

# John Deere Insurance Company

## Automated Crop Reporting

### *Calibration Requirements*



Proper calibration is essential for precise yield measurement. The following information will help you get the most accurate measurements from your precision farming system in preparation for the Automated Crop Reporting process. You may also call your local John Deere dealer to arrange a support agreement. Your dealer has trained professionals available to help you setup your equipment to optimize accuracy.

For more information on Automated Crop Reporting, contact your local John Deere insurance agency or go to [www.AutomatedCropReporting.com](http://www.AutomatedCropReporting.com) to find an agency near you.

## Standard Calibration

- Ensure all precision farming display settings are entered and correct per the system manufacturer's owner's manual. Perform or confirm the manufacturer's recommended pre-harvest setup is completed. This may include, but is not limited to:
  - Header size
  - Distance sensor calibration
  - GPS receiver antennae offsets
  - Vibration calibration, if applicable
  - Header height mechanism calibrated and checked
  - Temperature calibration, if applicable
- Initially calibrate mass flow sensor at beginning of season for each crop. Then 4-6 additional calibration loads to assist with and confirm accuracy.
- Re-calibrate as crop conditions change significantly over the season (e.g. crop dry down, test weight, variety/hybrid change, crop field conditions change)
- Calibrate moisture and mass-flow sensors when harvest season is under way
- Calibration loads should be similar in size (3,000-6,000 lbs)

- Before beginning the mass-flow sensor calibration, confirm the combine grain tank and unloading auger tube are completely empty. Be sure the wagon or truck hauling grain away from combine is also empty or on-board scales are “zeroed”.
- Recommend the same weight scales be used during calibration process (Weight scales should be reliably and consistently measure grain)
- Recommend using the same vehicle for all calibration loads
- Suggest not using a semi or other very large container for a calibration load as this may be too large for calibration purposes
- Perform the system manufacturer’s recommended seasonal maintenance to yield monitor components
  - Moisture and mass flow sensors should be periodically inspected for any issues such as excess wear or attached foreign material

### Standard Calibration Procedure

1. Turn on monitoring system to begin recording data
2. Begin harvesting sample at manufacturer’s recommended harvest speed and maintain a consistent ground speed while operating at full capacity
3. If system allows, flag area as *Calibration Load*
4. Harvest a representative amount of grain in the field, with consistent conditions and uniform yields approximately 100 bushels or more (e.g. 5600 pounds, grain tank full, truck load (not semi), wagon load, etc.). Avoid including end rows or point rows during the calibration process.
5. Once all grain is in grain tank, stop harvesting and recording calibration data
6. Unload grain (completely)
7. Weigh grain
8. Use scale ticket and enter actual scale weight on monitor for this calibration load
9. System will modify calibration factor
10. Write the monitor-assigned calibration load identifier on the scale ticket, if applicable
11. Keep a written log of calibrations:
  - a. Crop weights measured by both the monitor and the scales
  - b. Include descriptive information such as the scale source, date/time, name of the harvesting machine, crop, moisture, field and farm
  - c. You can find a calibration log at [www.AutomatedCropReporting.com](http://www.AutomatedCropReporting.com)
12. Display and record the new calibration factor.

## Low Flow (Reduced Speed) Calibration

- Low Flow should be performed after a standard calibration for the same crop and field conditions. This procedure is in addition to the standard calibration procedure and will support more accurate yield measurement results.
- Low Flow calibration should be performed at approximately 1/2 to 2/3 of normal operating capacity but also at a consistent ground speed and crop conditions
  - Can be done by varying swath width or ground speed
- Before calibrating, be sure the grain tank and auger tube are completely empty. Be sure that the weigh wagon or truck hauling grain away from combine is also empty.

### Low Flow Calibration Procedure

1. Select Low Flow calibration mode on your precision farming display
2. Begin harvesting crop and recording data
3. Adjust ground speed until you reach 1/2 or 2/3 of standard calibration speed
4. Harvest known amount of grain – recommend the same amount as standard calibration (i.e. grain tank full, truck load, wagon load, etc.)
5. Once all grain is in grain tank, stop harvesting and recording
6. Unload grain (completely)
7. Weigh grain
8. Use scale ticket and update scale weight on monitor
9. System will modify calibration factor
10. Use scale ticket and enter actual scale weight on monitor for this calibration load
11. Write the monitor-assigned calibration load identifier on the scale ticket, if applicable
13. Keep a written log of calibrations:
  - a. Crop weights measured by both the monitor and the scales
  - b. Include descriptive information such as the scale source, date/time, name of the harvesting machine, crop, moisture, field and farm
    - i. Display and record the new calibration factor.