Precision Liquid Fertilizer Solutions

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AgXcel GX20 Intelligent Chemical Mixer Solution
- User Guide -

INTRODUCTION

The AgXcel GX20 Intelligent Chemical Mixer is another quality product from the AgXcel Intelligent line of products.

The following guidelines in this users guide will assist you in making the best of this solution for all your mixing requirements. The GX20 allows users to create liquid batch/recipees with various types of fertilizers and chemicals. Many times in the Ag space customers have the need to create a recipe of fertilizer using multiple fertilizers, insecticide, micro-nutrient and or fungicide mixes. All these will be batched into 1 large tank for field application. The GX20 would also serve as the technology to properly measure and apply variable rate recipes for in field application. And a third option is that the GX20 would also serve as a pre-treater for applying very low volumes of chemical on other products such as dry fertilizers.

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Quick Start Guide

The following details are outlined for the quick launch and usage of the GX20 solution. After supplying power to the physical unit and plumbing the appropriate chemicals the app may then be launched and connected to the intelligent module for use.

1. Launch the App from your tablet named AgXcel GX20
2. On the login screen Click on Register and provide the appropriate information
3. Once the user account has been created click save and then Login using your created credentials and click on Submit. This will take you to the Home Screen or Dashboard
4. You may now select Settings from the Dashboard
5. You may now select System Settings
6. And on the left side of the screen PRESS Connect to GX20 Machine

a. (if your connection fails refer to WiFi connection in this manual)

7. Its at this time that you may create a recipe under the Recipe MGT screen
8. Follow the steps on the Recipe MGT screen
9. Once the Recipe has been created and saved, you may now click on the Load Recipe button and your configured recipe will load on the home screen.
10. You can then press Start and manage your recipe.

Installation of the App

The GX20i app can be downloaded from the app store on your tablet. Go to your devices app store, type in AgXcel and you will see a series of AgXcel apps. Select the AgXcel GX20 app and select the download option. Once the app has been downloaded and installed on your tablet you can then launch the app and follow the steps under the Login Screen. The app is a self launcing and loading tool and will install all the components required to run the app properly.

NOTE: AgXcel performs this step for the initial install and setup of the GX20, however this download process may performed should it be required.

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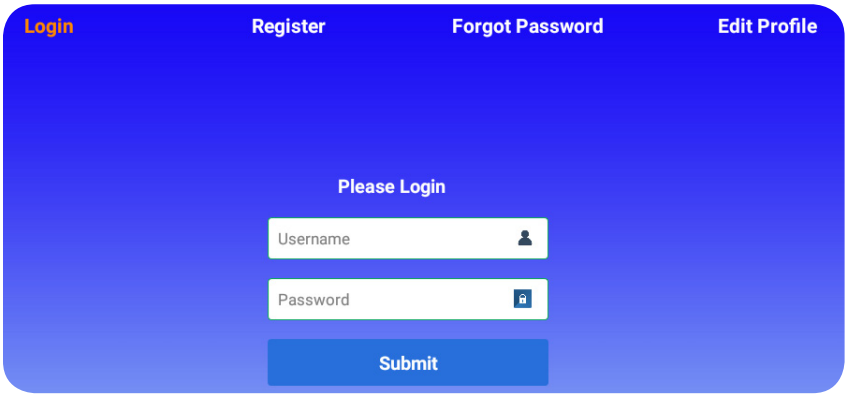
Login Screen

On the Login Screen you will see 4 options that may be selected.

1. Login
2. Register
3. Forgot Password
4. Edit Profile

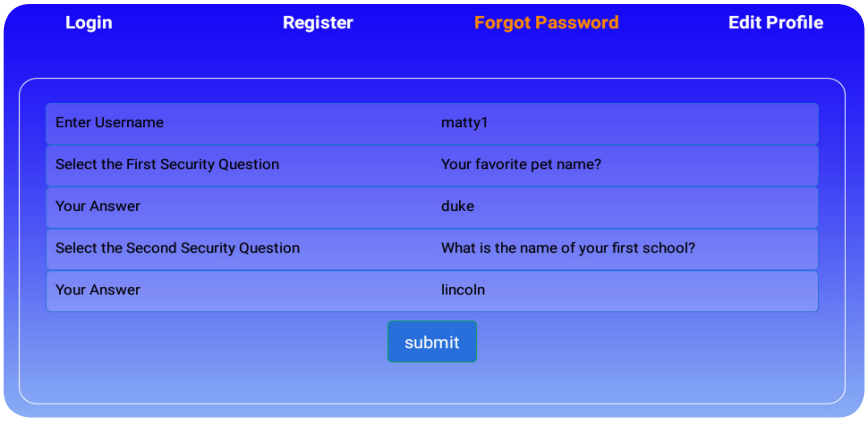
If you have already created a Login and Password then proceed to Login.



Login – This is where you will Login each time you use the GX20 app. You must first create a user name and password before you can successfully log into the system. Username and Passwords are case sensitive so make sure you remember these when saving them. Every Login user will have access to all recipes created and reports in Metrics.

Register – this is where you will enter all your user specific credentials used to track all information so that functions and recipes may be logged so at to track all chemical usage.

Forgot Password – If you have forgotten your password you can select this function to retrieve it. Simply fill in the information for each field and tap Submit. A box will appear showing your password.



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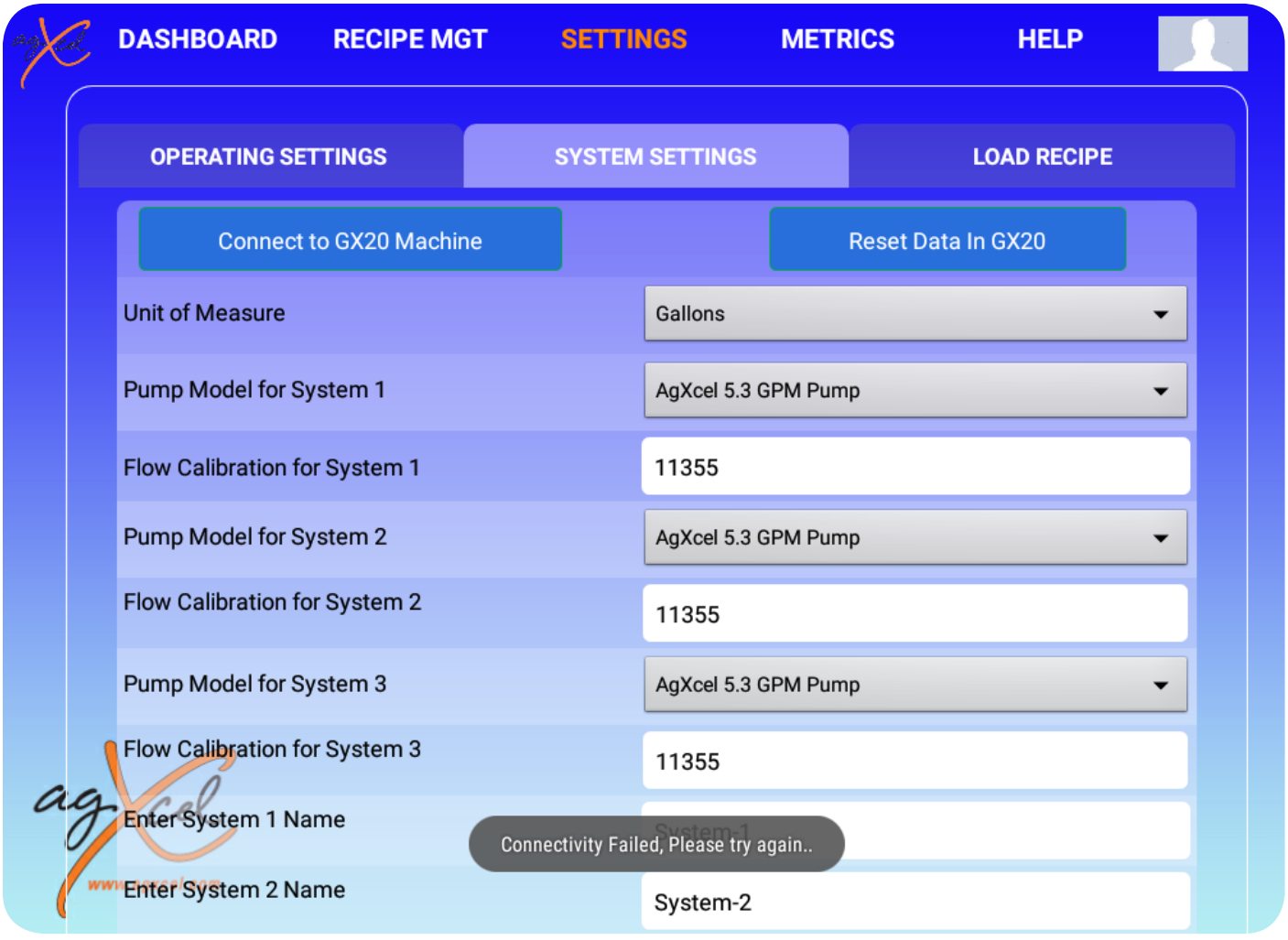
Wi-Fi Connection – AgXcel utilizes a Wi-Fi connection from the base system to the tablet. This wireless connection allows you to stay mobile when controlling the chemical mixing station. The GX20 module utilizes a USB Wi-Fi dongle and a proprietary protocol for enhanced communication with minimal communication loss. This Wi-Fi connection will vary from location to location given various environmental obstructions.

Wi-Fi setup – in order to configure the Wi-Fi connection you must first go to Settings / System Settings / Connect to GX20 Machine. When you press Connect to GX20 Machine the Wi-Fi connection will take place automatically. Watch for connection "notes" on the screen as the connection takes place. There may be times when the connection process may have to be repeated. You may receive and error as shown on the bottom of the screen below.



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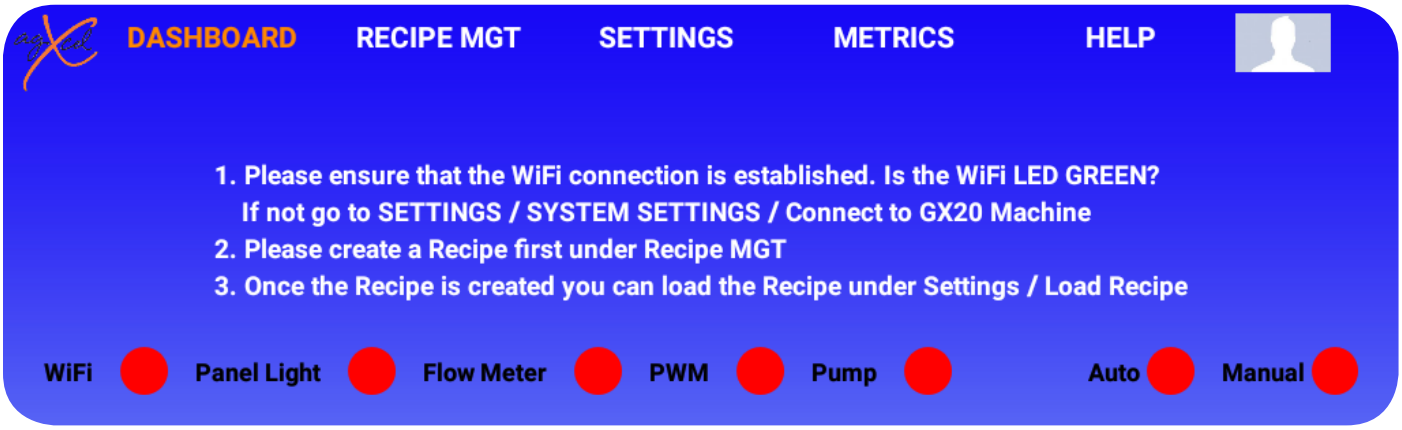
Dashboard – The Dashboard is the central control monitoring and managing page. It is on this page that you will monitor the live recipe and also control various aspects for the operation. The Dashboard is also used to monitor the various components of the system



1. **Wi-Fi** – The WiFI LED is used to inform the user of proper WiFI connections that has been established. When the LED is RED this denotes there is no WiFi connection and the user must intervene to make this connection. When the LED is GREEN this denotes that the GX20 app is connected to the control station and ready to process any functions from the user.
2. **Panel Light** – the panel light is the light that is mounted on top of the GX20 unit. This light is used to inform the user of operational tasks that are taking place. The Panel Light will use solid and flashing sequences to update the user on progress.
3. **Flow Meter** – The flow meter LED is used to inform the user that the flow meter is sending a reading back to the intelligent module. When the LED is RED this informs the user that there is no signal from the flow meter. When the LED is GREEN this informs the user that the flow meter is detecting flow and receiving a signal.
4. **PWM –** The PWM LED is used to inform the user that there is a signal being sent to the pumps and when the LED is RED then there is no signal and when the LED is GREEN the signal is received and the pumps should be running.
5. **PUMP –** The pump LED is used to inform the user that the pumps are running. RED informs the user that the pumps are not running and GREEN means the pumps are running.
6. **AUTO –** The AUTO LED means that the recipe is running in AUTO mode and that the system will run automatically until the batch is completed or there is user intervention. Red means that the system is not in Auto Mode and GREEN means the system is in Auto Mode.
7. **Manual –** The Manual mode is GREEN when the system has been switched to manual and each ingredient must be started by the user.

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Dashboard continued....

Dashboard Control Panel – The Dashboard Control Panel is where the details of each ingredient and progress are displayed. This informs the user a real-time status of the recipe cycle.

a. Product Name – name of product that is being dispensed
b. Speed – current speed of the pump in gpm
c. Actual – real-time display of gallons that have ran
d. Target – the target that is being achieved or that has been pre-configured by the user
e. Mode – auto or manual (user selected)
f. System – system 1, system 2 or system 3
g. LED – displays which system has ran
h. Pump Speed – the user can increase or decrease the speed of the pump. This will not affect the overall final rate that we preselected by the user

START – This button is used to start the recipe cycle process. When this button is pressed the button then changes to STOP which allows the user to STOP the recipe cycle at anytime.

ESTOP – The emergency button is used to stop the system in case of an issue with the system. This button will shut all functions of the system.

SETUP – this will take the user to the Settings Page

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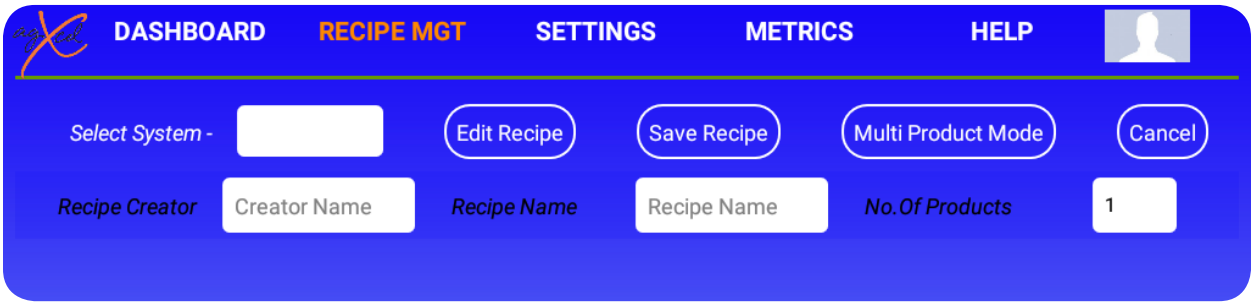
Recipe MGT

The recipe management is where the user will define his preferred ingredients. These ingredients will be used to create a final batch.



Select System – this is where the user will select how many systems he would like to configure for this recipe. The GX20 is capable of running 3 separate mixing stations. This means that you can run 2 different products at the same time with the 3rd product on hold. This is a great feature if you are using 2 products that cannot be mixed until the final run. Each system runs independently so you could also use only 1 system as well.

Create Recipe – Press this button once you have saved your recipe and you want to create a second recipe. By default when Recipe MGT is selected Create Recipe is selected by default.

Edit Recipe – This allows you to select a saved recipe for the purpose of editing it.

Save Recipe – Once a recipe has been created you can save it here.

Multi Product Mode – This feature allows you to create a recipe that only utilizes 2-3 separate products. It is like a Quick Start feature so as to start a quick batch or a commonly used batch.

Recipe Creator – Enter the name of the recipe creator if you are modifying or creating a new recipe. By default this will be populated by the user log in but can be modified.

Recipe Name – Enter the NAME that you would like to call this recipe.

No. Of Products – You can select how many products that will be drawn for the recipe. There are a total of six that can be automated.

Configuration Window – This is where all the details of the recipe will be entered.

a. Product No. – this identifies how many products have been selected for the recipe
b. Product Name – this is the name of the product for each recipe
c. Product Amount – this is the total amount of product that will be dispensed
d. Auto – when checked the system will automatically run each product with no intervention.
e. Mode – select the mode you would like to dispense the liquid
f. GPM – This will display in GPM, OZ/min and Quarts/min the actual flow
g. TIME – When running a recipe that is both based off of Time and Rate this is where you will see the time of the actual run. So if you set the TIME to 3 minutes, it will take the system 3 minutes to run the specified quantity of liquid.
h. System – Since the GX20 has the ability to operate 3 different pumps or SYSTEMS this portion of the screen will show you which SYSTEM is current running and going to run.

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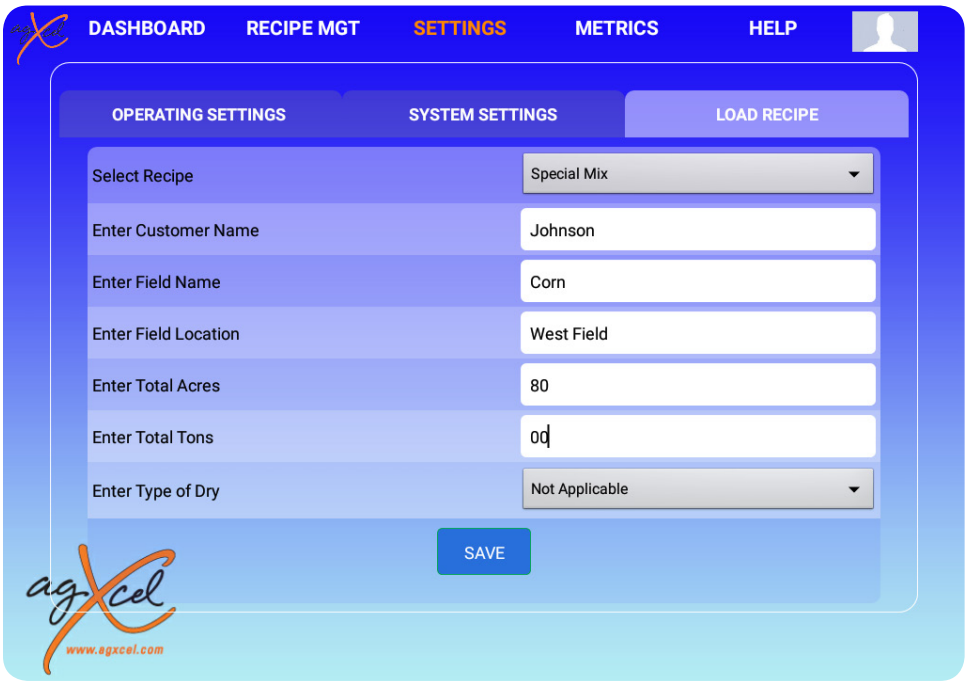
Load Recipe

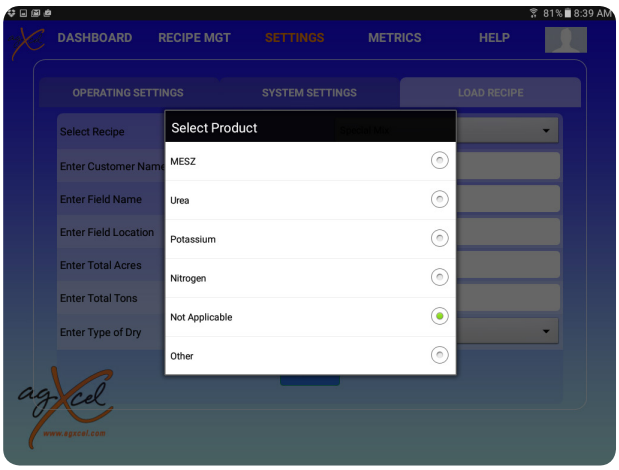
This is where the user will load the created recipe for application



a. **Select Recipe** = this is a list of recipes that have been created will be displayed here in a drop down where the user can select
b. **Enter Customer Name** = This is where the user will provide who this recipe is created for
c. **Enter Field Name** = this is where the recipe will be applied
d. **Enter Field Location** = user can enter where the field is located
e. **Enter Total Acres** = this is where the user will enter how many acres this recipe will cover
f. **Enter Total Tons** = this is where the user enters if he is treating dry fertilizer
g. **Enter Type of Dry** = This is where the user enters what kind of dry will be used.

The following options are available:

- MESZ
- Urea
- Potassium
- Nitrogen
- Other
- Not Applicable



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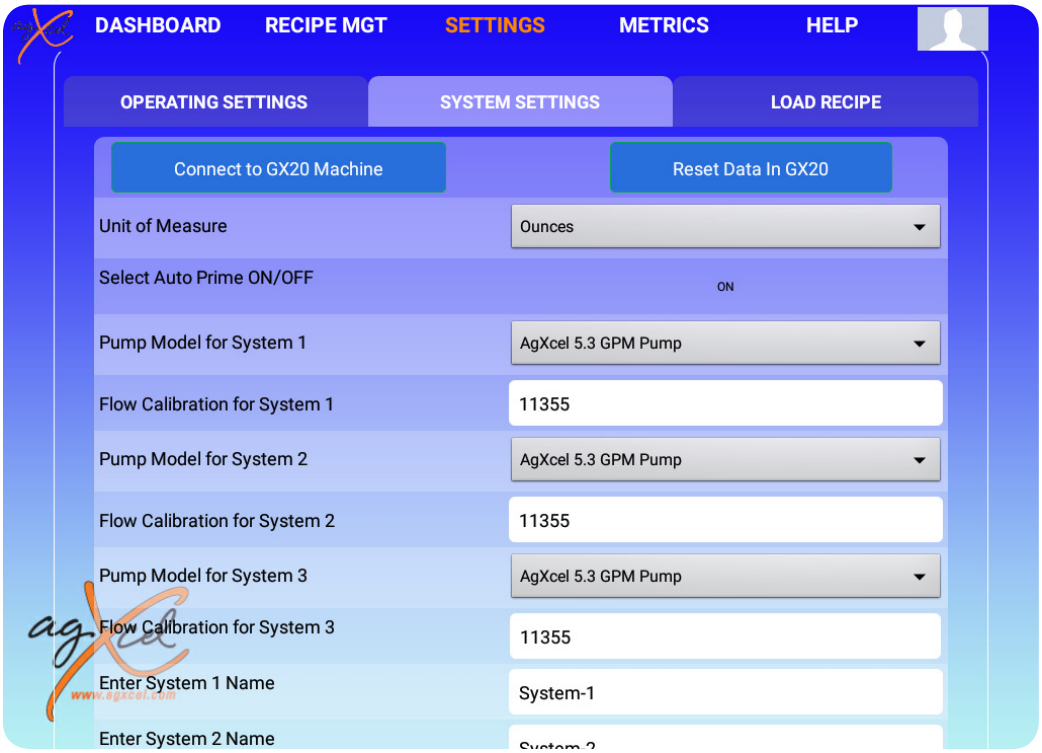
Settings – The settings TAB will take you to 3 other options



OPERATIONAL SETTINGS –

Select Measurement Type – This allows the user to select either metric or standard. Standard is selected by default

Select Operational Mode –

- Full Auto Mode
- Semi Auto Mode
- Manual Mode

Select Dispense Mode

Flow by Time and Rate

- Flow by Rate
- Flow by Rate in gpm and or opm

System Flow Mode	Performance Description	Performance Expectations
Flow by Time and Rate	This operation allows the user to set a time and rate to dispense a chemical. This will allow the user to set a flow rate and the amount of time that rate needs to be dispensed	1. User sets the flow rate to 24oz 2. User sets the Rate Time to 1 minute 3. System will apply 24oz of chemical in 1 minute 4. User can set this Operation to Continuous Output or 1 time Output
Flow by Rate	This operation allows the user to set a flow rate and the chemical will be dispensed and stop once the rate has been achieved	1. User sets the flow rate to 5 gallons 2. User starts the system and the system will run until 5 gallons has been dispensed 3. The system will then stop 4. User can set this Operation to Continuous Output or 1 time Output
Flow by rate in gpm or opm	This operation allows the user to set a flow rate based off of gallons per minute or ounces.	1. The flow rate is set to 1.2 gpm or 38 oz per minute 2. The system will dispense this rate until the user stops the system

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SYSTEM SETTINGS – System Settings is where the settings for all pump and flow meter calibrations and settings are managed.

a. Connect to GX20 Module – Pressing this feature will begin the Wi-Fi connection process. This configuration process is performed automatically. Please watch the app as there may be times when this process will have to be repeated.

b. Reset data in GX20 Module – The GX20 is capable of tracking all jobs that have been performed, recipe creations, batched jobs and many other metrics. If a job is to be reset this is where you can reset it.

c. Unit of Measure – You can set the unit of measure for each run here and the options are as follows
   - Gallons
   - Ounces
   - Quarts

d. Pump Model for System 1 – There are 3 options for selecting the pump model and size for each system. These settings are preset at the factory.

e. Flow Calibration for System 1 – There are 3 options for selecting the flow meter model and size for each system. These settings are preset at the factory.

f. Pump Model for System 2- There are 3 options for selecting the pump model and size for each system. These settings are preset at the factory.

g. Flow Calibration for System 2– There are 3 options for selecting the flow meter model and size for each system. These settings are preset at the factory.

h. Pump Model for System 3 - There are 3 options for selecting the pump model and size for each system. These settings are preset at the factory.

i. Flow Calibration for System 3– There are 3 options for selecting the flow meter model and size for each system. These settings are preset at the factory.

j. Enter System 1 Name – This is where the user may name each system according to application requirements. For example if system 1 is only going to apply or manage 1 product then this is where the NAME of the product may be entered.

k. Enter System 2 Name

l. Enter System 3 Name

m. Auto Prime – The Auto Prime feature is a function that automatically primes the GX20 pump system. This feature utilizes a micro valve to automatically prime the system and typically there is no user intervention that is required.

n. SAVE – Ensure that you press this SAVE button once you have completed your entries.

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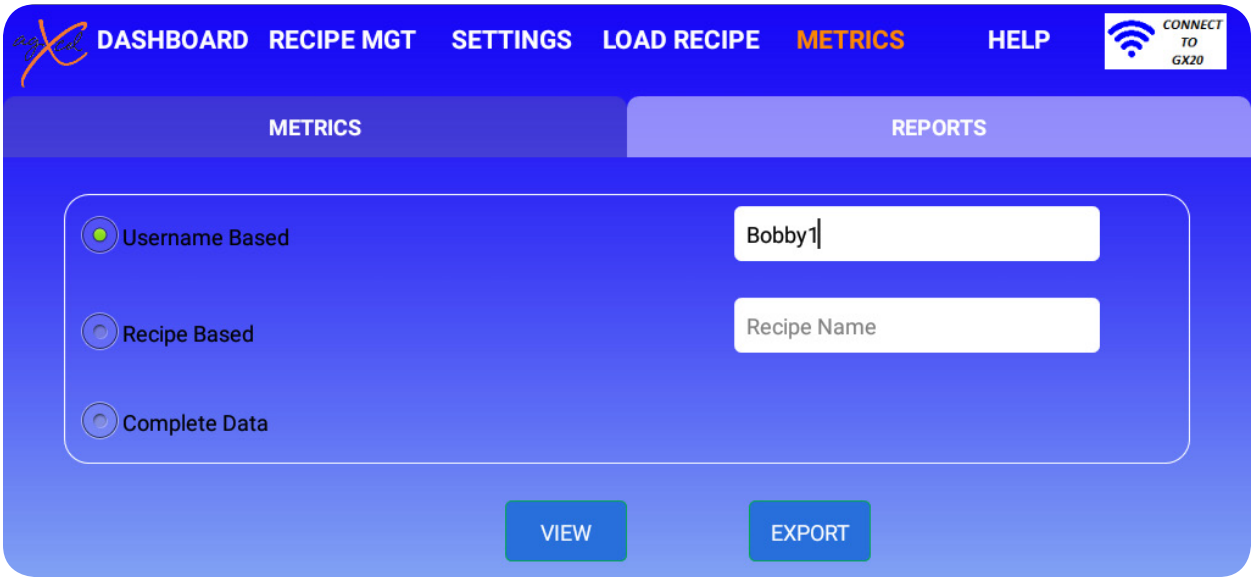
Metrics – When selecting the Metrics button the user will be taken to a page with the option to select 2 paths.

a. METRICS
    a. Total Number of Recipe Created
    b. Total Number of Jobs Executed
    c. Total Number of Pump Hours
    d. Total Amount of Products Dispensed in Gallons
    e. Total Amount of Product Dispensed in Ounces
    f. Total Amount of All Products Dispensed in Gallons
    g. Total Running Hours on Pump

b. REPORTS
    a. View in the App all recipes that have ran on the GX20.
    b. Export the reports to Device Storage

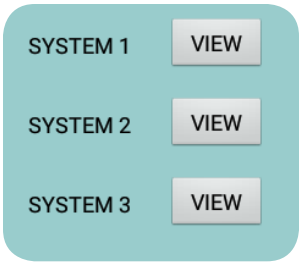
Reports track who created and managed the recipe. You can filter reports by either selecting recipes under a Username, or Recipe Name. Complete data of all Recipes can been seen. All users can access the reports page.



Reports – To see only Recipes that a particular User has managed select “Username Based” and then type in the Username. To see the Report, tap on the “VIEW” Tab. Follow the same steps if you want to see only a particular Recipe. If you want to see a complete history of all recipes that have been batched simply select “Complete Data” and then tap on the “VIEW” tab.

AgXcel Liquid System
Frequency Asked Questions (FAQ)

After choosing how you want to view the report the next page will prompt you to select a system. If you want to view a different system tap the back button on the tablet. The Reports are formatted in a spreadsheet. Under the Recipe Information Heading you will see Job ID, USERNAME, RECIPE NAME.



a. Job ID = A Job ID is a numerical number sequentially assigned each time a recipe has run.

b. USERNAME = Created by a user in the registration page. Exclusively identifies a specific user.

c. RECIPE NAME = Created by a user in the RECIPE MGT Page. Exclusive to a specific ingredient recipe.

The adjacent heading contains the System and Product Information. Under this heading it reports the name of the product. It gives a comparison of amount requested, dispensed, and the variance.

a. PRODUCT NAME = For System 1 you can enter six different product names. Each will be identifiable in the Reports Page.

b. PRODUCT DISPENSED = This is the actual amount of liquid produced.

c. PRODUCT REQUESTED = This is an amount of liquid that is entered per recipe specifications. The unit of measure can be in Gallons, Quarts, and/or Ounces.

d. PRODUCT VARIANCE = This is the calculated difference between that of what was Requested and what was Actually dispensed. It may be plus or minus.

Recipe Information			Additional Information		
JOB ID	USER NAME	RECIPE NAME →	JOB INTERRUPTED	JOB DURATION (MIN)	JOB Started DATE & TIME
19	franky	auto	NO	2:27	03/30/2017 10:56:46
18	franky	timed	NO	3:11	03/30/2017 10:47:17
17	franky	rate/min	NO	1:12	03/30/2017 10:43:40
16	franky	man mode	NO	0:23	03/30/2017 10:40:40
15	franky	man mode	NO	1:25	03/30/2017 10:29:08
14	franky	system 3 test	NO	1:53	03/30/2017 10:00:23
13	franky	paused	NO	1:14	03/30/2017 08:36:17
12	franky	paused	YES	1:16	03/30/2017 08:32:58

AgXcel Trimble Pinout Diagrams

The next Heading is Additional Information. It is here that it reports Job Interrupted, Job Duration, and Job Started Date & Time.

a. JOB INTERRUPTED = Indicates if the job was stopped by the user or not. To determine what products ran in an interrupted recipe look at PRODUCT DISPENSED, or PRODUCT 1 ACTUAL QUANTITY in exported file.

b. JOB DURATION = The total amount of time it took to run the complete recipe from start to finish.

c. JOB STARTED DATE & TIME = The date the job was performed on. Month/Day/Year. The Time of day the job was started.

The last Heading is Customer Information. This consists of Field Name, Field Location, Total Acres, Total Tons, and Type of Dry Fertilizer. This information is customizable to the needs of each user in the LOAD RECIPE Page.

Customer Information					
CUSTOMER NAME	FIELD NAME	FILED LOCATION	TOTAL ACRES	TOTAL TONS	TYPE OF DRY
Mike Trumpe	Beans	East Field	20	0	Not Applicable
Mike Trumpe	Beans	East Field	20	0	Not Applicable
Mike Trumpe	Beans	East Field	20	0	Not Applicable
Mike Trumpe	Beans	East Field	20	0	Not Applicable
Mike Trumpe	Beans	East Field	20	0	Not Applicable
Mike Trumpe	Beans	East Field	20	0	Not Applicable

- **Customer Name** = This is where the report will provide who this recipe is created for.
- **Field Name** = This is where the recipe was applied.
- **Field Location** = This is where the field is located.
- **Total Acres** = This is how many acres this recipe was applied to.
- **Total Tons** = Identifies if any dry fertilizer was treated and how much.
- **Type of Dry** = This identifies what kind of dry by name was used.

Exporting Reports – Reports can be filtered for exporting much the same way as if you were going to look at a report in the App. If you want to export a report only for a specific User or Recipe select which you want and type in the Username or Recipe Name. Then tap on the “Export” tab. To access reports that have been exported go to “My Files” on your tablet. Next select “Device Storage”. A file named “AgXcel Report Files” will be produced. Tap on it and there will be three separate reports for each system you have. Tap on which system report you want and it will open in an Excel Spreadsheet. From there you can share it.

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Help – This is where the user will go for high level assistance with the GX20 solution.

System Components

This section will outline the details of each product component that is used on the GX20 system.

LED Tower Light Behavior –

This behavior will be for the LED tower light that is mounted on the top of the GX20 unit. The LED behavior will be used to inform the user of various tasks being performed or issues that may have occurred. The light has 3 steady LED lights which are RED, YELLOW and GREEN and it has the ability to flash these LED's as well. The GX20 board will use the RED, YELLOW and GREEN LED steady lights as well as the flashing sequences. The IFB board has already pinned these i/o so we are going to use these since they are outputs already marked on the board. Flashing LEDs will also show up on the APP as these processes are running on the system. This will allow the user to identify the correct function of each LED. So there must be a matching set up LED's that flash both on the app and on the system light tower.

Steady ON

Red Steady LED – A RED steady LED means that the system has a fault and needs attention. The following items could be a fault:

1. The system is trying to prime but has failed
    a. This could be due to its inability to auto prime and needs user intervention
    b. The tank could be empty and needs to be refilled
    c. Bad flow meter and it need attention as it cannot detect flow
2. The system EPD is not responding and or has overheated
    a. Possible remedies
        i. Validate that the EPD does not have any flashing signals with the RED LED other than a steady OFF and ON when the system is idle.
        ii. If any other LED cycle is present other than a steady off and on, NOTE the LED cycle and call AgXcel Support
        iii. Power cycle the EPD by disconnecting power to the EPD, waiting a few seconds and re-applying power. This should clear up any LED signals on the EPD
3. The system is not detecting the flow meter
    a. Flow meter could have gone bad
    b. Flow meter harnesses may have an issue and the system is not detecting pulses

Red FLASHING LED – NOT USED

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Yellow Steady LED – the YELLOW steady signifies that the user has selected to run the GX20 in MANUAL mode. The YELLOW steady LED means that the system is in manual mode and is running liquid. The LED will stay Steady YELLOW as long as the pumps are running or flow meter is detecting flow and when the pumps stop the Yellow Steady will turn to YELLOW with a continuous 2 flashes and a pause.

1. YELLOW Flashing with 2 flashes and a PAUSE continuous means the system is in manual mode but the pumps are not running but are ready for their next task. Once the user presses the AUTO MODE button then the LED will switch to a Steady GREEN LED to show that the system is now in AUTO MODE.
2. The YELLOW LED light will Flash 4 fast times and pause when the system is on hold.

Yellow Flashing – the YELLOW Flashing LED is used when the system is Auto-Priming. When the user has selected to self-prime the startup process of the GX20 this YELLOW Flashing LED will continue until the unit is completely primed.

3. When the system is primed the unit will turn off the YELLOW Flashing LED and turn back to a GREEN Flashing LED,

a. Unless the system has been turned on to start a Recipe then this LED will turn to a Flashing Green LED.

4. If the system fails to Auto-Prime then it will go into a STEADY RED LED. This is when user intervention is required

Green FLASHING LED –

1. The GREEN FLASHING LED will be used to inform the user that the system has power and it is ready to perform any task. This GREEN FLASHING LED shows the user that all has booted up fine and is ready to run a task.
2. The GREEN STEADY denotes that the system has been programmed to run a Recipe of any kind in Auto Mode and the start button has been pressed and the system IS pumping liquid. This GREEN STEADY means that everything is running fine and the GREEN LED will remain Steady until the job has finished.
3. GREEN RAPID FLASH – GREEN Rapid Flashing LED means that the user is running the GX20 in a TIMED mode. This means that the user has selected to run a specified amount of liquid in a specified amount of time, a timed recipe. Once the time recipe has finished the LED will turn back to a GREEN FLASHING LED meaning the system is ready for its next task.
4. For Delayed Start - The system will Flash the GREEN LED and then the YELLOW LED and repeat to show that the system is ready but is in a delayed start. Once the delay is reached then the LED will change accordingly to a GREEN STEADY LED denoting that the system is now running.

If the user chooses to use the Auto-Prime or not, and the system has been turned on and the START button has been pressed to run a Recipe and the Recipe is running, the GREEN STEADY LED will continue to stay ON solid until the Recipe is complete or the TIMED flow rate is complete.

The LED Tower Light behavior is dominated by System 1. This means that the LED tower light will reflect only what System 1 is doing even if you have created a recipe with all three Systems. Example: If you have a Recipe with two Systems and you start system 2 first the LED Tower Light will not correspond to the system you started. The LED Tower Light will Flash Green until you start System 1.

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The LED Tower Light will behave differently as the GX20 progressively moves through products for Auto and Manual Modes.

1. **Auto Mode** = When the GX20 is switching from one product to another the LED TOWER LIGHT will flash yellow once. When it starts pumping liquid it will be LED GREEN STEADY.
2. **Manual Mode** = When the GX20 is switching from one product to another the LED TOWER LIGHT will LIGHT UP GREEN, then YELLOW.

   When it starts pumping liquid the Tower LIGHT will correspond to the function of Flow according to the recipe design. See **LED TOWER LIGHT BEHAVIOR.**

Blue Steady LED – NOT used

Alarm – Currently NOT used

Flow Meters and Pump sizing and Performance – Due to various customer requirements the GX20 may be configured to meet many different application demands. It is for this reason that the GX20 can be configured with 3 different pumps sizes and 3 different flow meters. Below are the different configuration details.

- When using a **5.3 gpm** pump the system shall be configured with the
  - i. AgXcel magnetic flow meter rated at 0.3 – 5.0 GPM using a system calibration number of 11355 pulses per gallon. This setup is capable of producing up to 4.5 GPM of flow.
  - ii. The 5.3 gpm pump is rated at the following
    1. 5.3 gpm / 20.1 lpm
    2. Volts – 12vdc
    3. Max amps – 16
    4. Pressure – 70 psi / 4.8 bar
- When using a **2.0 gpm** pump the system shall be configured with the
  - iii. AgXcel magnetic flow meter rated at 0.13 – 2.6 GPM using a system calibration number of 22710 pulses per gallon. This setup is capable of producing up to 1.8 GPM of flow.
  - iv. The 2.0 gpm pump is rated at the following
    1. 2.0 gpm / 7.6 lpm
    2. Volts – 12vdc
    3. Max amps – 7.0
    4. Pressure – 70 psi / 4.8 bar
- When using a **1 gpm** pump the system shall be configured with the
  - v. AgXcel magnetic flow meter rated at 0.8 – 1.6 GPM using a system calibration number of 37850 pulses per gallon. This setup is capable of producing up to 4.5 GPM of flow.
  - vi. The 1.2 gpm pump is rated at the following
    1. 1.2 gpm / 5.0 lpm
    2. Volts – 12vdc
    3. Max amps – 7.0
    4. Pressure – 70 psi / 4.8 bar

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USB Port – There will be a USB port that will protrude from the enclosure that will be used to connect the WiFi dongle. The external connector will be used so that there will be better/improved signal coverage rather than in the enclosure. This external USB dongle will have an extension cable that runs back to the RPi board.

Master On/Off Switch- (MS)

A master on/off switch will be mounted on the top of the enclosure. This MS shall be used to turn the system completely off. The power source will be 12v but may be produced directly from a 12v source or a power converter. In each scenario the power source MS shall cut all power from the GX20 mixer. The MS is used to control all power to the GX20 but should not be used to turn off the system in case of an emergency. The E-STOP should be used to shut the system down in case of an emergency as the E-STOP will break the power source from the board to the PWM or from the PWM to the pump.

The E-STOP should be used to shut the power off in an emergency for example:

1. A hose is leaking or has burst (more than likely not to happen since the pump has an internal bypass set to 50 PSI)
2. An incorrect product is being dispensed
3. The user would like to stop the flow so as to address another issue

Shutting the system off in an emergency situation using the MS may result in some data or recipe data lost as this will completely turn off the entire system and data results may not have been saved.

E-STOP – See Master Switch details

Power Supply –

The GX20 supports 2 versions of power supply for various environment scenarios.

a. GX20i 12v version – this version will allow the user to connect to a 12v source such as a vehicle and or tractor to supply the required voltage.

b. GX20i 120v version – this version will allow the user to connect to a 110v source such as in a warehouse or shop.

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EPD LED Troubleshooting

The chart below outlines the EPD LEDs shown where there is an issue with flow from the system and or the EPD is not performing correctly.

STATUS INDICATOR LIGHTS		
Light on steady		Unit is turned on and operating normally
Steady Flashing		Unit in HOLD. Check Run/Hold jumper or remote switch for correct operation.
1 Flash/pause		Open circuit detected. Check motor connections for open.
2 Flash/pause		Output short circuit detected. Check motor wiring.
3 Flash/pause		Over-current condition. Check total load.
4 Flash/Pause		Input Power fault. Check input power wiring.
5 Flash/pause		Input frequency out of range. (PWM models only)
NOTE: Cycle power with the controller ON/OFF switch to clear a fault code		

Intelligent Module LED's

The module has a series of LED's on the top cover outlining various functions of the GX20 system. The LED's serve as a means to troubleshooting the system as well as identifying key elements of the performance cycle.

1. GREEN LED #1 – This LED turns solid GREEN when 5v is present from the power source and FLASHES GREEN when voltage falls below 5v.
2. YELLOW LED #9 – This LED turns SOLID YELOW when the SD card is present and it is detected and will FLASH YELLOW when loading. Stays OFF when not detected or not sensing the card.
3. BLUE LED #8 – BLUE LED turns SOLID BLUE when WiFi connection is made and FLASHES BLUE when connection is bad or being made. When connection to WiFI is made then BLUE FLASHING LED turns SOLID BLUE. When the IFB or RPi detects that there is NO WiFi dongle in the port then BLUE LED will stay OFF