

## Overview and Review of Crop Intelligence

By Bonnie Mandziak, Crop Intelligence, June 14, 2019

What is the difference between Crop Intelligence and the Weather Station Data (John Deere or Pessl)?

**Field Connect (JD) or Field Climate (Pessl)**– Hardware from John Deere or Pessl that measures soil moisture, rainfall, and may also have other environmental sensors such as air temperature, humidity, and leaf wetness.

**Crop Intelligence** – Is an app that interprets weather data and calculates Crop Available Water and Water Driven Yield Potential.

#### Accessing Crop Intelligence

Crop Intelligence can be accessed in 2 ways, through your mobile device as an app or through your web browser at <u>www.cropintel.ca</u>.

Login in with your email address.

New for 2019 is 2-step authentication. Once you have registered a device you will no longer require a pin.

#### Crop Intelligence Dashboard



On the dashboard you will see the field name, the seeding date, the estimated season end date based on days to maturity, the stated yield goal, and the 24hr accumulated rolling rainfall.

If your weather stations has the additional sensors you will also see the air temperature, wind speed and the relative humidity last reported when the station was cached.

Data should show for every field that you have a Field Connect weather station for.

- Available Water: calculated value that estimates how much crop available water is in your soil.
- **Yield Potential:** is a calculated value that is shown as a factor of your yield goal (i.e. yield goal +/-).
- Acc 2019 Rain: total rain recorded by rain station from date of install until today.
- **30 year Rain**: average rainfall for the same time period.

• % Avg Rainfall: compares current rain to 30 year average rain.

Click on the dashboard to access the Crop Intelligence graph where you can see the season long trend and select specific data on specific days.

#### Crop Intelligence Graph



- 10year Rainfall Average yellow bars, shows the average amount of rain that day over the last 10 years.
- **Current Rain** blue bar, shows the amount of rain received that day.

- **Plant Available Water** blue dotted line, shows the amount of moisture in the soil that is available to the plant.
- **Yield Potential** red dotted line, is the Water Driven Yield Potential of the crop. To find the total yield potential you need to add or subtract from the yield goal.
- Accumulated Current Rainfall blue dashed line, is the recorded accumulated rain for this year's growing season.
- Accumulated Average 30year Rainfall green dashed line, is the average 30 year accumulated rainfall.
- % of Average Rainfall compares the received accumulated rainfall to the accumulated 30year average.

## Features

### **Rainfall Scenarios**

In Crop Intelligence yield potential is reported from the selected day assuming a site would receive 100% of average rainfall going forward. If you select the Rainfall Scenario button you will see yield potential on today's date if you receive 75%, 50%, 25% or 0% of average rainfall going forward.

This is an excellent tool if trying to forecast the yield potential under various growing conditions. Often when trying to make early season applied nutrient decisions it is helpful to see yield potential going forward with a range of rainfall scenarios.

This is available in both the app and on the website.

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#### Yield Potential Scenarios

These are Yield Potential scenarios based on % average rainfall from today's date to season end date.

- 0% Avg Rainfall: -35.0 bu/ac
- 25% Avg Rainfall: -22.3 bu/ac
- 50% Avg Rainfall: -9.6 bu/ac
- 75% Avg Rainfall: +3.2 bu/ac

#### Soil Moisture Graph

New for 2019 the soil moisture graph by depth is now available within Crop Intelligence. This information has previously been available on the weather station website. Now rather than having to sign into two different platforms the soil moisture graph can be access on each of the field pages. Soil moisture by depths shows us where the roots are actively pulling moisture from and it is an excellent indicator of plant health. When roots are actively pulling from a zone they create a stair stepping pattern as they draw moisture out of the soil. Within the soil moisture graph we can also see how a rain event recharges the soil profile. The graph displays both soil moisture and precipitation.



### **Recording Irrigation**

If the site is under irrigation, irrigation events can now be recorded and accounted for in Crop Intelligence.

To record an irrigation event click on the irrigation button and add the amount and day.

	Add Irrigation Event
Irrigation Amount (mm)	
Date	
Add Irrigation Event	
AMOUNT DATE	

#### Ask at Question

To ask a question to the Crop Intelligence Team click on the button and fill in the information box.

When we receive your message we will do our best to respond back to you within 24hrs.

#### Contact Us

If you have questions regarding your Crop Intelligence account, please send us a message below.

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### Field Compare

Field compare plots available water or yield potential of all fields against each other. This is an excellent way to look for trends and opportunities.





#### Past Years Data

If you have had Crop Intelligence in 2018 you can select the year to view by selecting the crop year in the top right hand corner. Here you can view the Dashboard, Yield Potential Graph and Soil Moisture Graph from the previous years.

#### Changing the Units of Measure

To change between inches and millimeters, click on the 3 lines in the top left hand corner and select settings.

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