

Ag Leader Seed Tube Monitoring Module

Load Configuration

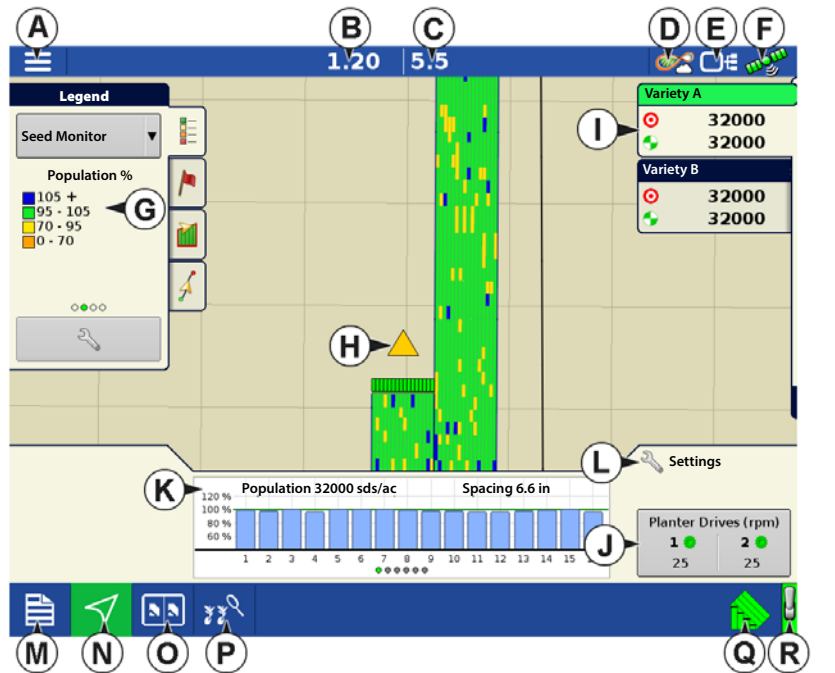


Press the Planting App from the home screen. This will take you through the steps needed to load a configuration.

Map View

Once a configuration has been completed, the Map View screen appears.

- A. Menu button
- B. Total Logged Field Area
- C. Ground Speed
- D. AgFiniti Status
- E. Diagnostics
- F. GPS Signal Indicator
- G. Display Legend
- H. Vehicle Icon
- I. Product Control toolbox
- J. Planter Drive RPM
- K. Bar Graph
- L. Settings button
- M. Event Summary
- N. Map View
- O. Split screen
- P. Advanced Seed Monitoring
- Q. AutoSwath
- R. Master Switch Status

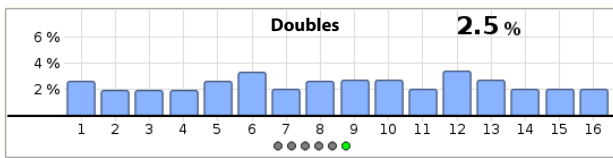
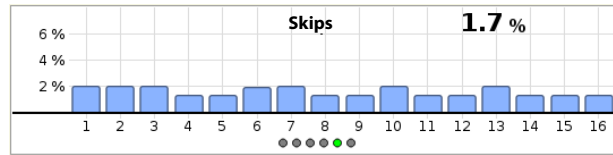
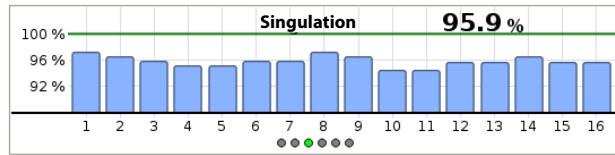
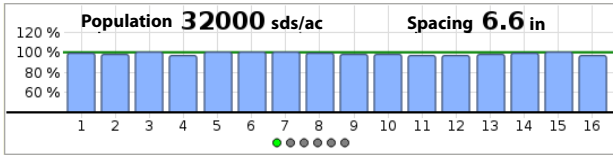


NOTE! Pressing the Map View button will cycle between the available Map Screen views, and the appearance of the Map View button changes.

Advanced Seed Monitoring

Bar Graph

Swiping left or right will toggle the bar graph between all the following seed placement performance graphs.



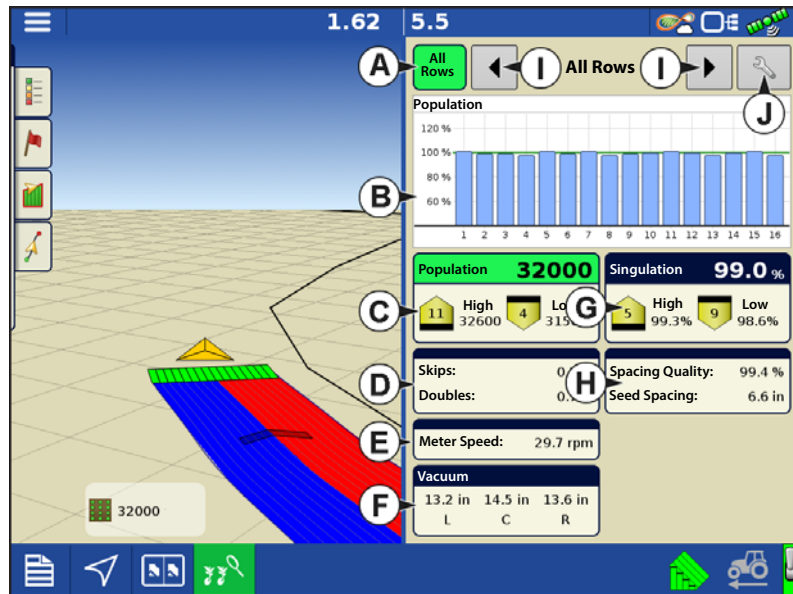
Advanced Seed Monitoring



Press: Advanced Seed Monitoring button

Planter Performance screen

- A. All Rows
- B. Bar Graph
- C. Population
- D. Skips/Doubles
- E. Meter Speed
- F. Vacuum
- G. Singulation
- H. Spacing Quality
- I. Previous/Next Row Toggle
- J. Seed Monitor Options



Advanced Seed Monitoring provides planter performance monitoring of seed meter singulation, skips/doubles and spacing quality, along with population and spacing information for all rows when planting compatible crops.

In addition, Advanced Seed Monitoring automatically determines and displays the rows operating at the highest and lowest levels for singulation and population. The screen also shows the averages for specific drive sections.

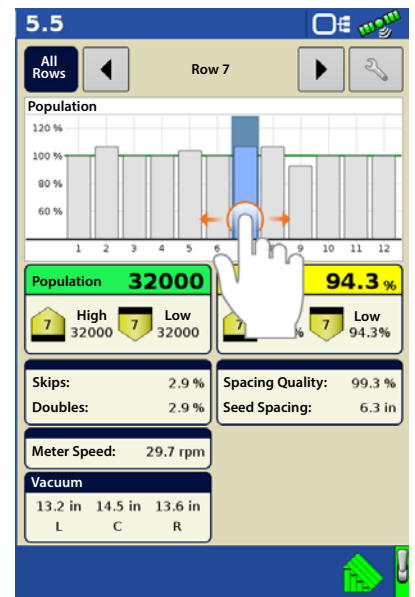
Bar graph can show individual row information for the averages shown on buttons (C, D, E, G, H).

Ag Leader Seed Tube Monitoring Module

- A. **All Rows**—Planter average for display items (C, D, E, G, H) at the bottom of the screen.
- B. **Bar Graph**—Displays population, singulation, spacing quality, skips, and doubles, as selected by the operator.



NOTE: An operator may also touch the appropriate bar on the graph to show that specific rows Advanced Seed Monitoring values. To easily change between specific rows, tap and hold your finger on the bar graph, then drag left or right between rows. Release your finger from the screen when the desired row is highlighted.



- C. **Population**—Displays the average population for the planter, or sections of the planter, along with the highest and lowest population row.
- D. **Skips/Doubles**—Displays the average skips and doubles for the planter
 - Skips are a measure of the percentage of seed expected to be planted that are not due to a seed not being dropped by the seed meter.
 - Doubles are a measure of the percentage of seed expected to be planted individually but instead two or more are dropped by the seed meter.
- E. **Meter Speed**—Displays row by row meter speed
- F. **Vacuum**—Displays installed vacuum sensors
- G. **Singulation**—Displays the average Singulation for the planter, or selected sections of the planter, along with the highest and lowest rows.
 - Singulation is a measure of the percent of seeds being properly metered so that one and only one seed drops from each seed cell of the seed meter.
- H. **Spacing Quality**—Displays the average spacing quality for the planter, or selected sections of the planter, along with the highest and lowest.
 - Spacing quality is a measure of the percent of seeds being properly placed so that the spacing is as expected in the seed trench.
- I. **Previous/Next Row Toggle**—Toggle through the rows using the arrow buttons or press on a specific row in the bar graph to show specific Advanced Seed Monitoring values for that row.



J. Seed Monitor Setup—Pressing this button brings up Seed Monitor Options screen.



NOTE: If you are receiving Double, Skip, or Poor Spacing indicators while planting, refer to [“Singulation Errors” on page 10](#) and [“Spacing Quality Errors” on page 11](#).

Creating Products

Creating planting products can be completed during initial setup or from the Product Selection screen of the Field Operation Wizard when starting a field operation.

Follow described steps to create planting varieties during initial setup.



1. Select **Product Type** (Crop) and **Product Units** (seeds or pounds).
2. Enter **Variety** or **Hybrid** name.
Press to enter a unique name for the variety or hybrid.

3. Enter **Variety** or **Hybrid Manufacturer** is applicable.

Manufacturer name can be added to the drop-down menu by pressing .

4. Press  to complete Product setup.

Created variety or hybrid should appear under the Planting heading located on the Product tab of the Configuration Setup Screen.

Create Configuration

A wizard will guide you through the process of selecting or creating a configuration with application settings.

The configuration can be started in two places:



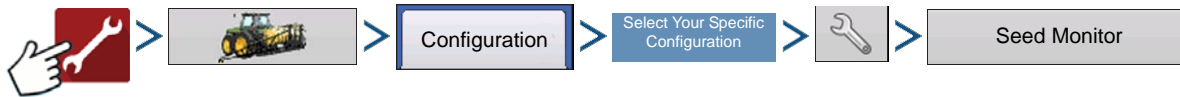
OR





Your Operating Configuration will then be viewable when you start a new Field Operation.

 You can also use the **Manage Equipment** button to create or edit specific vehicles and implements.

Seed Monitor Setup

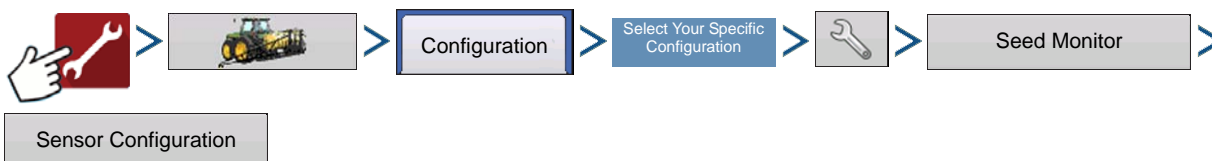


- The **Split Rows** and **Standard Rows** settings show the number of rows found on the planter that the Ag Leader Seed Tube Monitoring Module supports. Use  /  to enter the total number of rows found on the planter.
- The **Speed Source** shows the selected Ground Speed Source input for the Ag Leader Seed Tube Monitoring Module.
 - GPS: The STMM utilizes the speed from the GPS correction source that is connected to the display.
 - AUX: The STMM utilizes a speed source that is connected to the Auxiliary Input Module. This is typically a tractor wheel speed or radar source.
- Press **Sensor Configuration** to summon the Sensor Configuration window, which shows which rows are assigned to the individual pins on the Ag Leader Seed Tube Monitoring Module.

 NOTE: Press Sensor Configuration to perform the **AutoConfig** procedure, which is necessary for a Ag Leader Seed Tube Monitoring Module configuration to become active.


- Press the **Alarms** button to summon the Seed Monitor Alarms screen, which shows each row and the alarm threshold for that row.


AutoConfig Procedure

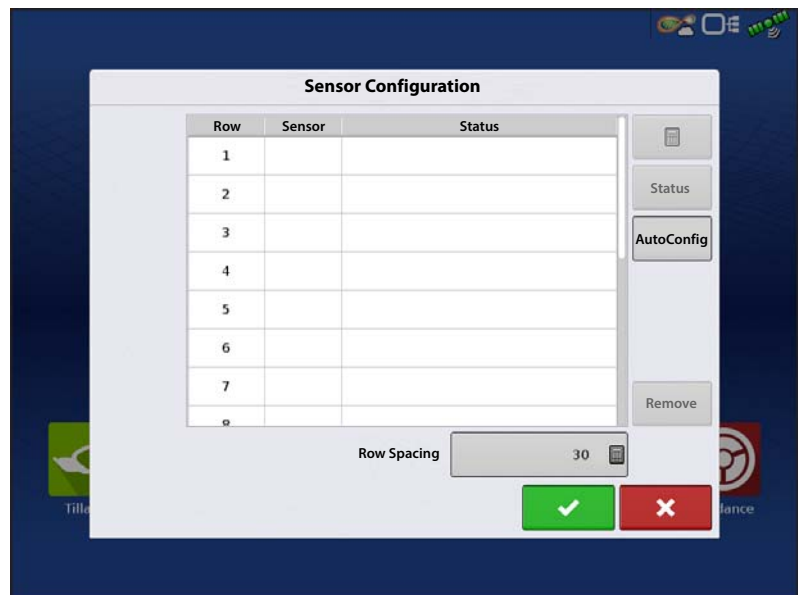


Ag Leader Seed Tube Monitoring Module


The Sensor Configuration screen shows which rows are assigned to the individual pins on the Ag Leader Seed Tube Monitoring Module.

- The **AutoConfig** button sends the planter settings to the Ag Leader Seed Tube Monitoring Module.
-  moves the sensor to a different location, to make configuration changes for custom planting operations.

 NOTE!: To return to the default, press the AutoConfig button.




- **Status**—This button Enables and Disables a Seed Tube sensor.

 NOTE!: A row with a failed sensor can be ignored until a replacement sensor is installed.

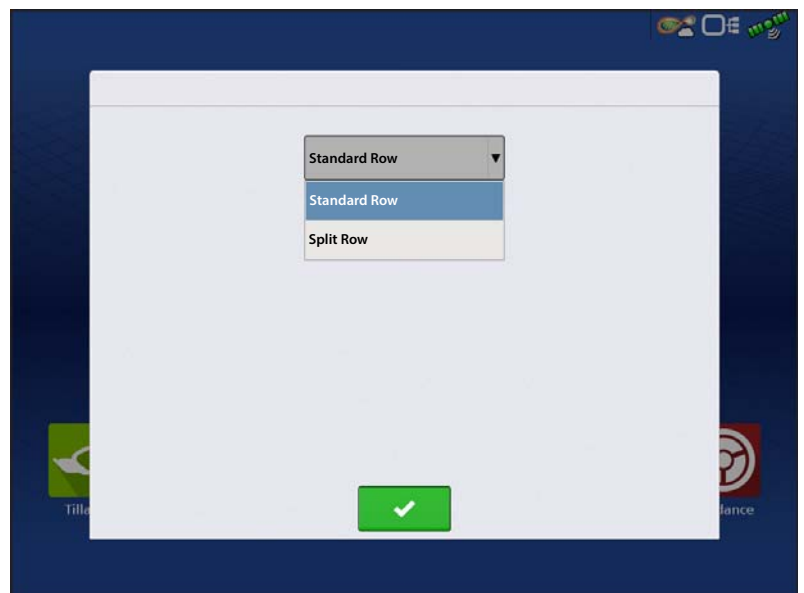
- **Remove**—This button removes an individual Seed Tube sensor.
- **Row Spacing**—Use this keypad to enter in the row spacing.



STMM Split-Row Configurations

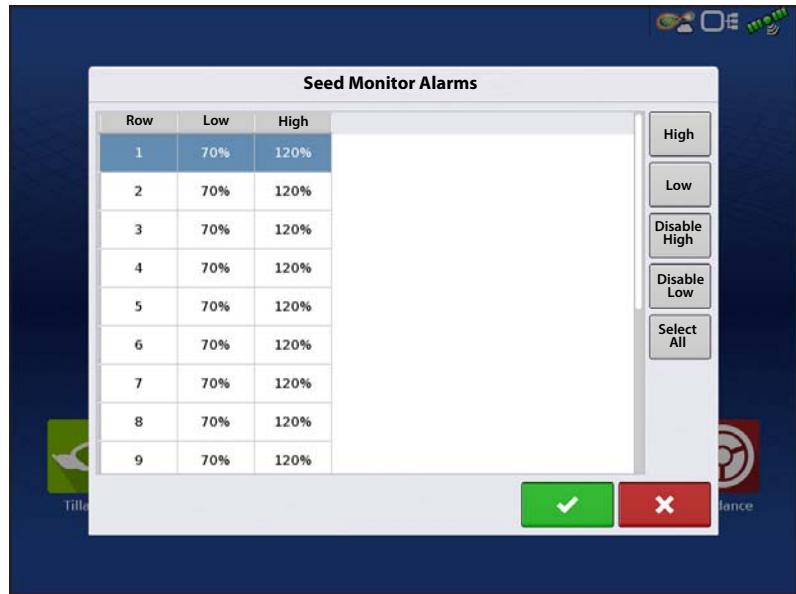
- If a split-row planting configuration is specified in the Seed Monitor Setup screen, then the Selection window will appear after the first time that you press the **Sensor Configuration** on the Seed Monitor Setup window. Choose between Standard Row or Split Row, and press .

- With a Split-Row Configuration the **AutoConfig Procedure** must be performed for BOTH the Standard and Split Rows. Both configurations are then saved in the display, and settings for each



planting configuration are automatically applied when you specify the machine configuration at the Field Operation Wizard.

Seed Monitor Alarms



Adjust Ag Leader Seed Tube Monitoring Module alarm thresholds. This screen can be accessed in one of two ways:

- Pressing the **Population Alarms** button at the Planter Option screen.



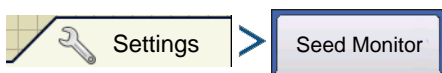
OR

- Pressing the **Population Alarms** button at the Seed Monitor Setup screen.

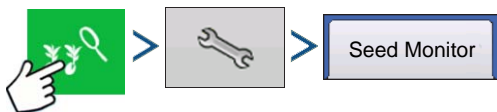


- High** and **Low** buttons assign a percentage of error that will trigger the rate alarm.
- The **Disable High** and **Disable Low** buttons deactivate the respective high or low rate alarms.
- The **Select All** button selects all rows to change the alarm threshold for the entire group.

Planter Options



OR



The Planter Options screen adjusts Ag Leader Seed Tube Monitoring Module alarm thresholds, Gain, and Advanced Seed Monitoring alarm thresholds. The screen also has access to module Diagnostics.

Gain shows the population multiplier used to adjust the population if the seed tube is not sensing the actual seed population.



Ag Leader Seed Tube Monitoring Module

- Always start with the Gain set to 1.
- Gain Setting is saved by crop type.
- For Corn, Gain values should **always** be set to **1**.

Gain adjust example: Planting soybeans at a target population of 150,000, the on-screen population readout is 140,000. First perform a dig check to verify the correct population is being planted; then check the seed tube sensors to make sure they are clean of dust and debris. Once the checks have been done, the Gain can be adjusted so the on-screen population readout reflects the true population. Divide the target population by the population readout ($150,000 / 140,000 = 1.07$). Enter 1.07 as the new Gain value.

Advanced Seed Monitoring Thresholds

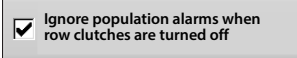
- Singulation Alarm
- Spacing Alarm

Crops that are supported by Advanced Seed Monitoring

- Corn
- Sorghum
- Cotton
- Sugar Beets
- Cucumber
- Vegetable (generic vegetable crop type)
- Popcorn




WARNING! Do not change the Default Gain setting of 1 for any crops that are monitored by Advanced Seed Monitoring.

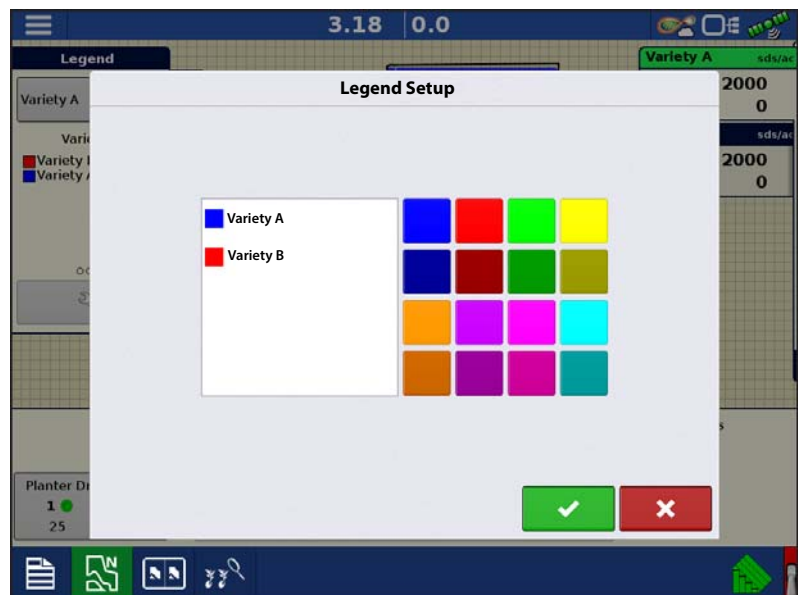


Ignore seed alarms when row clutches turned off check box

Legend Setup

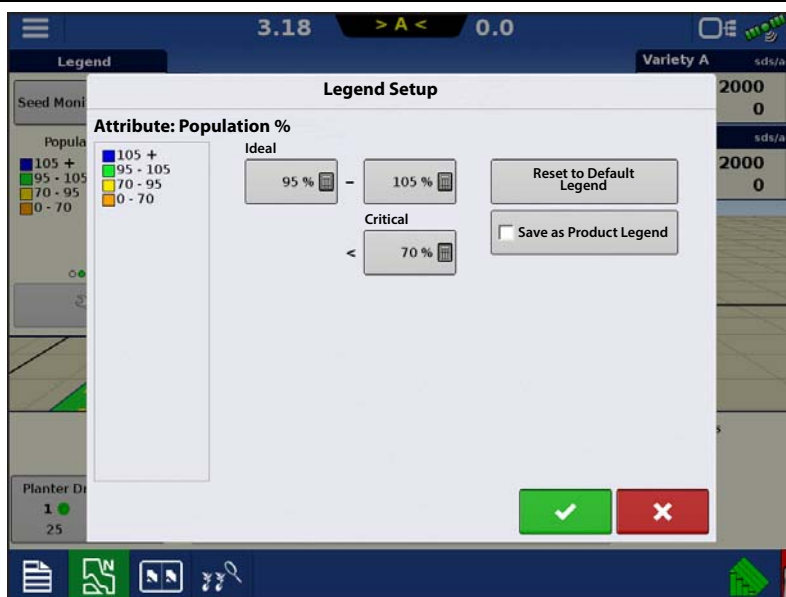
Pressing the area under the seed varieties on the Map Legend Tab of the Mapping Toolbox opens the Legend Setup screen.

If a variety was selected, a list appears on the left-hand side of the Legend Setup screen. To change the color of one of these varieties, highlight that variety and then press a color on the color palette at right. Press  when finished.



If Seed Monitor was selected, the Legend Settings screen appears (similar to the screen to the right). Use this screen to adjust the legends thresholds. Legend settings screen may differ depending on the legend that is displayed. Press

 when finished.





Seed Monitor Diagnostics



The **Seed Monitor Diagnostics** screen shows row data from rows monitored by the Ag Leader Seed Tube Monitoring Module, including the following:

- Row unit seeds per second
- Row unit seeds per acre

 **NOTE!** This can also be accessed on the CAN device list under Diagnostics

 **ATTENTION!** The seeds per second column provides instantaneous feedback from the matching seed tube sensor. This feedback is not dependent on operating state. This is a useful tool for troubleshooting seed tube sensors or performing pre-season checks to verify sensor operation.



Troubleshooting Ag Leader Seed Tube Monitoring Module

Problem—Receiving the warning message "The row sensor map for this configuration has not been set. Configuration not loaded."

Solution—The STMM map requires setup. Perform an AutoConfig. Refer to ["AutoConfig Procedure" on page 4](#).

Problem—Receiving the warning message "The number of rows in selected Operating Configuration does not match the Seed Monitor Module setup. Configuration not loaded."

Solution—The STMM Configuration was setup differently than the Operating Configuration.

1. Refer to the Configuration Setup screen for you specific vehicle/implement.

Ag Leader Seed Tube Monitoring Module

2. Verify the number of rows entered in the Planting Configuration matches the number of rows entered in the Seed Monitor setup.
3. If this is a Split Row configuration, verify that "Interplant" is enabled on the Configuration Setup screen.
 - i. If it is disabled, create a new Planting Configuration and be sure to checkmark the "Split Rows Enabled" checkbox in the Implement Wizard.

Problem—Receiving a “Seed Monitor not Initialized” error message. Error message may be received when attempting to load an Event.

Solution—STMM may require a new AutoConfig.

1. Refer to the Seed Monitor setup screen.
2. Reset the number of Standard rows to a different value (ex: if the planter is a 12 row, enter 13 rows)
3. Enter the Sensor Configuration screen and press AutoConfig. Accept this sensor configuration by pressing the green check.
4. Change the Standard rows back to the correct number of rows.
5. Enter the Sensor Configuration screen and press AutoConfig. Accept this sensor configuration by pressing the green check.
6. Attempt to load the Event.

Problem—Not receiving population readings from all or certain planter rows.

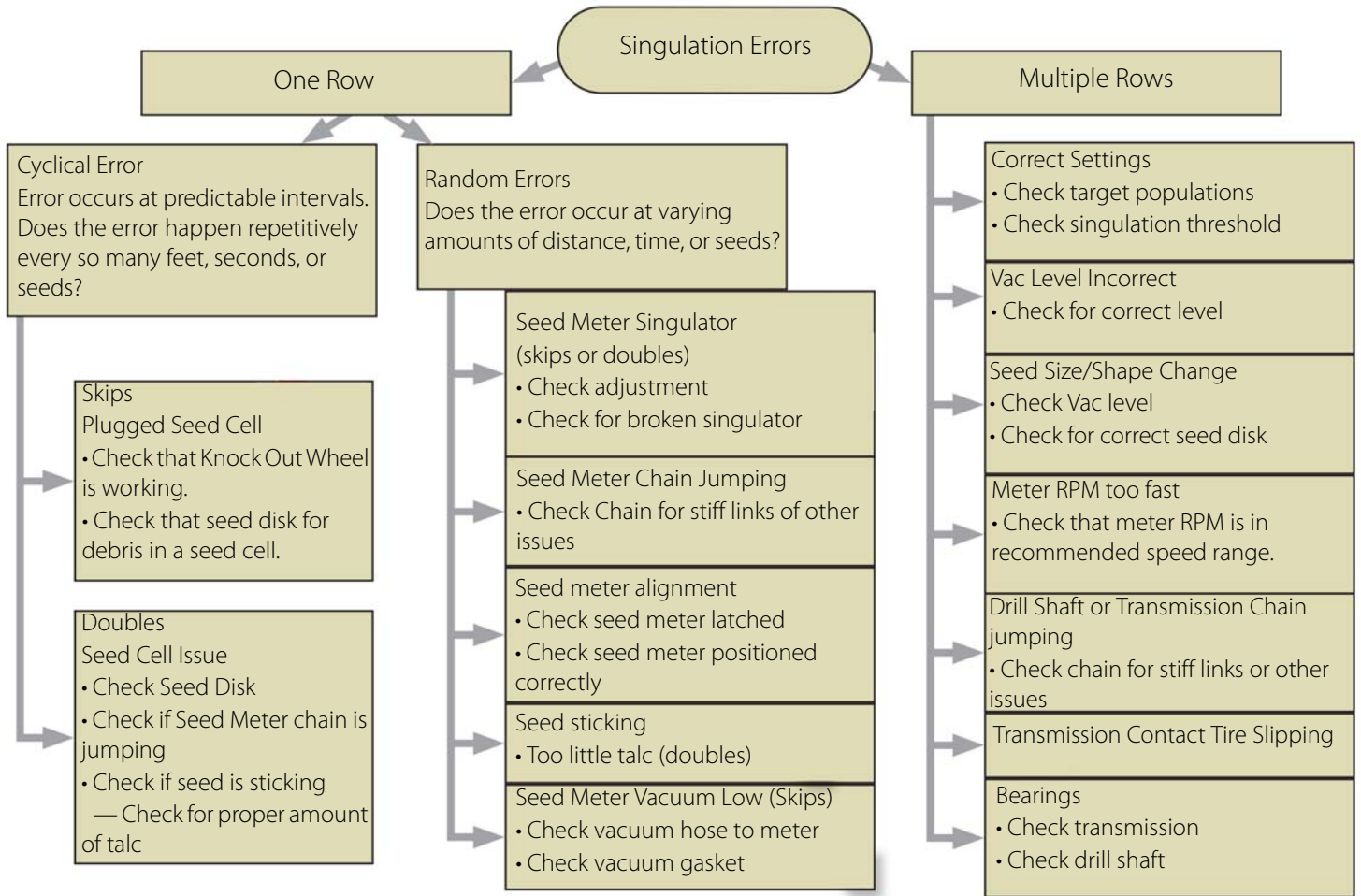
Solution:

1. Refer to the STMM Diagnostics page. Verify there is no feedback on the failed rows in the seeds per second column when seed passes by the seed sensor.
2. Check for 12V on the 2 pin duetsch connection that provides high power to the module.
3. Check for 8V on the power and ground pins on the connection that plugs into the seed tube sensor.
4. Check for 8V on the sense and ground pins on the connection that plugs into the seed tube sensor.
5. If voltages are all proper, move the seed tube sensor to a functioning row to verify it is the problematic component.



NOTE! If incorrect voltage is received at any location noted above, trace down the power issue by rechecking for voltage at harness and module connection points. Refer to the Ag Leader Knowledgebase for cable schematics. Call/email Technical Support for further assistance.

Singulation Errors



Spacing Quality Errors

