New Liskeard Agriculture Research Station

2016 Crop Research Summary

2016 Weather Summary

NLARS Precipitation data was used from the closest collecting station: Nipissing University's GeoVisage. Throughout the summer of 2016, the New Liskeard region got approximately 264 mm of precipitation. The average rainfall in the region for the summer is around 400mm, so the summer of 2016 was drier than average, see Chart 1. The 2016 summer was a warm summer bringing 2762 Corn Heat Units and 1650 growing degree days above 5 degree Celsius. Compared to the average of 2300 Corn Heat Units, the summer of 2016 was very beneficial to corn and soybean crops, see Chart 2. There was also drought conditions in the beginning of the growing season and temperatures reached below zero until May 18 2016.

The soil at NLARS has a neutral pH, is high in potassium and magnesium, there are good levels of phosphorus throughout the research ground. The organic matter varies throughout the field between 6-8%.

Month	Air Temperature			Precip (mm)	Growing Degree Days (5C)	Corn Heat Units (CHU)
	Avg °C	Min °C	Max °C			
May	11.8	-4	31	35.2	256	443
June	16.2	0	33	47.8	286	494
July	19.8	4	34	63.2	416	671
August	20.4	8	34	62.0	391	656
September	15.3	-2	31	56.2	302	498
Total				246	1650	2762

Table 1: New Liskeard Agriculture Research Station HOBO Weather Station

Month	Air Temperature			Precip (mm)
	Avg °C	Min °C	Max °C	
May	11.4	2	17	35.2
June	14.6	10	20	47.8
July	19.3	14	25	63.2
August	20.3	15.5	26.0	62.0
September	15.3	8.8	21.0	56.2
Total				264

Table 2: Nipissing University GeoVisage- New Liskeard

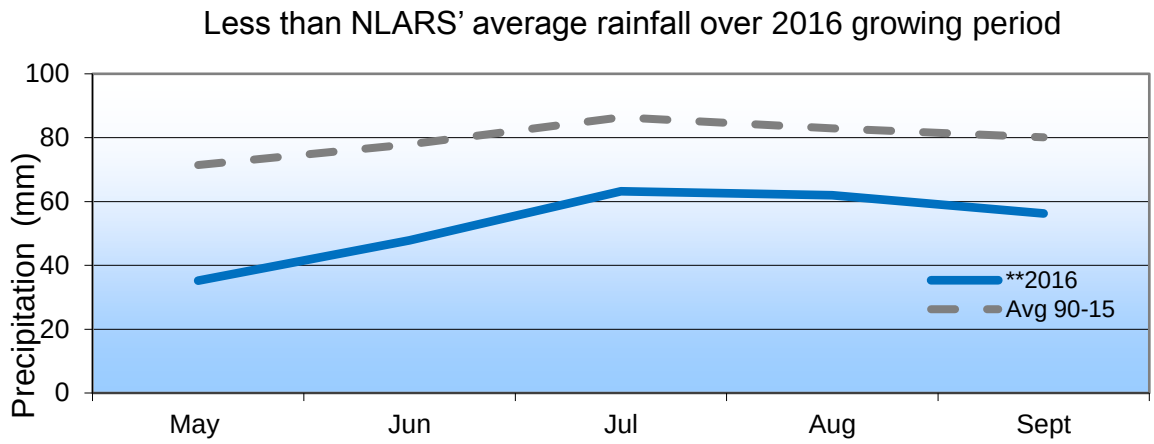
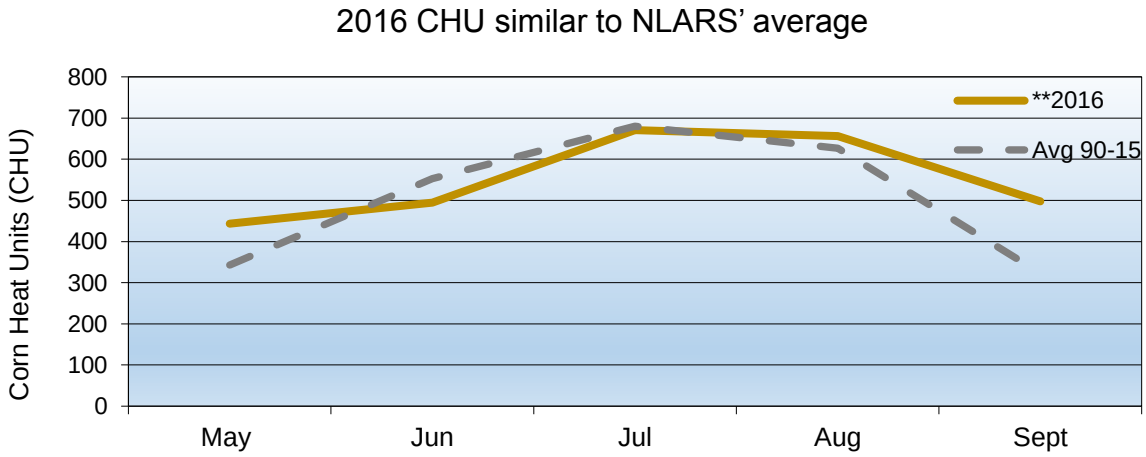


Chart 1: Measurement of precipitation



Long-Term temperature Data from Environment Canada's Earlton Airport
**2016 CHU calculated from NLARS HOBO weather station data

Chart 2: Measurements of the Corn Heat Units of 2016 compared to Average

Spring Wheat Performance Trial

data is compiled and presented as Area V within the Ontario Cereal Crops Committee performance trial reports, which can be found at www.gocereals.ca

Treatments: Pasteur, Hoffman, ACS12638, AW725, Touran, AAC Scotia, Furano, Megantic, Sable, Fuzion, Wilkin, Norwell, SC16-001KRS, Easton, SS Blomidon, Sonika, EC0387-2, MAGOG, Moka, MAJOR, HY 124-HRS, AW774, DS206HRS, KLEOS, SC16-002HRS

Seeding Date: April 29, 2016

Seeding Rate: 400 Seeds/m^2, 8rows, 7inches apart

Fertilizer: 70N (34-0-0),

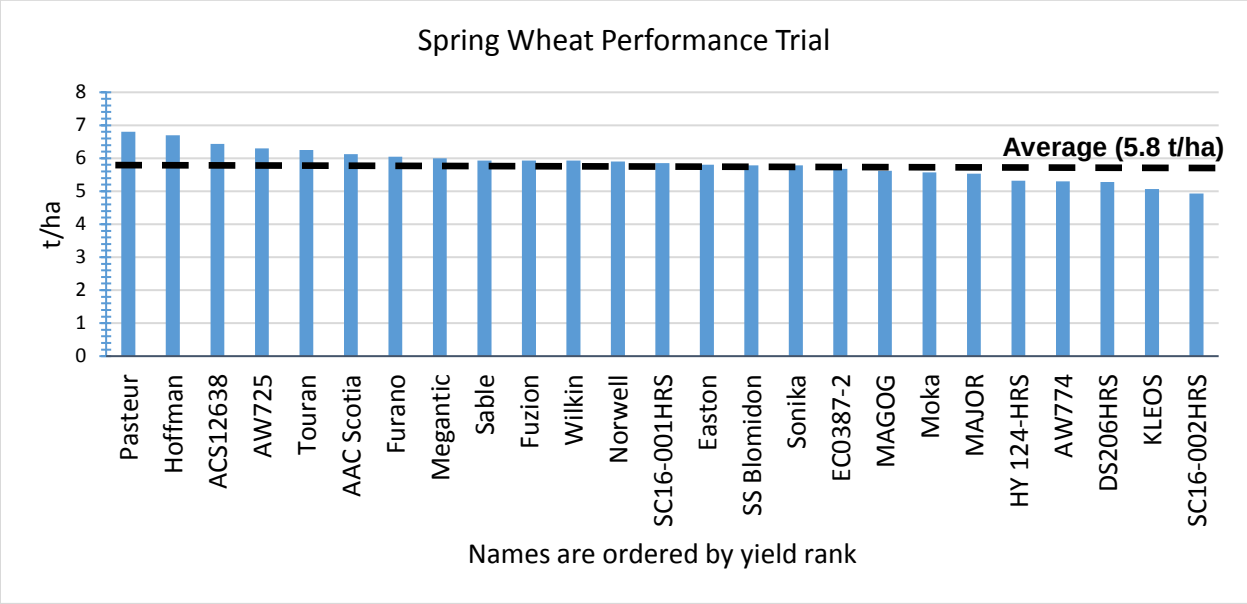
Sprays: 1.25L/Ha Logic M on June 1 2016, Seeds treated with Raxil-Pro

Heading Date: July 7, 2016

Mature Date: August 22, 2016

Harvest Date: August 29, 2016

The spring wheat performance trial was done to analyze the growth and production of each wheat variety. All the plots had all the same fertilizer, fungicide and herbicide treatments. It was found that the Pasteur wheat had the highest yields, while the SC16-002HRS had the lowest yields.



Winter Wheat Performance Trial

data is compiled and presented as Area V within the Ontario Cereal Crops Committee performance trial reports, which can be found at www.gocereals.ca

Treatments: HY 412 -SRW, UGRC GL 146, UGRCDH5-28, Priesley, UGRC C2-5, Curtis, NC13G-032, Ava, DS572SRW, CM614, NC14G-002, SC16-002SR, Princeton, Gallus

Seeding Date: September 17, 2015

Seeding Rate: 400 Seeds/m^2, 8rows, 7inches apart

Fertilizer: 150 kg/ha 8-32-15 with seed. On April 30, 120N

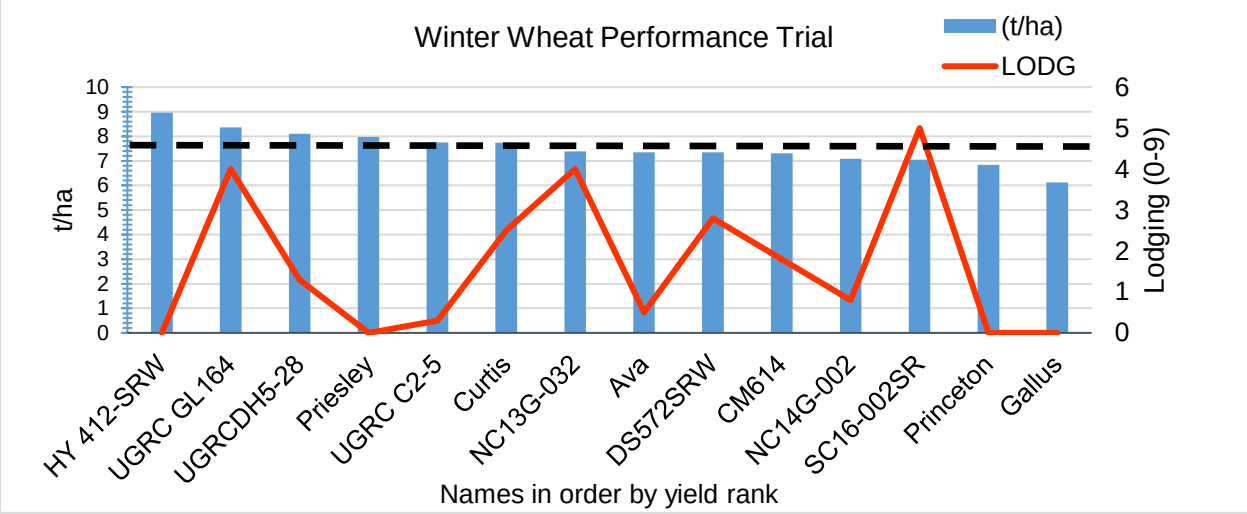
Sprays: 0.5L/ha Prosaro, June 25

Heading Date: June 30, 2016

Mature Date: July 28, 2016

Harvest Date: August 4, 2016

The winter wheat performance trial was done to measure the growth and production of different varieties of winter wheat. Every plot was grown with the same nutrient, fungicide and herbicide treatments. Lodging was also measured using a lodging score, 0 being no lodging, 9 meaning plants are flat. The highest yielding wheat was HY 412-SRW and the lowest yielding was found to be Gallus.



Spring Barely Performance Trial

data is compiled and presented as Area V within the Ontario Cereal Crops Committee performance trial reports, which can be found at www.gocereals.ca

Treatments: DS8126RB, AAC Montrose, Masky, SC16-016RB, Amberly, OCEANIK, Boroe, Chambly, Alliance, Alyssa, OAC Laverne, SC16-026RB, DS7176RB, Bornholm, Champion, AAC Mirabel, DS5692RB, HY 621-6R, Harmony, OS11-108, HS5617-11, Synasolis, AAC Vitality, Bastile, SC16-012RB, AAC Purpose

Seeding Date: April 30, 2016

Seeding Rate: 400 Seeds/m^2, 8rows, 7inches apart

Fertilizer: 70N (34-0-0),

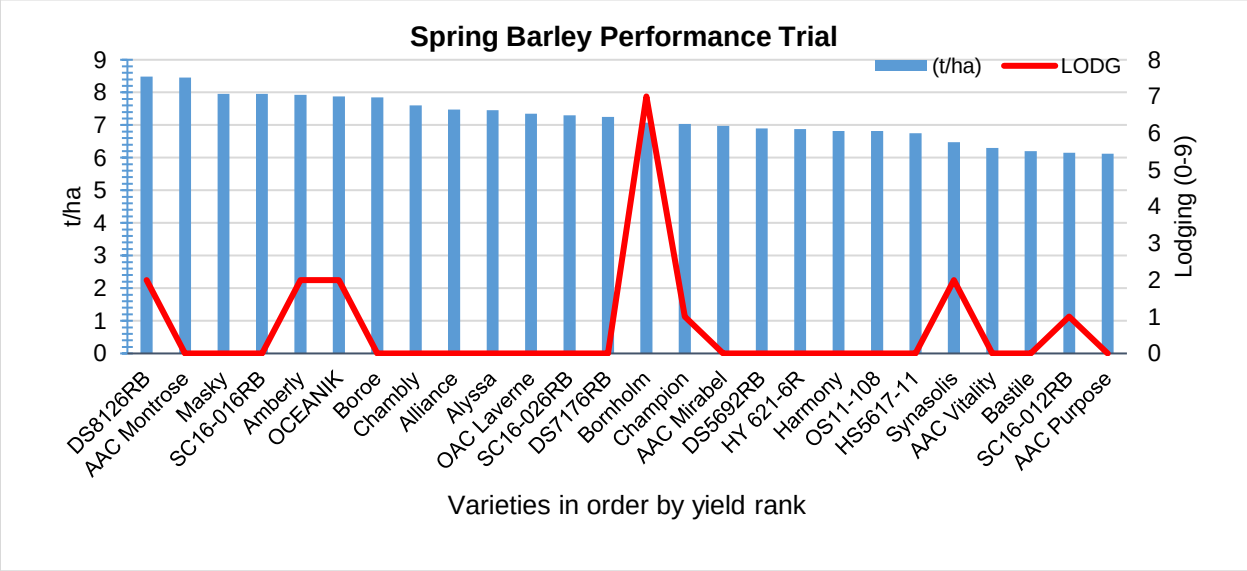
Sprays: 1.25L/Ha Logic M on June 1 2016

Heading Date: July 5, 2016

Mature Date: August 9, 2016

Harvest Date: August 10, 2016

The barley performance trial was done to measure the growth and production of different varieties of barley. Every plot was grown with the same nutrient, fungicide and herbicide treatments. Lodging was also measured using a lodging score, 0 being no lodging, 9 meaning plants are flat. The highest yielding barley was DS8126RB and the lowest yielding was found to be AAC Purpose.



Oat Performance Trial

data is compiled and presented as Area V within the Ontario Cereal Crops Committee performance trial reports, which can be found at www.gocereals.ca

Treatments: Kyron, AAC Richmond, Kara, AAC Kolosse, CFA1220, AAC Blake, Boline, Nice, Canmore, Akina, AAC Nicolas, AAC Bullet, AAC Noranda, Synextra, RC Amaze, Oscar, Hidalgo, OAC Markdale, AAC Almonte, AAC Pontiac, Vitality, AAC Oaklin, Fiona, Dieter, Riley

Seeding Date: April 29, 2016

Seeding Rate: 330 Seeds/m^2, 8rows, 7inches apart

Fertilizer: 55N (34-0-0),

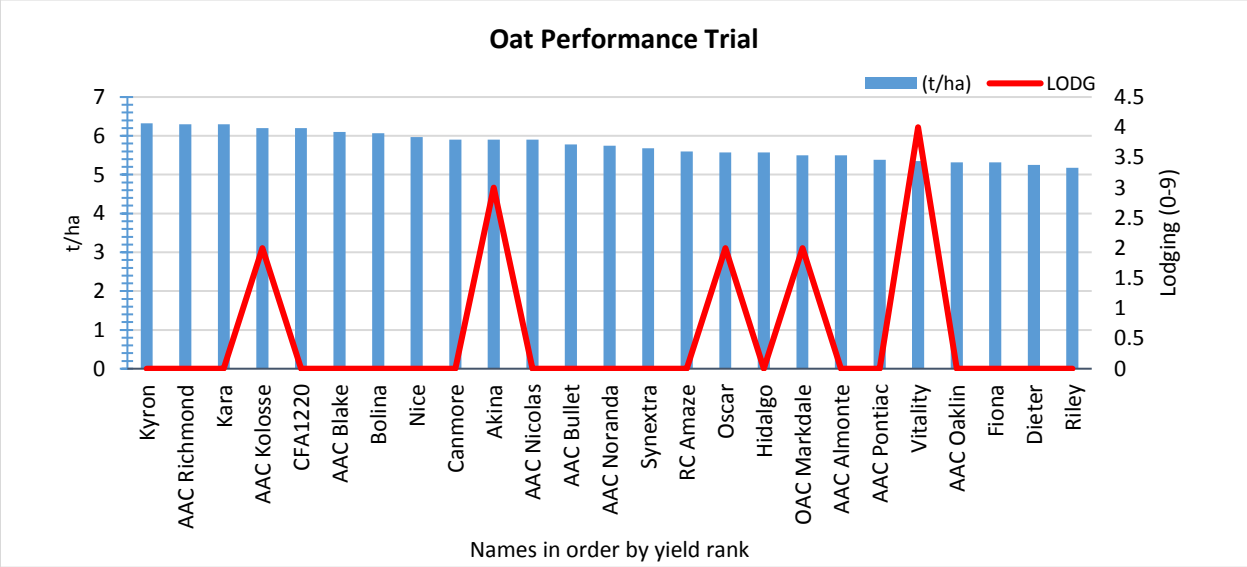
Sprays: 1.25L/Ha Logic M on June 1 2016,

Heading Date: July 7, 2016

Mature Date: August 8, 2016

Harvest Date: August 17, 2016

The oat performance trial was done to measure the growth and production of different varieties of winter wheat. Every plot was grown with the same nutrient, fungicide and herbicide treatments. Lodging was also measured using a lodging score, 0 being no lodging, 9 meaning plants are flat. The highest yielding wheat was Kyron and the lowest yielding was found to be Riley.



Intensive Oat Management 2015-2016

Treatments: Dieter No N, Morrison no N, Camden no N, Dieter 60N, Morrison 60N, Camden 60N, Dieter 60N+30N at flag leaf, Morrison 60N+30N at flag leaf, Camden 60N+30N at flag leaf, Dieter 90N, Morrison 90N, Camden 90N. These were all tested with and without Twinline, and also tested with growth regulator Manipulator.

Seeding Date: May 5, 2016

Seeding Rate: 330 Seeds/m^2, 8rows, 7inches apart

Fertilizer: Due to protocol

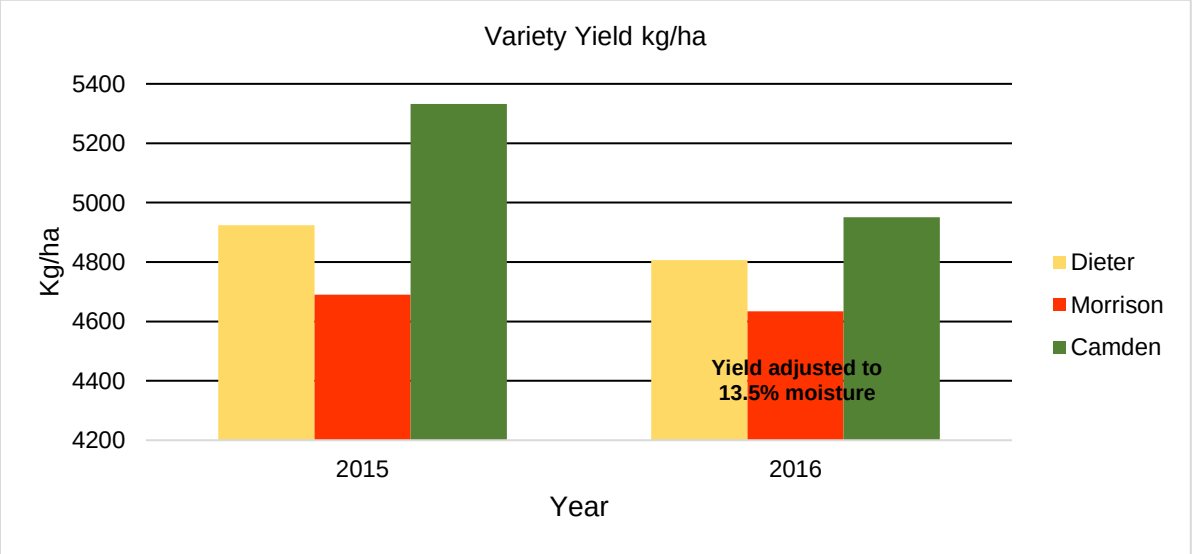
Sprays: 0.5L/ha Twinline on June 29, 1.25L/Ha Logic M on June 1 2016, Manipulator put on June 24

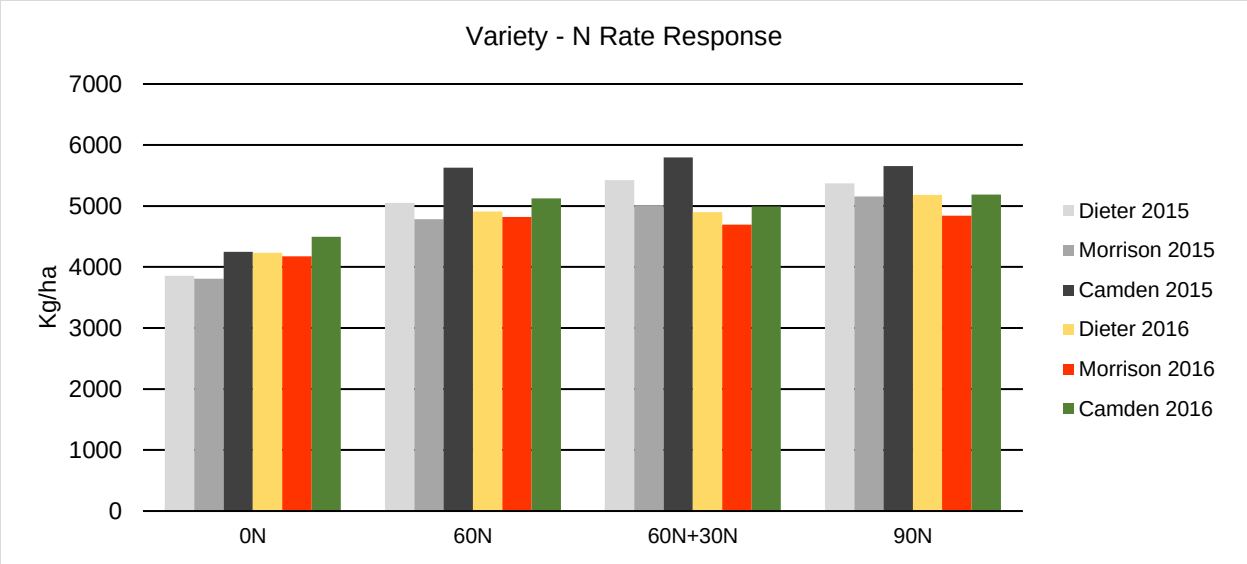
Heading Date: July 13, 2016

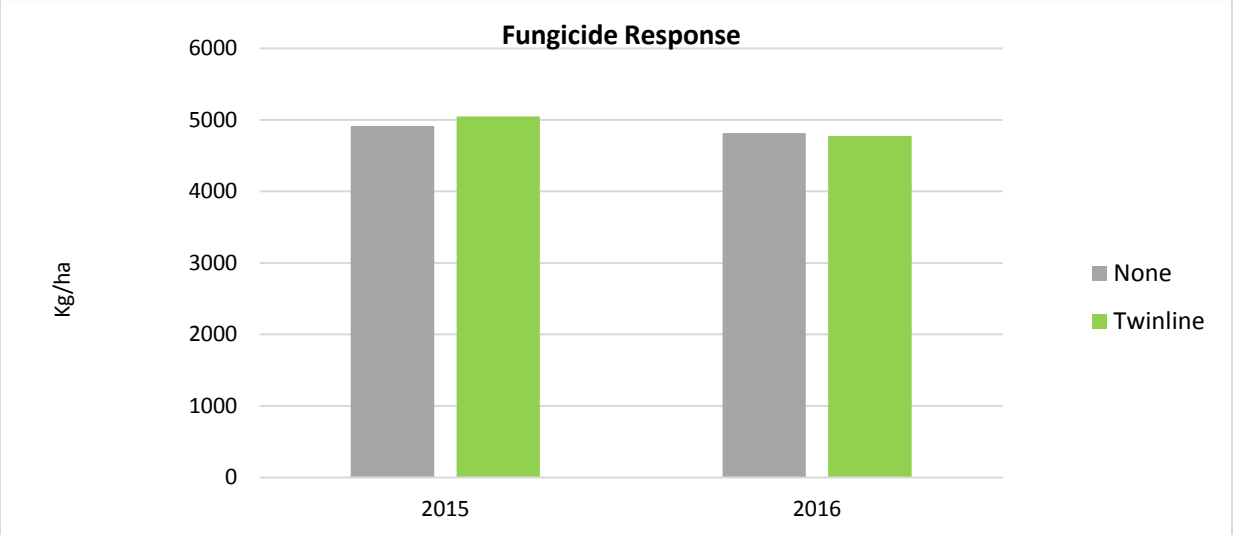
Mature Date: August 11, 2016

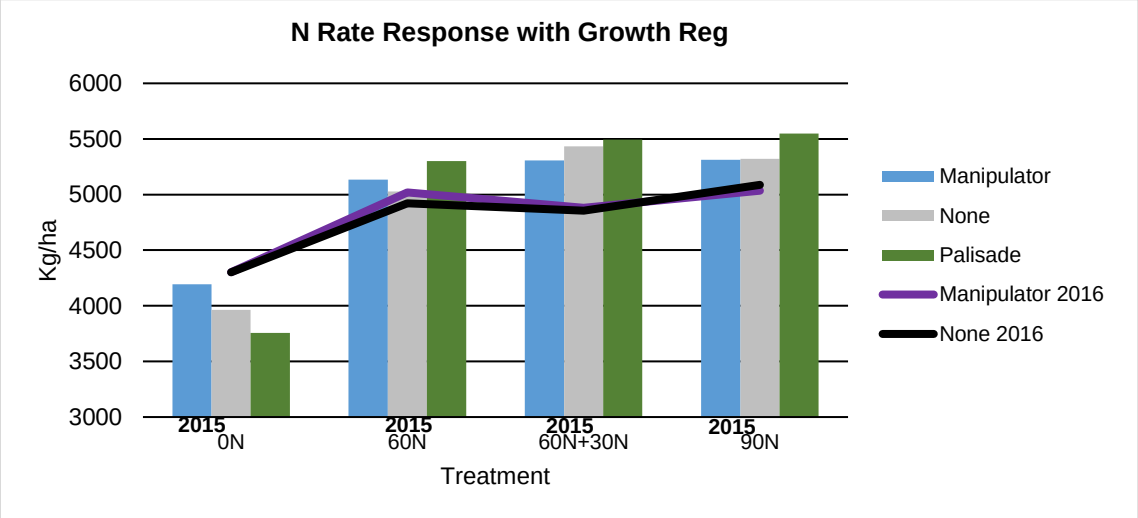
Harvest Date: August 26, 2016

The intensive oat management trial was done to measure the impacts of different treatments on oats. Three varieties of oats were grown and the treatments done on the oats were; different levels of nitrogen, nitrogen timing, effects of fungicides and plant response to growth regulators. Between the three varieties, Camden oats had the highest yields during the variety trial. Adding nitrogen to the oats improved the oat yields, there was no major improvement when Twinline was sprayed on the oats and adding growth regulators seemed to increase yields.




Variety - N Rate Response
7000
6000
5000
4000
3000
2000
1000
0
Kg/ha
0N
60N
60N+30N
90N
Dieter 2015
Morrison 2015
Camden 2015
Dieter 2016
Morrison 2016
Camden 2016


Fungicide Response
6000
5000
4000
3000
2000
1000
0
Kg/ha
2015
2016
None
Twinline


N Rate Response with Growth Reg
6000
5500
5000
4500
4000
3500
3000
Kg/ha
2015 0N
2015 60N
2015 60N+30N
2015 90N
Treatment
Manipulator
None
Palisade
Manipulator 2016
None 2016

OSACC Soybean Variety Performance Trial

data is compiled and presented within the Ontario Soybean and Canola Committee performance trial reports, which can be found at www.gosoy.ca

Treatment: P002T04R, S0009-M2, NSC Libau RR2Y, Mahony R2, PS 0035 NR2, Mcleod R2, 22-60RY, Kendo R2, Pekko R2, P0067T78R, Akras R2, PRO 2525R2, S007-Y4, Astro R2, 23-12RY, NSC Austin RR2Y, NSC Osborne RR2Y, P005T13R, P006T46R

Seeding Date: May 19, 2016

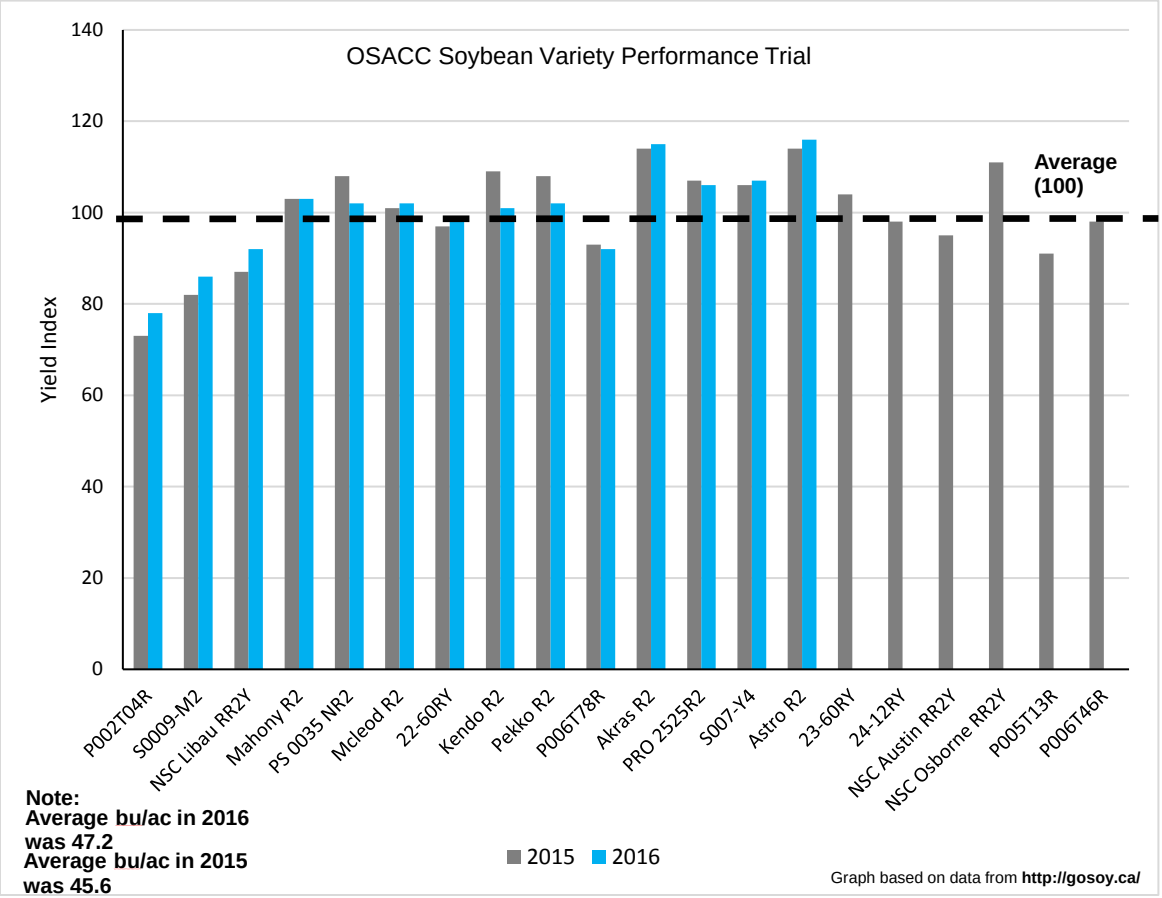
Seeding Rate: 58 seeds/m^2, 4 rows, 14 inches apart

Fertilizer: None

Sprays: Sencor 75DF, 500g/ha

Harvest Date: October 10, 2016

The OSACC Soybean Trial was done to measure the growth and production of different varieties of soybeans. All the soybean varieties were grown under the same conditions. This trial was also replicated in other research stations in Ontario. In North Eastern Ontario two of the varieties that seemed to flourish was Akras R2 and Astro R2.



Monsanto BioAg Soybeans 2016: Inoculant Trial

Treatments: Check, Quickroots, Jumpstart, Quickroots+Jumpstart

Seed Date: May 26, 2016

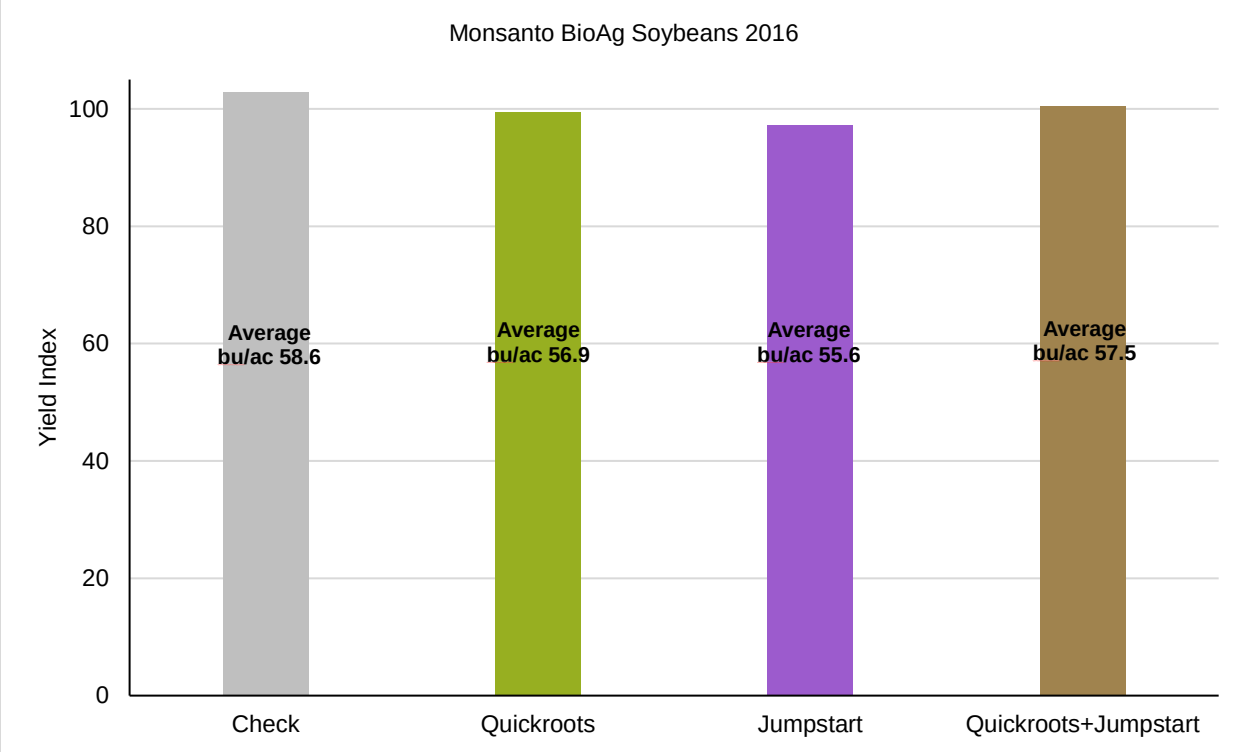
Seed Rate: 60 seeds/m^2, 4 Rows, 14 Inches

Mature: September 30, 2016

Harvested: October 10, 2016

No information on fertilizer or sprays. Seeds were also treated with Acceleron Fungicide (plus Insecticide)

This trial was done for Monsanto, testing two new seed inoculant products that are meant to improve nutrient availability for soybeans at the start of the plant development and hopefully increase crop yield. Jumpstart is an inoculant that is used to improve the availability of Phosphorus for plants. Quickroots is an inoculant that is used to improve nutrient availability for the plants, along with improving root and shoot growth of the plants. Between the four treatments, there were no major yield improvements between the different treatments.



Fava Bean 2016: Seed Treatment Trial

Treatments: Un-treated, VitaVax, Insure, Insure-Fungicide, Untreated- Fungicide, VitaVax-Fungicide and Tobor Untreated

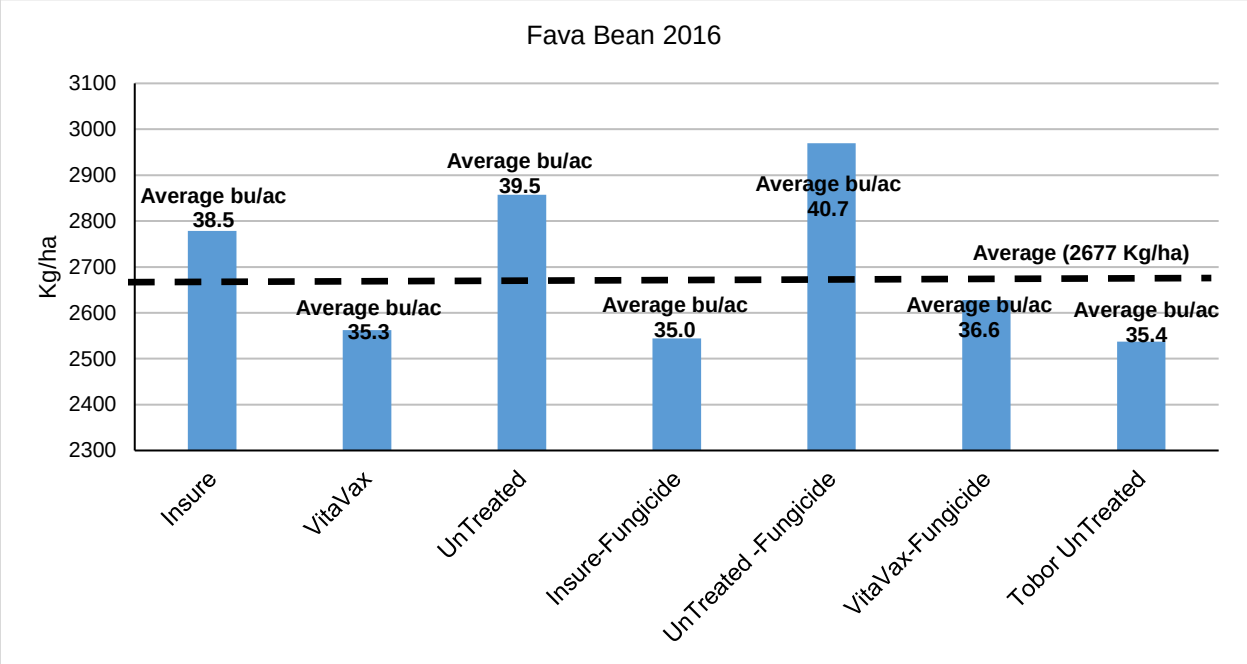
Seed Date: May 9, 2016

Seed Rate: 85 seeds/ m^2, 8 rows at 7inch space

Fungicide: 0.5L/ha Twinline on June 29, 2016

Combined: October 11, 2016

The Fava Bean trial was done to test how fava beans react to different seed treatments. The seeds in the trial were either untreated or were treated with either Insure or VitaVax, and the same three treatments were replicated with an added fungicide treatment. Overall the seeds that were not treated by VitaVax or Insure were the higher yielding plots.



Yellow Peas 2016: Variety Trial

Treatments: Lacombe, Safron, Meadow Peas

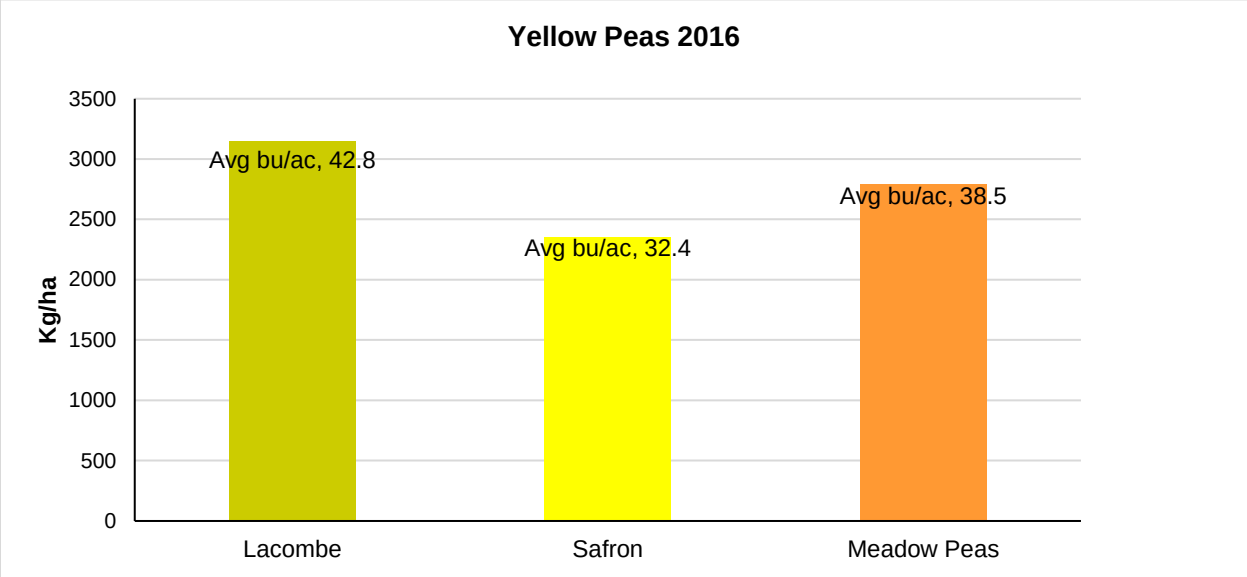
Seed Date: May 18, 2016

Seed Rate: 85 seeds/m^2

Combine Date: September 10, 2016

No information on fertilizers, herbicides or fungicides

This trial was run to compare the three different varieties of yellow peas. The results of this trial was that the Lacombe variety had the highest yielding outcome.



Yellow Mustard Nitrogen Trial in Verner

Treatments: 0 Nitrogen, 50 Nitrogen, 70 Nitrogen, 120 Nitrogen, 150 Nitrogen, 50 Nitrogen plus Fungicide, 70 Nitrogen plus Fungicide, 130 Nitrogen plus Fungicide

Seed Date: May 31, 2016

Seed Rate: 121 seeds/ m^2, 8 rows at 7inch space

Fungicide: Unknown, no records

Combined: September 24, 2016

This trial was done to measure the impact of different rates of nitrogen on yellow mustard. Five different rates of nitrogen were tested, along with three different rates that also included a fungicide treatment. The yellow mustard seemed to respond better to nitrogen levels between 50-120 and when fungicide was added, the yield response was higher.