

JOHN DEERE RC2000

QUICK START GUIDE

for ETS SoilWarrior®



ENVIRONMENTAL
TILLAGE SYSTEMS

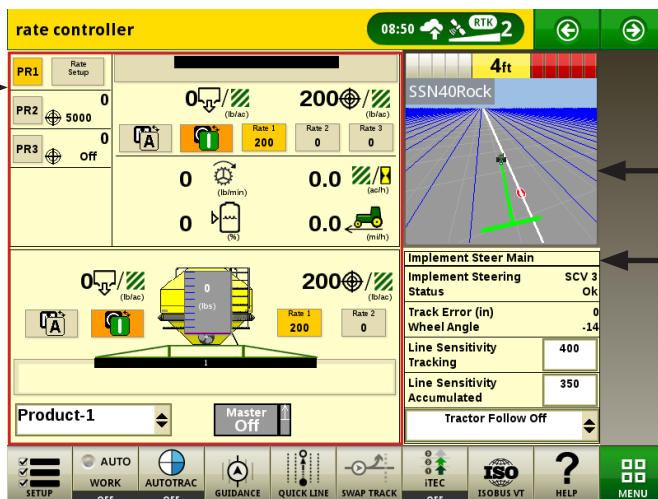
JOHN DEERE RC2000

The SoilWarrior® is a complete system that provides deep and shallow tillage, fertilizer placement, seedbed preparation, and residue management in a wide variety of soil types. This system is equipped with the latest technology for precision nutrient placement and monitoring technology. Each system allows the user to setup the machine to their personal preference based on the machine type, capacities, and uses. This is a step-by-step reference guide on how to set up a dry, liquid, or NH3-equipped SoilWarrior.

JDRC2000 Main Run Screen

The JDRC2000 runs on the ISOBUS VT of the John Deere monitor. Select the ISOBUS VT icon to see available ISOBUS controllers currently connected to the JD 4600. On the JD 2630 display, select the menu icon, then select the JDRC2000 button.

This list shows the connected ISOBUS controllers. Select the JDRC2000 to begin setting up the SoilWarrior.



Tractor Auto Guidance

Implement Steer

ISOBUS VT Controller List

The JDRC2000 Main screen will show the number of Products/Channels set up. To see more specific data, select the PR(x). Once highlighted, specific product information will be displayed. Information such as target rate, applied rate, ac/hr, and tank product level are displayed.

Icon Key



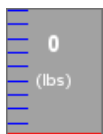
The icon with the red and white circle allows the product to be turned on or off. Red= Off Green=On



The Manual/Automatic Rate control icon will show an M or A indicating how the product is being applied.

A = Automatic/Predefined and map-based (Rx)

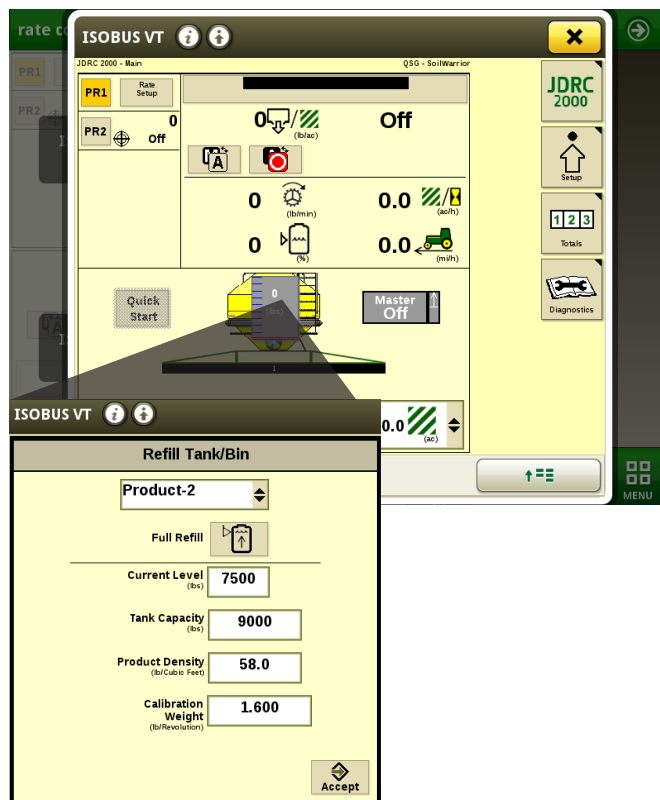
M = Manual rate



Selecting the tank icon on the run screen opens the Tank Refill menu.

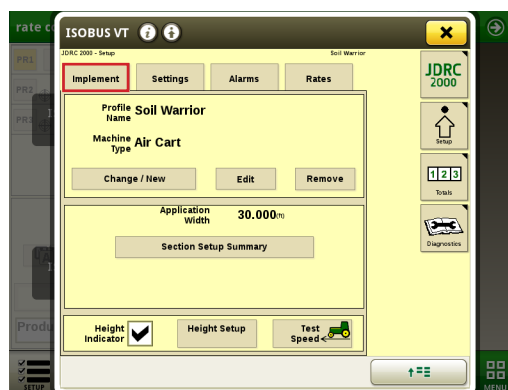


To begin configuring the JDRC2000 for your SoilWarrior, select the Setup icon on the right.



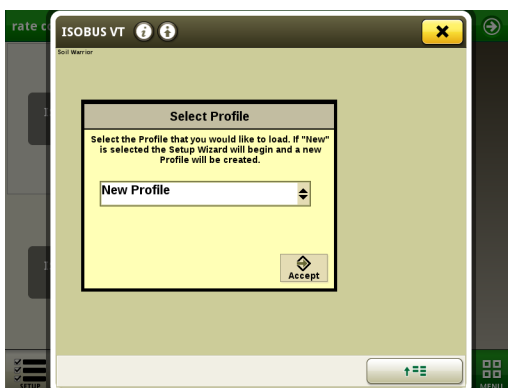
Screenshots taken from a JDRC2000 connected to a JD 4600 monitor.

In the JDRC2000 Setup screen, there are four tabs on the top for different settings. Start with the Implement tab. This tab lists the profile name and machine type that is currently configured. To create a new profile, select Change/New.



Select Profile

From the dropdown menu, select New Profile, then select Accept.



Name Profile

Add in the Profile Name, then select Machine Type.

For the SoilWarrior, **Dry Only**, select Air Cart.

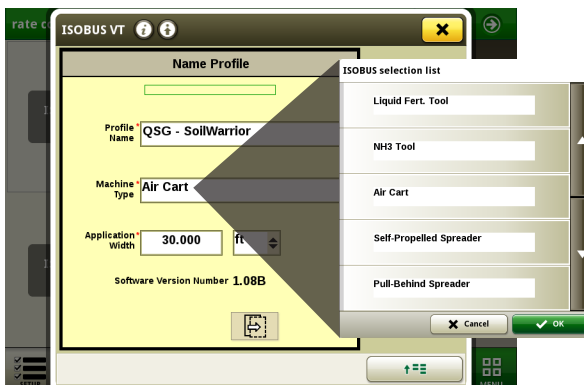
For a **Liquid** SoilWarrior, select Liquid Fert. Tool.

For a SoilWarrior with **Dry + NH3**, select NH3 tool.

For a SoilWarrior with **Liquid + NH3**, select NH3 tool.

Enter the application width of your SoilWarrior.

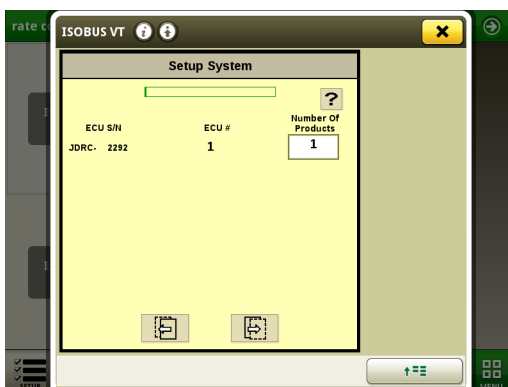
After all information has been entered, select the Next Page icon.



Setup System

The Setup System screen will list the connected ECU's and their serial numbers. Confirm that the correct number of ECU's is showing, and enter the number of products for that ECU.

NOTE: Enter the number of channels/products you want to control. Enter the number of tanks.



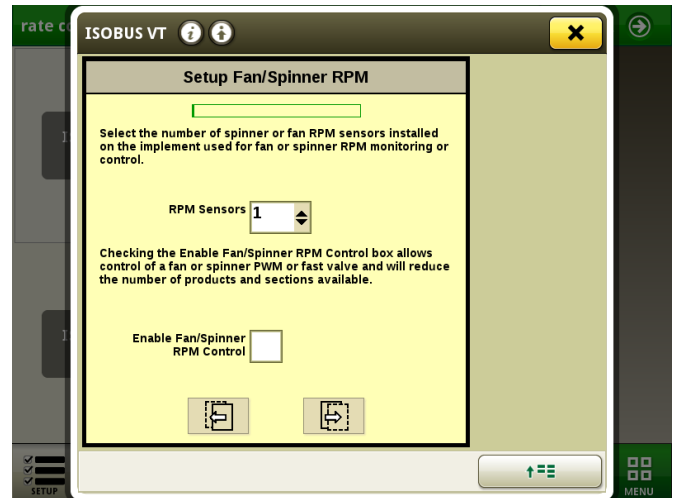
Select the Next Page icon.

Setup Fan/Spinner RPM

Enter the number of RPM Sensors (number of fans).
Either 1 or 2.

Leave the **Enable Fan/Spinner RPM** control box un-checked. Fan RPM is controlled by the flow setting on the SCV.

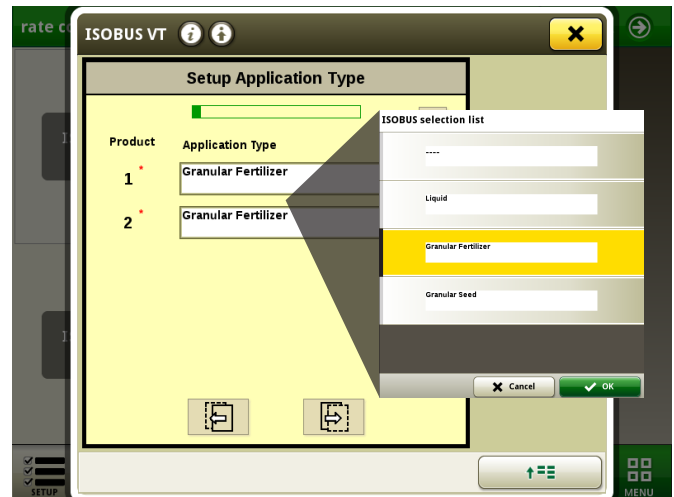
Select Next Page icon.



Setup Application Type

It will list the number of products you selected and have a dropdown menu for each one. Select the drop down menu and select the appropriate product type you are applying. Repeat for each product.

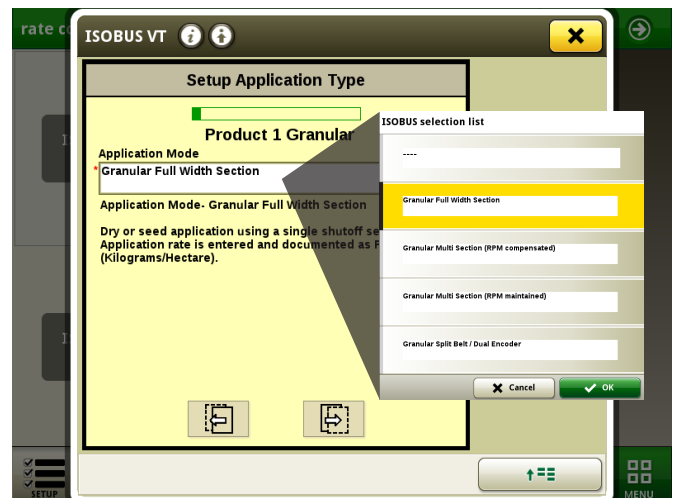
Select Next Page icon.



Setup Application Type

On the next screen, select from the **Application Mode** dropdown, **Granular Full Width Section**.

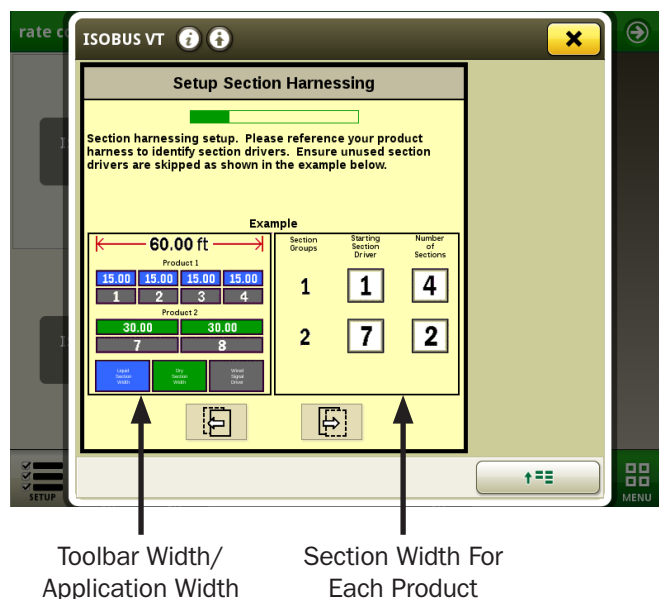
Select the Next Page icon and repeat for each dry product.



Section Harnessing

The next part of the setup wizard is Section Harnessing. The images shown are for a 60-foot machine. Set up your harnessing according to your machine specifications.

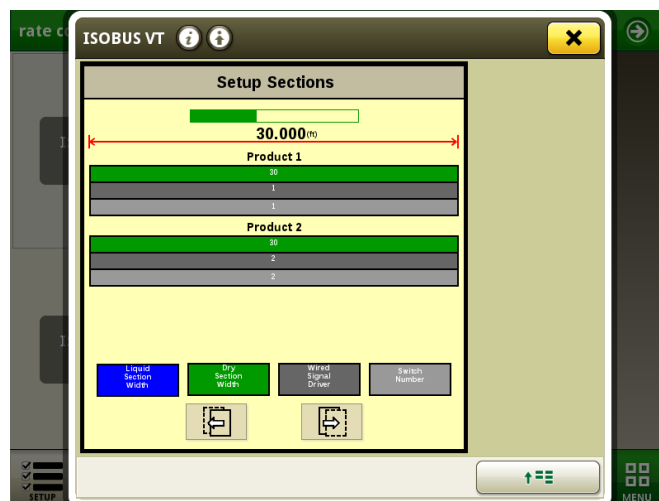
Select the Next Page icon to configure the section harnessing for the SoilWarrior.



Setup Sections

On the Setup Sections screen, you will see each product you configured and the section width for each product. Verify for each product that the width covers 100% of the application width.

Select the Next Page icon to proceed.



Setup Aux Functions

Setup Aux Functions configures the fan. Enter the following:

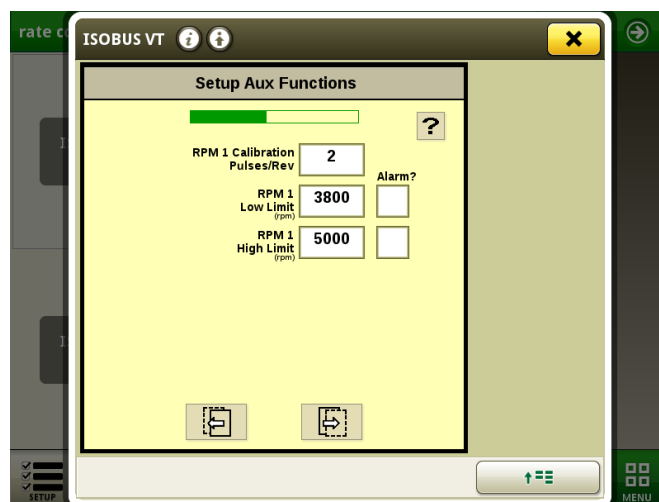
RPM 1 Calibration Pulses/Rev: 2

RPM 1 Low limit: 3800

RPM 1 High Limit: 5000

Check the box under “Alarm?” when you want the display to alert you if the fan speed is too high or too low.

Select the Next Page icon.



Setup Control Valve

From the dropdown menu next to Control Valve type, select **PWM Close**.

For Valve Response Rate: 50

Control Deadband: 2%

Select Next Page icon.

Setup PWM

Enter the following:

Coil Frequency: 122

High Limit %: 100.0

Low Limit %: 1.0

PWM Startup %: 0

Select the Next Page icon.

RPM Sensor Assignment

Select the product or tank you want to assign the fan to. Only one product is necessary.

Select the Next Page icon.

Setup Rate Sensor

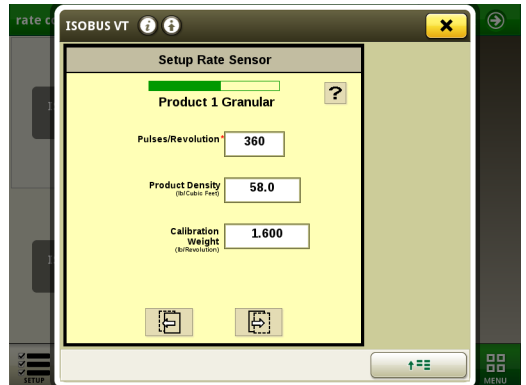
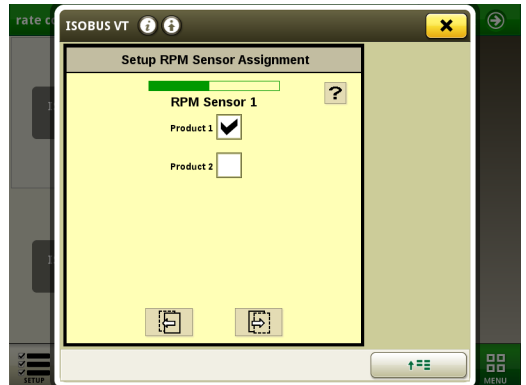
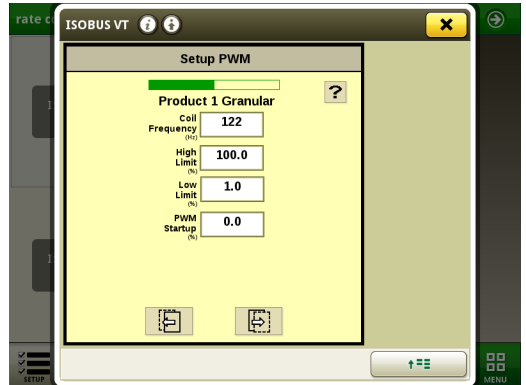
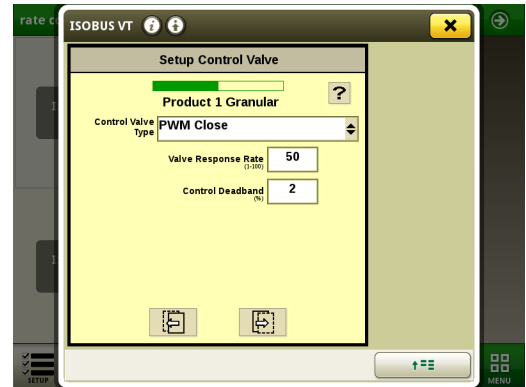
Pulses/Revolution: 360

Enter the known product density of the product you are applying:

Refer to this equation to enter in Calibration Weight:

$$\text{CFR/Roll} \times \text{\#Rolls} \times \text{Product Density} = \text{lbs/rev}$$

Meter Roll	CFR/Roll	Number of Rolls	Product Density	LBS/REV
#7	0.0046	6	58	1.6008
#10	0.0064	6	60	2.304
#13	0.0081	6	70	3.402
Select Meter Roll installed	Do Not Change	Change to how many meter Rolls per tank on unit	Product density of correct and tested product in tank	Calibration weight to enter at Setup Rate Sensor
1) Determine Meter Rolls installed				
2) Determine Number of Meter Rolls - Enter number of rolls				
3) Product Density of Correct and Tested product in Tank -Enter the tested weight				
4)The LBS/REV number will appear in column E - Enter that number into the Setup Rate Sensor Screen				
Complete a static calibration test to conform settings.				
ONLY CHANGE NUMBERS IN YELLOW AREA.				



Setup Tank

Configure the tank specification for Product 1.

Tank Capacity:

The SoilWarrior can be configured with three different **dry tank sizes**.

160 bushel - approx. 9,000 lbs.

130 bushel - approx. 7,500 lbs.

75 bushel - approx. 2,000 lbs.

The SoilWarrior can be configured with four different **liquid tank sizes**.

1,000 gal. 1,250 gal.

1,600 gal. 2,200 gal.

Current Level: The amount that is currently in the tank.

Low Tank Level: Enter the amount at which the system will alert you.

Check the Alarm box to activate the alarm. Check the “Low Bin Level Sensor” if bin level sensors are installed.

Select the Next Page icon.

Setup Rates

On the rate setup, select the Rate Selection to be used: Map-Based (Rx VRT), Pre-defined, or Rate Bump.

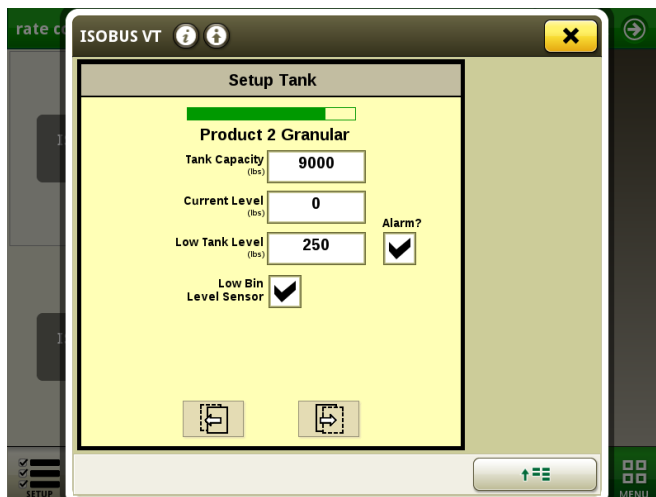
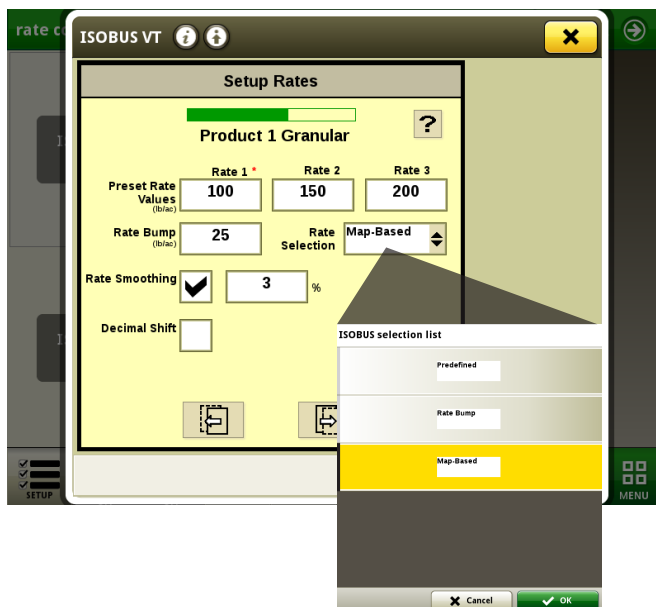
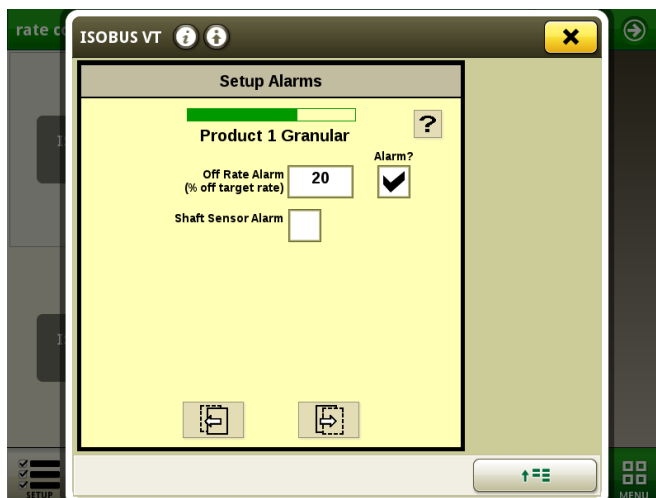
For Map based and pre-defined, enter at least 1 manual rate. You can enter 3 to have a short cut to a known rate on the home screen. Enter the rate bump increment. This is to manually increase/decrease (the rate it will adjust by the number entered), the amount it will adjust by.

Select Next Page icon.

Setup Alarms

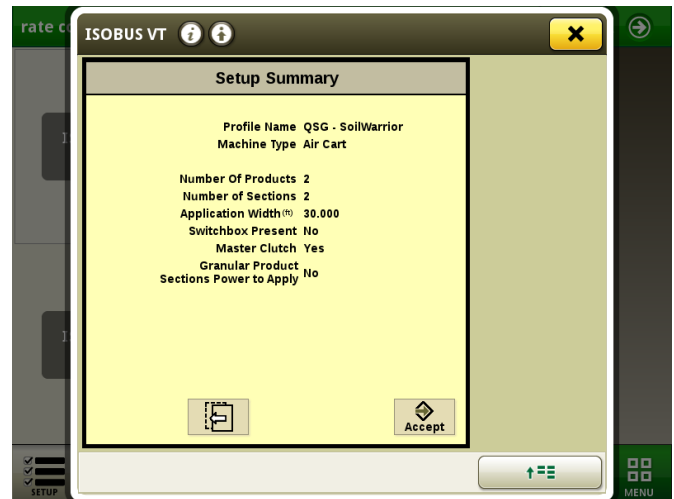
Enter the Off Rate Alarm. This value will be the allowable error off target rate before the RC2000 presents a warning. This step is optional.

NOTE: Repeat Control Valve, PWM, Rate Sensor, Tank, Rates, and Alarms steps for each dry product/tank.

Setup Summary

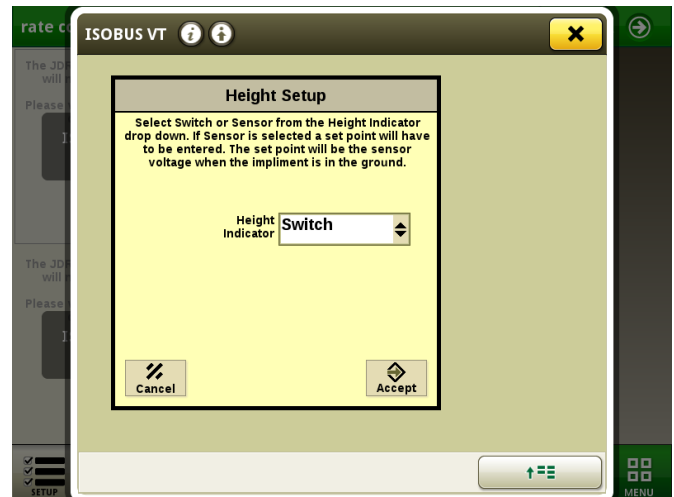
After completing the setup for all products/tanks, a Setup Summary Screen will be shown that lists the number of products, sections, application width, and other details about the configuration. Visually verify the information is accurate and click the Accept icon.



Height Setup

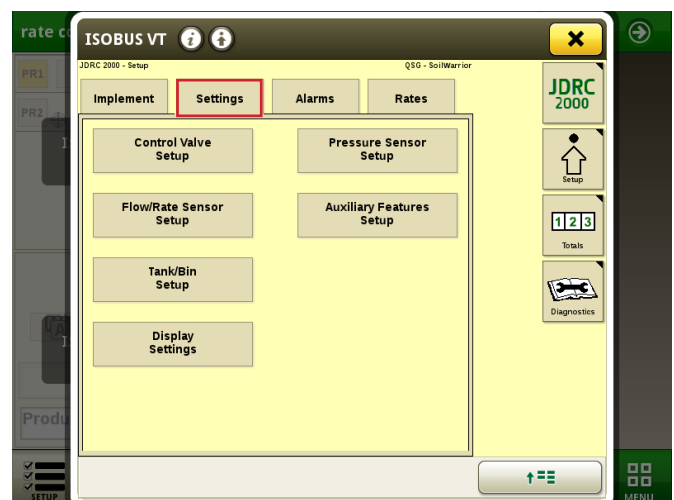
After the RC2000 loads the configuration, Height Setup is the next screen. From the dropdown menu, select Switch, then click accept.

NOTE: After completing the height setup, this will complete setting up the SoilWarrior in the Wizard under the Implement Tab.



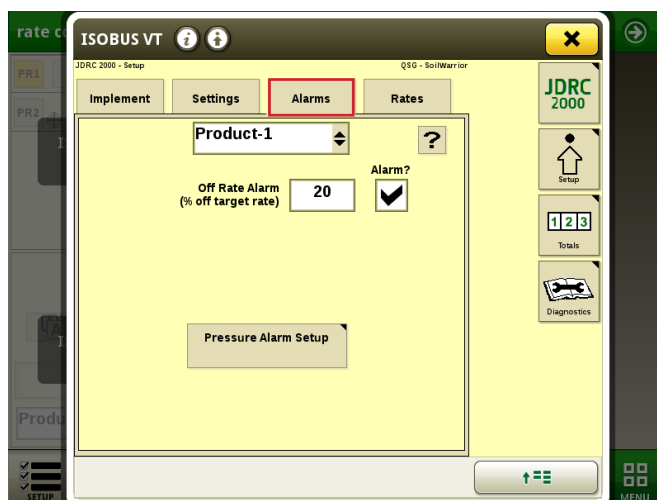
Settings

The next tab in the RC2000 Setup is Settings. The Settings tab shows all the implement settings in each category. Refer to the John Deere manual on the RC2000 for more details on the Settings Tab.



Alarms

The next tab is Alarms. Under this tab, Product Alarms can be configured. The off-rate alarm is the allowable error set before the RC2000 initiates an alarm. Select the Product-1 dropdown menu to configure the other products.



Rates

The final tab in the Setup menu of the RC2000 is Rates. Options in the rates tab allow for editing rates for each product setup. There are multiple options for configuring the rate with three preset rate values that can be entered.

Rate Bump is the amount of rate increase or decrease when the manual rate adjustment is selected on the run screen.

Rate Selection has three options:

Map-based: Allows for Rx to be used.

Pre-defined: Uses one of the preset rate values entered. It allows for switching between the three.

Manual: User is in control to enter a rate and use the rate bump to increase or decrease the rate.

Rate Smoothing: is a smoothing feature to smooth out readings on the JD RC2000.

Decimal Shift: Allows for finer tuned rates. Adds a decimal point to the rate values.

Product Type: For dry product in the SoilWarrior, select granular fertilizer.

