

Check Test Instruction

August 2024

CHECK TEST INSTRUCTIONS FOR Dj GAC2500-UGMA, FOSS GAC 2500-C, Dj GAC2700-UGMA, &PERTEN AM5200-A

FORWARD

Enclosed are a wheat sample, blank data sheet and instructions for check testing the UGMA moisture meter models and entering results in ECT. **All UGMA results will be entered in ECT this check test cycle.** Please test your instrument before the sample expiration date shown on the label. Test the instruments in a room with the temperature controlled at 60-80° F. Allow the instrument to warm up for at least 30 minutes before performing Parts A and B, below. Before performing Part C., allow the instrument and sealed sample to equilibrate to the temperature of the room for at least four hours. If your room cooled overnight, we suggest you wait until the afternoon to test the sample.

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1. RECORD CALIBRATION VERSION, MODEL AND METER SERIAL NUMBER

- a. Enter the location information, meter model and serial number on the data sheet. Mark the appropriate INITIAL/RETEST and NA/NEW/REPAIR boxes.
- b. For instructions on finding Calibration Version, Meter Model and Serial Number, see Attachment A for the Perten AM5200-A, Attachment B for the Dickey-john GAC 2500-UGMA and FOSS GAC 2500-C, and Attachment C for the DICKEY-john GAC 2700-UGMA.
- c. Verify that the Calibration Version is the same as listed on the data sheet (if it is not the same, contact TSD for guidance).

2. VERIFY ACCURACY OF WEIGHING SYSTEM.

This test can be performed by the operator any time the instrument's accuracy is questioned. It must be performed immediately prior to conducting the sample comparison test (Part C). For new meters and meters that have sat idle for one month or more, make one initial drop with the soybean sample (do not record the data) before collecting the weight readings described below.

- a. Clean out the sample drawer and hopper area to remove any material that may be lodged in crevasses.
- b. Use 600-650 grams of a room temperature, medium moisture (approx. 10-12%), clean soybean sample with an official test weight of at least 55 pounds per bushel.
- c. Verify the accuracy of the laboratory test scale by using precision check weights (200, 400, 600, 800 gram) prior to performing the moisture meter scale accuracy test. The laboratory scale accuracy must be within ± 0.1 gram to use it to test the moisture meter test scale to the specified tolerance of ± 0.5 gram. If the accuracy of the laboratory test scale is poorer than ± 0.1 gram, recalibrate the scale prior to proceeding with the test of the moisture meter's scale.
- d. Be careful when pouring the grain from the sample drawer into the tared weighing pan, weigh using an approved and tested electronic laboratory test scale and record the weight to the nearest 0.1 gram. This must be a precise measurement. Be careful to minimize the air currents around the laboratory test scale.
- e. For weighing accuracy instructions, see Attachment A for the Perten AM5200-A, Attachment B for the Dickey-john GAC2500-UGMA and FOSS GAC 2500-C, and Attachment C for the DICKEY-John GAC 2700-UGMA.
- f. Record all five of the instrument weights and grain scale weights on the data sheet.
- g. The average of the five differences should not exceed ± 0.5 gram. (The ± 0.5 gram tolerance also applies to routine scale accuracy verification tests.)
- h. The range of the five differences should not exceed 1.0 gram.

3. VERIFY PERFORMANCE WITH THE WHEAT MOISTURE SAMPLE

- a. Enter the TRN (Sample ID) on the data sheet.
- b. Remove the wheat sample bag from the outer polyethylene bag and weigh the sample (still in the zippered bag) on an approved and tested electronic laboratory scale. Enter this weight (to the nearest 0.1 gram) and the weight listed on the sample bag on the data sheet. If the difference exceeds ± 0.5 gram, it indicates a possible loss of moisture, DO NOT CONTINUE with the moisture test. Contact TSD at (816) 702-3873 or (816) 702-3883 for further instructions.
- c. Clean out the sample drawer and hopper area to remove any material that may be lodged in crevasses.
- d. For moisture test instructions, see Attachment A for the Perten AM5200-A, Attachment B for the Dickey-john GAC2500-UGMA and FOSS GAC 2500-C, and Attachment for DICKEY-john GAC 2700-UGMA. Be sure and use the Checktest calibration on both models. When test is completed, return wheat sample to the zippered bag and close.
- e. Enter all five drops of moisture on the data sheet: displayed moisture to the nearest 0.01%, test weight to the nearest 0.1 lb/bu and sample temperature to the nearest 0.1°C or 0.1°F.
- f. **Please test the moisture sample within the temperature limits to avoid failing this test. 15-27°C (60-80°F).**
- g. Enter the test date and operator license number.
- h. Proceed with the FGIS OnLine ECT instructions.

4. QUESTIONS

If you have questions regarding this checktest or need assistance with ECT, call Ramaswamy Mani at (816) 702-3873 or Ramaswamy.Mani@USDA.gov. You may also contact the Moisture Lab at (816) 702-3883. Business hours are 7:00 AM to 3:30 PM CST.

5. ATTACHMENT A Perten AM 5200-A CHECK TEST INSTRUCTIONS



Part A.2. Instrument Serial Number.

The serial number of the instrument can be found on the back panel of the instrument above the power switch or in the *System info* menu. From the *Select Product* screen press *Menu*; scroll down and press *System Info*. The serial number is the second entry in this menu.



Part A.2. Calibration Version.

While still in the *System Info* menu, scroll down to the next page. The Calibration Version can be found in the field labeled Calibration Version.

Verify the Calibration Version with the one listed on the Excel data sheet. Press Exit.



Part B. Weighing Accuracy Test.

Proceed from the Products menu by pressing *Menu*, then *General Settings*, then *Maintenance*, and finally *Grain Weight Check*. Pour the soybean sample into the funnel and allow the unit to run the test. When prompted, empty the catch drawer and return it to its place, then press Finish. Record the given *Total weight* as Instrument Weight. Take the remaining sample from the catch drawer and measure it on a scale. Record this as scale weight. Repeat four more times. Then press Back and Exit.



Part C. Grain Moisture Sample Test.

On the main (*Select product*) menu select *Check Test* from the list of available grains. Tap on the sample box to get to the keypad, enter sample ID and then press the Enter arrow. Pour the sample into the funnel and let the unit analyze the sample. You will need to enter the ID each time. After running five tests, press *Menu*, then *Reports*, and then *Done*. Record the moisture, test weight, and temperature from these samples (they will be the first five listed).

6. ATTACHMENT B DICKEY-john GAC2500-UGMA and FOSS GAC 2500-C CHECK TEST INSTRUCTIONS

a. Calibration Version, Model and Meter Serial Number.

- 1) From the ANALYZE Menu, select “?” from the upper right hand corner of the screen to obtain the current C.O.C. registration, Calibration Version, the unit S/N and the instrument Model number.

NOTE: No errors or exceptions should be listed beneath the C.O.C. number.

- 2) Press the HOME key to return to the MAIN (ANALYZE) Menu.

b. Weighing Accuracy Test.

- 1) From main screen, select SETUP.
- 2) Enter User Name and Password if one has been set up; otherwise use GUEST and press Enter.
- 3) From the menu options, select SYSTEM; then select the MORE button at the bottom of the screen three times until CHECK SCALE can be selected from the screen menu.
- 4) After selecting CHECK SCALE, follow the directions on the screen:
 - a) Fill hopper with soybean sample
 - b) Press Measure
 - c) Record reading as Instrument Weight on the spreadsheet
 - d) Empty excess grain from the drawer
 - e) Press Dump Sample
 - f) Weigh the sample from the drawer and record as Scale Weight on the spreadsheet.
 - g) Press Retest and perform four more measurements
- 5) Press Exit and the Home key to return to the MAIN Menu.

c. Moisture Sample Test.

- 1) Set GAC2500UGMA or FOSS GAC 2500-C to display two decimal places for moisture:
 - a) From MAIN Menu, select SETUP.
 - b) Select Enter.
 - c) Select SYSTEM and then select MORE twice.
 - d) Select Units and check the box to display two decimal places for moisture. Press Enter and Home.
- 2) Perform Grain Moisture Sample test as follows:
 - a) Select ANALYZE from the MAIN Menu of the GAC2500 UGMA or FOSS GAC 2500-C meter.
 - b) Select CheckTest from list of grains.
 - c) Press the keypad symbol, enter Sample ID, then press the Enter arrow and yellow button to continue, screen will show Fill Hopper.
 - d) Pour all of the check sample into the instrument hopper and press the green button.
 - e) Wait for sample measurement; then record % moisture (.01), test weight (.1) and temperature on the spreadsheet.
 - f) Press yellow button and pour sample from drawer back into hopper.
 - g) Sample ID will have incremented, so press the keypad symbol and re-enter the Sample ID, then press green button.
 - h) Take four more measurements.
- 3) Press the Home key to return to the MAIN Menu

7. ATTACHMENT C DICKEY-john GAC 2700-UGMA CHECKTEST INSTRUCTIONS

a. Calibration Version, Model and Meter Serial Number.

- 1) Select the DEVICE INFORMATION Menu to obtain the current C.O.C. registration, Calibration Version, the unit S/N and the instrument Model number.
NOTE: No errors or exceptions should be listed beneath the C.O.C. number.
- 2) Select the HOME Menu to return to the home screen.

b. Weighing Accuracy Test.

- 1) Navigate to the DIAGNOSTICS menu and scroll left or right as needed and select the "CHECK SCALE" tab at the top of the screen.
- 2) Press the "MEASURE" button. Fill the hopper with the soybean sample when prompted.
- 3) When enough grain has been loaded so that the hopper sensors are activated, the GAC 2700 will enter "Measuring" status.
 - a) The GAC 2700 automatically drops the grain and performs the grain strike-off.
 - b) The GAC 2700 will display the weight of the grain and its temperature.
 - c) Record reading as Instrument Weight on the spreadsheet
 - d) Empty excess grain from the drawer
 - e) Press Dump Sample
 - f) Weigh the sample from the drawer and record as Scale Weight on the spreadsheet.
 - g) Press Retest and perform four more measurements.
- 4) Select the HOME Menu to return to the Home screen.

c. Moisture Sample Test.

- 1) Set GAC 2700UGMA to display two decimal places for moisture:
 - a) Select the SETTINGS Menu.

- b) Choose UNITS.
 - c) Under “Moisture Format” choose “X.XX”.
 - d) Press the SAVE button.
- 2) Perform Grain Moisture Sample test as follows:
- a) Select the “HOME” Menu.
 - b) From Home screen, select CHOOSE PRODUCT.
 - c) From the SELECT PRODUCT box, use the Filter field to search for the “Checktest” file or scroll through the list to locate the “checktest” file. Select the “Check test” from the list.
 - d) Pour all of the check sample into the instrument hopper and press the green START button.
 - e) Wait for sample measurement; then record % moisture (.01), test weight (.1) and temperature on the spreadsheet.
 - f) Press the home button and pour sample from drawer back into hopper.
 - g) Sample ID will have incremented, so press the Sample ID field and re-enter the Sample ID, then press green START button.
 - h) Take four more measurements.
- 3) Press the Home Menu to return to the Home screen