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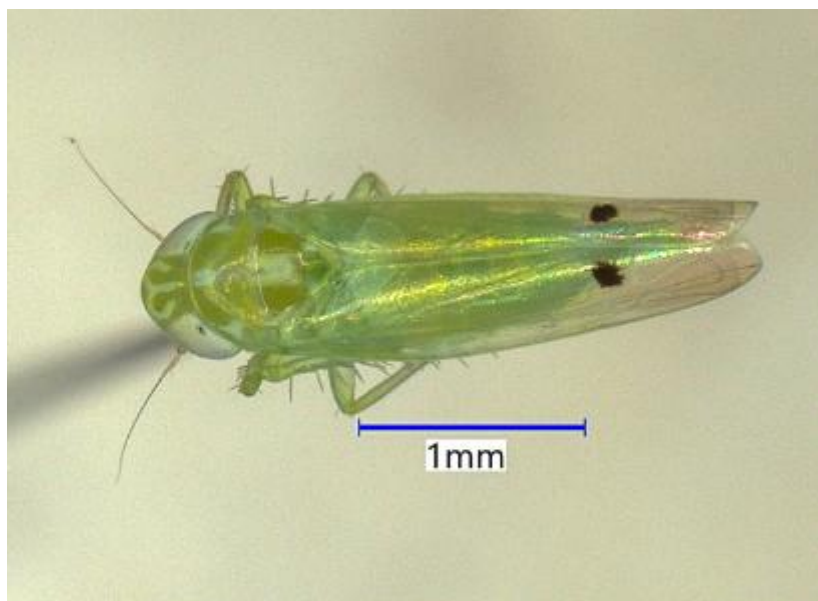
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Lee County Ag Newsletter

September 2025, Volume 24, Number 1

Cotton Jassid



The cotton jassid is a recent introduction to our country and a real threat to cotton production. Below are jassids on the underside of a cotton leaf.



DO NOT underestimate this pest!

Cotton Jassid Plant Damage



Early symptoms of “hopperburn” left.
Severe symptoms middle and right.



Treatable infestations continue to spread, **BE SURE YOU ARE MONITORING THIS SITUATION CLOSELY IN YOUR COUNTY!**

Jassid infestations and plant injury symptoms are higher on field margins. Symptoms can show up quickly, we have observed fields to crash in 2 weeks.

Symptoms will continue to develop when jassids are killed. This is likely due to the toxins injected into the plant when jassids feed.



Dr. Phillip Roberts, UGA Extension Cotton Entomologist, is urging growers to monitor their cotton fields for cotton jassids. He advises growers to not underestimate this pest. The following are his observations and recommendations:

Jassid infestations and plant injury symptoms are higher on field margins. Symptoms can show up quickly; we have observed fields crashing to 2 weeks.

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Scouting for the Cotton Jassid

Count jassid nymphs on the 3rd, 4th, or 5th mainstem leaf below the terminal (they are most commonly found on the 4th).

New Preliminary Threshold:

- 1-2 nymphs per leaf
- Or early symptoms (slight hopperburn) commonly observed in inner portion of field and jassids present.

Insecticide Selection

- Bidrin has been a consistent performer on commercial fields and in small plots.
- Argyle and Assail have not been as consistent as Bidrin but are good options when whiteflies are present.
- Carbine continues to look good in small plot trials and one 12 acre block sprayed in Tifton.
- Centric, Transform, Sefina, and Sivanto are options; we are continuing to learn as much as we can.
- Bifenthrin (I [Dr. Roberts speaking] would expect pyrethroids in general) do not provide acceptable control.

Cotton Jassid Observations

- As of August 29, the highest jassid populations and injury symptoms have occurred on earlier planted cotton.
- I (Dr. Roberts speaking) expect this to change in the coming days and weeks. As we begin to defoliate cotton, it is likely jassids will move to green, lush cotton.
- This jassid situation is likely going to keep getting worse, maybe really bad on late cotton (I hope and pray I am wrong).

Cotton Jassid Common Questions

How long before we will need to retreat a field?

This is dependent on the insecticide used and how much migration or reinfestation is occurring. Scout!
Some fields have required a second application.

How long do we need to protect cotton from jassids?

We need green leaves to fill top bolls.

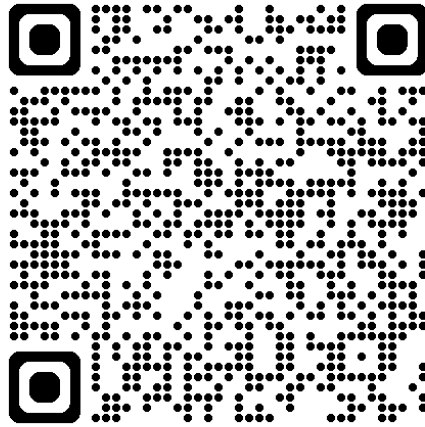
Based on observations that jassids can crash a field in 2 weeks, our thoughts are:

Protect cotton up to 14 days before the earliest you could defoliate a field (60% open) and the field is still green. This generally corresponds with about 20-25 percent open bolls and the field is still green.

If the field is yellowing and beginning to show symptoms, I would still spray even at 20-25 percent open.

If the field is crashing, leaves are yellow and beginning to turn red and brown, it is likely over and treatment may not be of benefit.

Peanut Digger-Shaker-Inverter Setup and Operational Considerations



- Start with tractor (setup is best done on a level concrete pad)
 - Front weights if needed
 - Rear tires
 - Same size? (Different brands may not be exact)
 - Same/adequate tire pressure
 - Draft arms/links
 - Level to tractor
 - Correct hitch pin size
 - Top link
 - Inverter should rest (level) on front tip of blade and rear gauge wheels
- Rear Gauge Wheels
 - Check Tire Pressure!
 - Usually mounted with one or two holes showing in stem at top
 - Adjust for level operation depending on field conditions
- Blades
 - Bevel up or down?
 - Plow standard – usually 9 – 13” off the row
 - Frogs
 - 26” for most conditions (tends to cut cleaner and push less dirt than 30”)
 - 30” (for some twin row patterns if needed)
 - Adjust blade pitch to allow $\frac{3}{4}$ ” clearance at rear of blade
- Coulters
 - Check size of coulters (worn out?)
 - Check bearings locked up/loose?
 - Row center coulters very important!
 - Check spring tension and operate roughly two to three inches below the blade
- Rattler conveyor
 - Bent bars?
 - Bars installed backwards?

- Clearance between rattler bars and vine lifters
- When plows are at proper depth, rattler conveyer should just clear the ground
- New chains at 2 1/4", Older chains at 2 1/2" (distance from bottom of the rattler frame to the top of the chain)
- Rattler frame parallel to the 45-degree frame member
- Knocker wheels adjust as needed for more or less agitation
- Guide rods
 - Factory set
 - May need periodic adjustment
 - Measurements in owner's manual
 - Newer machines have a decal showing proper rod location
- Inverters
 - Belt/chain tension (wear)
 - Bearings, universal joints
- Speed of operation
 - Generally, 3 – 3.5 MPH (may vary below or above this range depending on field conditions)
 - PTO speed of approximately 70-75% of rated. The speed of the rattler conveyer should be slightly above ground speed.
 - Vary ground vs pto speed to find that "sweet spot"
 - Top drive shaft of both pto and hydraulic machines should be 100-110 rpm.

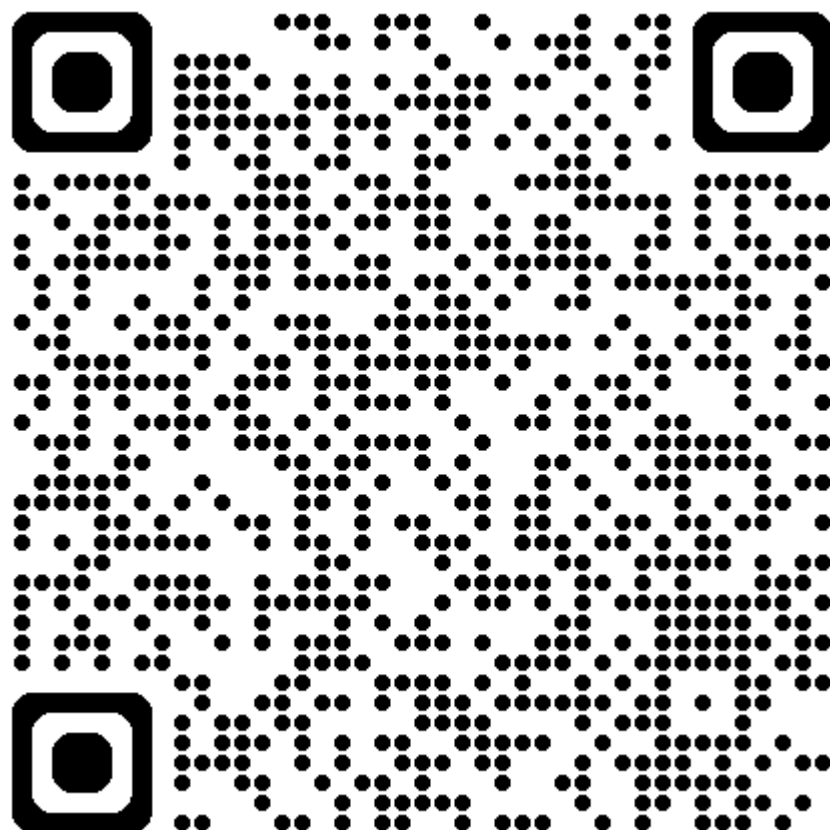
Things to watch out when troubleshooting for issues in the field:

1. Blade depth too shallow.
2. Dull blades. Blades are dull when they do not cut cleanly through the taproot. If they push on the root, they will drag the plant.
3. Vine cutter springs too loose or coulters too dull.
4. Conveyor pickup running too high above the lifter rods.
5. Tractor RPM or hydraulic flow too fast.
6. Vine flow not synchronized with ground speed and conveyor speed.
7. Inverter not precisely aligned with the row (indicated by tap roots leaning left or right)

John Deere Cotton Picker Handler Weight Calibration

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University of Georgia, Department of Crop and Soil Sciences



The main goal of this publication is to provide steps for calibrating the handler weighing system on John Deere round module building cotton pickers and the onboard yield monitor. While all of the graphics used in this factsheet are from a CP 770 model, the procedures described here apply to all models 7760, CP/CS 690, and CS 770, with only minor differences in screen graphics or icons.

By following these operators can ensure module weight records data to calibrate the yield monitor. With both calibrated, growers can data from the machine for future management

The introduction of John round module cotton strippers has brought insights, operational and cost savings to the harvest process. These pickers have quickly popularity, reflected in from traditional modules gin yards throughout the With advanced sensors, and capabilities, round pickers require more maintenance and calibration than their predecessors, basket cotton pickers. Although these additional steps require time and resources, they ensure accurate readings and optimal machine performance. This factsheet focuses on calibration procedures for the module handler and yield monitor systems and does not discuss calibration routines for other systems on the harvester.



steps, accurate and use this onboard systems trust the and use it decisions.

Deere's pickers and new data efficiencies, cotton model gained the shift at cotton Cotton Belt. technology, module

Handler Calibration Steps

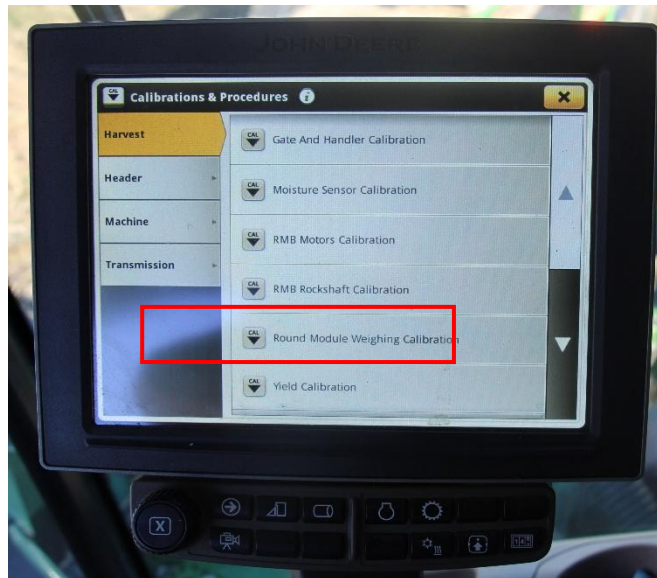
Recommended Calibration Frequency: Once per season to ensure accurate module weights.

1. Start up the machine and allow the hydraulic oil to reach operating temperatures. Also, raise and lower the handler a few times to ensure the system contains operating temperature hydraulic oil prior to calibration. Ensure the accumulator is empty, no objects are below the handler area, and the machine is at low idle.

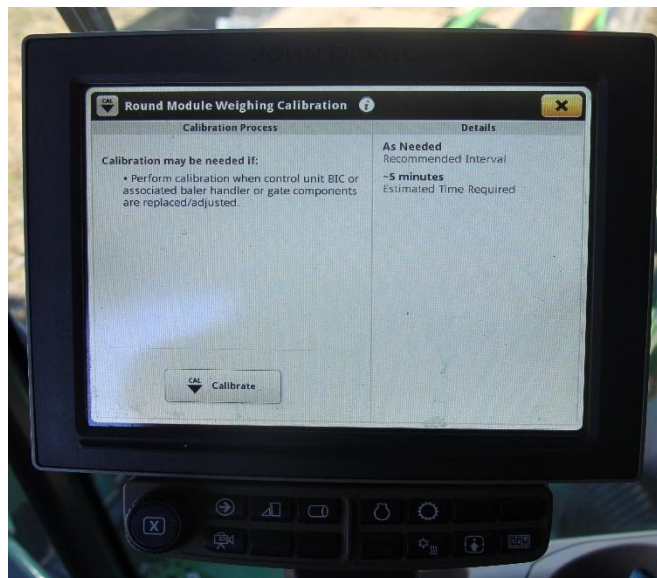
2. In the cab, select the Calibration & Procedure button on the machine settings screen seen below in the red box.



3. On the calibration screen, use the drop-down menu to select Round Module Weighing Calibration.



4. Initiate the Round Module Weighing calibration procedure by pushing the calibrate button when ready.



5. Leave the cab and safely move to the side of the machine. Locate the handler tether and stand clear of the handler area for safety. Ensure there is no one in the cab or on the machine while you are performing this procedure.



6. Press and hold the “D” button on the tether throughout the calibration process.



7. The handler will automatically go through the following positions: Storage -> Carry -> Lower -> Carry -> Float -> Carry -> Storage.

Yield Monitor Calibration Steps

Recommended Calibration Frequency: Once per season to ensure accurate yield measurements.

This can be done after completing the handler calibration.

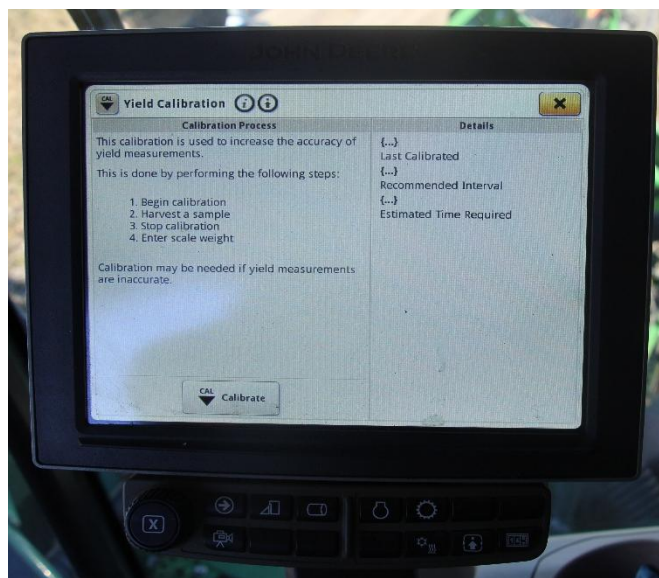
1. Start up the machine, ensuring the accumulator is empty.
2. In the cab, select the Calibration & Procedure button on the machine settings screen.



3. On the calibration screen, use the drop-down menu to select Yield Calibration.



4. Initiate the Yield Calibration procedure by pushing the calibrate button.



5. Begin harvesting cotton, creating a round module as usual. For best results, ensure the crop stand is as uniform as possible across all six rows.
6. After the module is wrapped and ejected to the handler, select the HID Cotton Pro button to find the recorded module weight.
7. Note or photograph this weight for reference and return to the yield calibration screen.

A multi-state study by Porter et al. (2022) used 686 modules (1,000-6,000 lbs.) across the Cotton Belt to develop the following correction equation for the handler weight system:

$$\text{Actual Module Weight} = 0.9511 * \text{handler weight} - 57.368$$

Equation 1: A linear equation developed relating the handler weight from the round module picker to a calibrated field scale.

This equation indicates a slight over-measurement by the handler. By applying this correction factor, growers can record accurate module weights.

8. Using equation 1, calculate the actual module weight from the handler weight. Input the actual module weight value into the monitor for the scale weight on the yield calibration screen.
9. Save the yield calibration.

References

W. Porter, E. Barnes, S. Byrd, G. Collins, J. Kichler, R. Norton, B. Pieralisi, S. Virk, J. Ward, J. Whitaker (2022). A National Evaluation of the John Deere Onboard Module Weighing System. NCC Beltwide Cotton Conference, San Antonio, TX.

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