CHECK TEST INSTRUCTIONS FOR Dj GAC2500-UGMA & PERTEN AM5200-A

Enclosed are a wheat sample, data sheet and instructions for check testing the UGMA moisture meter models. The UGMA results will not be entered in ECT this check test cycle but you will still access ECT to obtain the Standard Average Moisture result for each UGMA sample. You should have received an email with an attached "fillable" Excel spreadsheet (file name: UGMA Checktest form.xls) for use with the UGMA results. All data will be entered into the "fillable" spreadsheet per the instructions below. Please delete any previous versions of the Excel spreadsheet, which are now outdated. If you did not receive this email, please contact Patricia Emick at (816) 891-0450 or the Moisture Lab at (816) 891-0445. Please test your instrument before the sample expiration date shown on the label. Test the instruments in a room with the **temperature controlled at 60-80^0 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.

A. **Record Calibration Version, Model and Meter Serial Number**

1. Enter the location information on the Excel spreadsheet.
2. For instructions on finding Calibration Version, Meter Model and Serial Number, see Attachment A for the Perten AM5200-A and Attachment B for the Dickey-john GAC2500-UGMA.
3. Verify that the Calibration Version is the same as listed on the Excel spreadsheet (if it is not the same, contact TSD for guidance). Enter the Meter Model and Meter Serial Number on the Excel spreadsheet.

B. **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.

1. Clean out the sample drawer and hopper area to remove any material that may be lodged in crevasses.
2. 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.
3. 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.
4. 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.
5. For weighing accuracy instructions, see Attachment A for the Perten AM5200-A and Attachment B for the Dickey-john GAC2500-UGMA.
6. Enter all five of the instrument weights and grain scale weights into the "fillable" spreadsheet. Calculations will be performed by the spreadsheet after the last weight is entered.
7. 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.)
8. The range of the five differences should not exceed 1.0 gram.
9. The spreadsheet Pass/Fail boxes will indicate whether the weighing accuracy test Passed or Failed.

C. **Verify performance with the wheat moisture sample**

1. Enter the TRN (Sample ID) on the spreadsheet.
2. 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 into the "fillable" Excel spreadsheet. The difference will be calculated after the last weight is entered. 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) 891-0450 for further instructions.
3. Clean out the sample drawer and hopper area to remove any material that may be lodged in crevasses.
4. For moisture test instructions, see Attachment A for the Perten AM5200-A and Attachment B for the Dickey-john GAC2500-UGMA. When test is completed, return wheat sample to the zippered bag and close.
5. Enter all five drops of moisture data in the "fillable" spreadsheet: 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.
6. The averages and ranges will be calculated after all data have been entered.
7. The spreadsheet will indicate whether the check test is invalid due to the temperature outside the limits of 15-27°C (60-80°F). **Please test the moisture sample within the temperature limits to avoid failing this test.**
8. Go to the GIPSA On-Line Equipment Capability Program home page and search by the appropriate Test Reference Number (Sample ID). Open this TRN.
9. On the General page, change the Service Point Code (if necessary) for the meter and Save.
10. On the Test page, enter the Meter Model Type, Test Average Moisture (from spreadsheet) and the Meter Serial Number.
11. Enter the operator license and test date. Verify that your Test Average Moisture is correct and submit.
12. After submitting your information, the Std. Avg. Moisture for that TRN (Sample ID) will be displayed on the Summary page and the record will Close.
13. Enter this Std. Avg. Moisture in the appropriate cell (B39) of the "fillable" spreadsheet. The spreadsheet will calculate and display the deviation. The tolerance is ± 0.15% average deviation from the standard meter. The range of moisture results should not exceed 0.26%.
14. The Pass/Fail boxes will update showing which tests Passed or Failed. If all tests Passed, the Approved box will be marked. Contact Patricia Emick (816 891-0450) or the Moisture Lab (816 891-0445) for guidance if the check test was not passed. The Approved box will not be marked if there is any missing information/data.

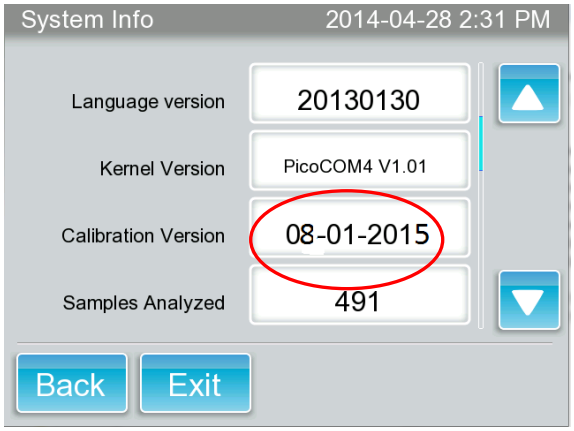
*** 15. SAVE the excel spreadsheet using the TRN/Sample ID as the file name. You will need to SAVE the data from each meter as a separate file, using the TRN as the name (if you have multiple meters, you might want to save the blank copy out with the TRN file names ahead of testing). If needed, a blank copy of the spreadsheet is located on the GIPSA website under the New Official Moisture Meter section. Email this SAVED spreadsheet file to Patricia.J.Emick@usda.gov and **please use "Checktest" in the subject line**. TSD will review the spreadsheet and contact you if any problems are detected and the reviewed spreadsheet will be sent back to you to serve as your meter approval.

16. For help with the GIPSA On-Line Equipment Capability Testing program, contact Patricia Emick (816 891-0450) or the Moisture Lab (816 891-0445).

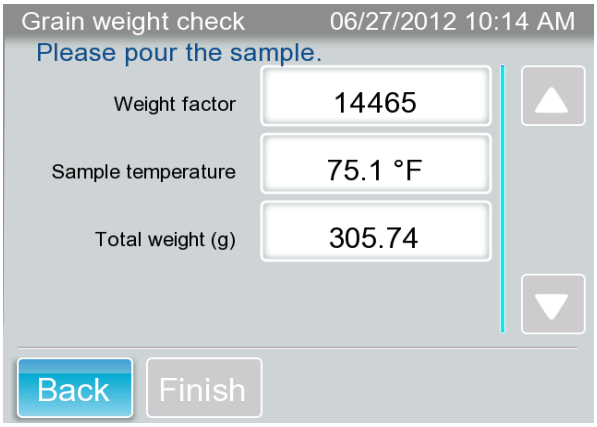
If you have questions regarding this checktest, call Patricia Emick at (816) 891-0450 or Patricia.J.Emick@usda.gov. You may also contact the Moisture Lab at (816) 891-0445. Business hours are 7:00 AM to 3:30 PM CST.

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*. As shown above, 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 *UGMA revision number*. 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).

ATTACHMENT "B"

DICKEY-john GAC2500-UGMA 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. W**eighing 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 to display two decimal places for moisture and C° for temperature:
   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 GAC2500UGMA 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 (°C) 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