrids[5]		**8**	**0.6**	**1**	**ns**	**0.8**	**1**	13	1.1	ns	ns	1.1	ns	10	0.5	2	ns	ns	2
	Average across hybrids		**195**	**23.0**	**3**	**+21 ***	**+1.1 ***	**0**	228	26.0	0	+25 *	+1.7 *	0	162	20.0	6	+17 *	+0.6 *	-1 *

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[1]Final stand 32,000 plants/ac, N determined by Ontario N Calculator, no foliar fungicide.

[2]Final stand 38,000 plants/ac, N determined by Ontario N Calculator plus approx 50-60 kg N/ha, plus foliar fungicide Priaxor applied at VT.

[3]Difference in grain yield, grain moisture at harvest, or stalk lodging compared to standard practice.

[4]Values followed by an asterisk indicate a significant difference at P=0.10 from standard practice; a value with no asterisk indicates no difference vs. standard practice.

[5]Yields, moisture, or stalk lodging values that differ less than or equal to the LSD value are not significantly different. Ns = no significant difference (P=0.10) across hybrids.

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Table 7. Intensive management trials at Belmont and Exeter in Zone 4 ("Table 4") in 2015.

			Average of Belmont and Exeter						Belmont						Exeter					
			Standard practice[1]			Intensive practice[2]			Standard practice			Intensive practice			Standard practice			Intensive practice		
CHU	Company	Hybrid	Yield bu/ac	Moist %	Ldg %	Yield diff[3] bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %
2900	Legend Seeds	LR9496	**212**	**19.9**	**0**	**+22 *[4]**	**+1.3 ***	**0**	209	19.0	0	+25 *	+1.3 *	1	216	20.8	0	+18	+1.4 *	0
2925	Country Farm	CF474	**230**	**19.6**	**0**	**+19 ***	**+1.0 ***	**0**	225	18.5	1	+28 *	+1.2 *	0	235	20.7	0	+11	+0.7 *	0
2950	Dow Seeds	4425	**225**	**21.7**	**0**	**+25 ***	**+1.4 ***	**0**	225	21.4	0	+26 *	+1.4 *	0	224	22.1	0	+25 *	+1.4 *	0
2975	DEKALB	DKC50-78RIB	**215**	**20.5**	**0**	**+19 ***	**+1.7 ***	**0**	223	19.9	0	+24 *	+1.2 *	0	207	21.1	0	+14	+2.1 *	0
3000	Elite	E70G30 LR	**233**	**21.1**	**0**	**+28 ***	**+1.5 ***	**0**	224	20.2	0	+28 *	+1.8 *	0	241	22.0	0	+28 *	+1.1 *	0
3000	Horizon	HZ 1026A	**229**	**21.2**	**0**	**+36 ***	**+1.1 ***	**0**	224	21.0	0	+32 *	+1.2 *	0	234	21.4	0	+40 *	+1.1 *	0
3000	PICKSEED	PS 3035VT2P RIB	**222**	**21.3**	**0**	**+44 ***	**+1.8 ***	**0**	232	20.0	0	+33 *	+2.7 *	0	211	22.6	0	+54 *	+0.8 *	0
3000	Pioneer	P0157AM	**247**	**22.9**	**0**	**+11**	**+1.0 ***	**0**	244	22.4	0	+21 *	+0.7 *	0	250	23.4	0	+1	+1.3 *	0
3050	Dow Seeds	X13526VX	**220**	**22.5**	**0**	**+34 ***	**+1.5 ***	**0**	232	21.8	0	+44 *	+1.6 *	0	207	23.3	0	+24 *	+1.5 *	0
3050	Maizex	MZ 4092DBR	**236**	**20.6**	**0**	**+13 ***	**+1.6 ***	**0**	228	20.0	0	+16 *	+1.6 *	0	244	21.3	0	+10	+1.6 *	0
3050	Maizex	MZ 4107SMX	**214**	**21.0**	**0**	**+24 ***	**+1.5 ***	**0**	216	20.0	0	+21 *	+1.7 *	0	212	22.0	0	+28 *	+1.4 *	0
3050	NK Brand	N45P-3011A	**224**	**20.7**	**0**	**+19 ***	**+1.2 ***	**0**	231	19.8	0	+27 *	+1.1 *	0	216	21.6	0	+11 *	+1.2 *	0
3075	PRIDE Seeds	A7270G8 RIB	**243**	**23.0**	**0**	**+17 ***	**+1.1 ***	**0**	247	22.4	0	+19 *	+0.9 *	0	237	23.5	0	+17	+1.3 *	0
3100	Pioneer	P0496AMX	**220**	**22.4**	**0**	**+24 ***	**+1.4 ***	**0**	236	21.5	0	+30 *	+1.4 *	0	204	23.4	0	+18 *	+1.4 *	0
3125	Country Farm	CF626	**232**	**20.8**	**1**	**+20 ***	**+1.5 ***	**-1**	235	19.5	2	+22 *	+1.7 *	-2	230	22.2	0	+19	+1.3 *	0
	LSD (0.10) across hybrids[5]		**12**	**0.6**	**ns**	**15**	**ns**	**ns**	12	0.7	ns	ns	ns	ns	20	0.9	ns	22	ns	ns
	Average across hybrids		**227**	**21.3**	**0**	**+24**	**+1.4 ***	**0**	229	20.5	0	+26 *	+1.4 *	0	225	22.1	0	+21 *	+1.3 *	0

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Table 8. Intensive management trials at Dresden and Ridgetown in Zone 5 ("Table 5") in 2015.

			Average of Dresden and Ridgetown						Dresden						Ridgetown					
			Standard practice[1]			Intensive practice[2]			Standard practice			Intensive practice			Standard practice			Intensive practice		
CHU	Company	Hybrid	Yield bu/ac	Moist %	Ldg %	Yield diff[3] bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %	Yield bu/ac	Moist %	Ldg %	Yield diff bu/ac	Moist diff %	Ldg diff %
3100	DEKALB	DKC52-61RIB	**252**	**16.8**	**1**	**-1**	**+0.8** *	**+4** *	262	15.2	2	-18 *	+0.7 *	+9	243	18.4	0	+15	+0.9	0
3100	Maizex	MZ 4525SMX	**250**	**17.3**	**4**	**+15** *[4]	**+0.1**	**-2**	256	15.7	9	+22 *	+0.3	-5	245	19.0	1	+8	-0.1	0
3100	Pioneer	P0216AM	**238**	**18.0**	**3**	**+19** *	**+0.4**	**0**	243	16.2	6	+19 *	+0.8 *	+1	232	19.9	0	+18	-0.1	0
3150	Country Farm	CF662	**234**	**17.8**	**8**	**+18** *	**+0.1**	**+2** *	240	16.1	15	+13	+0.3	+5	228	19.6	0	+22 *	-0.1	0
3150	Pioneer	P0506AM	**255**	**18.5**	**0**	**+12** *	**-0.1**	**+1**	272	16.8	0	+4	+0.3	+1	237	20.3	0	+20 *	-0.4	0
3200	Country Farm	CF686	**245**	**17.9**	**1**	**+14** *	**+0.8** *	**0**	252	15.6	1	+19 *	+0.6 *	0	237	20.3	0	+10	+1.0	0
3200	Dow Seeds	8598RA	**247**	**20.0**	**0**	**+24** *	**+0.6** *	**0**	254	18.2	0	+28 *	+0.2	0	240	21.9	0	+19	+1.0 *	0
3200	Maizex	MZ 4676DBR	**254**	**19.5**	**7**	**+2**	**+0.6** *	**+5** *	263	16.9	14	-15 *	+0.5	+10 *	245	22.2	0	+20	+0.6	0
3225		[5]EXP SJ5082	**231**	**19.9**	**3**	**+13** *	**-0.1**	**+6** *	244	17.1	7	+22 *	+0.3	+13 *	217	22.7	0	+5	-0.5	0
3250	DEKALB	DKC57-75RIB	**247**	**19.4**	**12**	**+8**	**+0.1**	**+9** *	259	16.7	23	-5	+0.4	+19 *	234	22.1	0	+20	-0.3	0
3350	Dow Seeds	8695RA	**240**	**20.7**	**4**	**+9**	**+0.6** *	**+9** *	253	17.7	7	-1	+0.7 *	+17 *	227	23.7	2	+19	+0.6	0
3400	PRIDE Seeds	A8303G8 RIB	**248**	**23.6**	**1**	**+16** *	**-0.7** *	**0**	268	19.5	2	+19 *	+0.1	0	228	27.6	0	+14	-1.5 *	0
	LSD (0.10) across hybrids[6]		**9**	**0.7**	**5**	**ns**	**0.6**	**7**	15	0.5	11	18	ns	10	10	1.3	ns	ns	0.9	ns
	Average across hybrids		**245**	**19.1**	**4**	**+12**	**+0.3** *	**+3** *	256	16.8	7	+9	+0.4 *	+6 *	234	21.5	0	+16	+0.1	0

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[5]Hybrid name withheld by company request.

[6]Yields, moisture, or stalk lodging values that differ less than or equal to the LSD value are not significantly different. Ns = no significant difference (P=0.10) across hybrids.

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