

# Directive

9180.61

08-01-11

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## OFFICIAL CALIBRATIONS FOR THE DICKEY-JOHN GAC 2100 MOISTURE METER

### 1. PURPOSE

This directive transmits the official calibrations for use with the Dickey-john Corporation Grain Analysis Computer (GAC 2100), the moisture meter used by the Grain Inspection, Packers and Stockyards Administration (GIPSA) for official grain moisture measurement.

### 2. BACKGROUND

This directive transmits new official moisture calibrations for **Lentils**. This directive also restates all other calibrations transmitted in the previous directive dated May 1, 2011.

Attachment 1 lists the calibrations for the major grains (those grains for which moisture meters are also standardized under the National Type Evaluation Program (NTEP)). Attachment 2 lists calibrations for other grains and commodities.

For minor commodities, GIPSA guidelines recommend a calibration revision when the 5-year average bias to the air oven reference (averaged over all samples tested) exceeds 0.15 percent moisture. Before a calibration update, the 5-year average bias for Lentils (0.21) exceeded this limit.

The official calibrations for this commodity were updated to meet GIPSA guidelines. Table 1 shows the mathematical adjustments implemented by the calibration updates.

### 3. REPLACEMENT HIGHLIGHTS

This directive replaces Directive 9180.61, Official Calibrations for the Dickey-john GAC 2100 Moisture Meter, dated May 1, 2011.

#### 4. PROCEDURES

All official inspection laboratories shall use the new calibrations for **Lentil** inspections performed on and after August 1, 2011. Before official testing on the effective date, enter the new constants as explained in the Operator's Manual (Chapter 6, Page 26). This manual can be accessed at [http://www.dickey-john.com/\\_dl/1-1346\\_1.pdf](http://www.dickey-john.com/_dl/1-1346_1.pdf).

The names, valid moisture ranges, and constants for official calibrations are given in Attachments 1 and 2. The effective dates of those calibrations are listed in Attachment 3. Average differences between the GAC 2100 and the USDA air oven method are given in Attachment 4 for typical market moisture ranges.

The anti-static shield is **required on instruments used for official testing of processed rice**. Materials and instructions for installing the shield on instruments used for official inspection may be obtained from the Moisture Laboratory, Technology and Science Division.

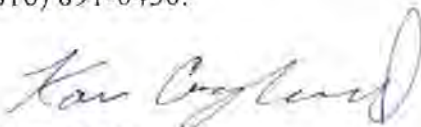
The shield is **optional on instruments not used for official testing of processed rice**. Supplies for installing the shield on instruments not used for official inspection may be obtained from Dickey-john Corporation, P.O. Box 10, Auburn, IL, 62615-0010; telephone (217) 438-3371.

Table 1. Mathematical adjustments implemented by the calibration updates.

	Moisture Intervals (%)				
	Overall Change	6-8	8-10	10-12	12-14
Grain					
Lentils	-0.25	-0.16	-0.16	-0.27	-0.47

#### 5. QUESTIONS

Questions concerning these instructions should be directed to Patricia Jackson (816) 891-0450.

*for*   
Robert Lijewski, Director  
Field Management Division

Attachments

OFFICIAL GAC 2100 CALIBRATION CONSTANTS  
for Grains in the NTEP Testing Program

<p>Six-rowed Barley <u>(6 - 22%)</u> BARLEY SIX ROWED 110330N K1: 0340 K2: 1864 K3: 1205 K4: 2001 K5: 2105 K6: 1857 K7: 2206 K8: 9998 K9: 1056</p>	<p>Two-rowed Barley <u>(6 - 20%)</u> BARLEY TWO ROWED 080324N K1: 0006 K2: 3427 K3: 1261 K4: 2776 K5: 2105 K6: 1079 K7: 2006 K8: 9906 K9: 1056</p>	<p>Corn <u>(8 - 26%)</u> CORN 100326N K1: 0179 K2: 1678 K3: 1173 K4: 0896 K5: 2305 K6: 2855 K7: 2608 K8: 9952 K9: 1087</p>	<p>Corn (High-Moisture) <u>(25 - 40%)</u> CORN HI MOIST 100326N K1: 2333 K2: 1203 K3: 1327 K4: 0050 K5: 2305 K6: 2855 K7: 4025 K8: 9922 K9: 1087</p>	<p>Oats <u>(8 - 18%)</u> OATS 100408N K1: 5653 K2: 7223 K3: 1264 K4: 8999 K5: 1705 K6: 1652 K7: 1808 K8: 9914 K9: 1048</p>	<p>Long Grain Rough Rice <u>(8 - 26%)</u> RICE LG ROUGH 100407N K1: 0003 K2: 3710 K3: 1308 K4: 4103 K5: 1900 K6: 2044 K7: 2608 K8: 9957 K9: 1057</p>
<p>Medium Grain Rough Rice <u>(8 - 30%)</u> RICE MG ROUGH 100326N K1: 1238 K2: 5112 K3: 1349 K4: 4667 K5: 1900 K6: 1852 K7: 3008 K8: 9974 K9: 1057</p>	<p>Sorghum <u>(8 - 24%)</u> SORGHUM 100409N K1: 0815 K2: 3249 K3: 1360 K4: 2294 K5: 2605 K6: 2050 K7: 2408 K8: 9975 K9: 1045</p>	<p>Soybeans <u>(6 - 26%)</u> SOYBEANS 050210N K1: 1074 K2: 1506 K3: 1089 K4: 0727 K5: 2455 K6: 2074 K7: 2606 K8: 9916 K9: 1087</p>	<p>Sunflower Seed (Oil-Type) <u>(4 - 22%)</u> SUNFLOWER OIL 090330N K1: 1198 K2: 1445 K3: 1054 K4: 0680 K5: 1305 K6: 1776 K7: 2204 K8: 9933 K9: 1058</p>	<p>Durum Wheat <u>(6 - 20%)</u> DURUM 110329N K1: 0767 K2: 1547 K3: 1228 K4: 0501 K5: 2505 K6: 1862 K7: 2006 K8: 9973 K9: 1055</p>	<p>Hard Red Spring Wheat <u>(6 - 22%)</u> WHEAT HRS 080326N K1: 0495 K2: 1664 K3: 1220 K4: 0766 K5: 2505 K6: 1074 K7: 2206 K8: 9975 K9: 1045</p>
<p>Hard Red Winter Wheat <u>(6 - 22%)</u> WHEAT HRW 060308N K1: 0673 K2: 1716 K3: 1247 K4: 0738 K5: 2500 K6: 1074 K7: 2206 K8: 9948 K9: 1045</p>	<p>Hard White Wheat <u>(6 - 18%)</u> WHEAT HARD WHITE 080331N K1: 0778 K2: 1546 K3: 1230 K4: 0499 K5: 2500 K6: 0894 K7: 1806 K8: 9959 K9: 1045</p>	<p>Soft Red Winter Wheat <u>(8 - 22%)</u> WHEAT SRW 070327N K1: 0430 K2: 1936 K3: 1255 K4: 2091 K5: 2505 K6: 1068 K7: 2208 K8: 9996 K9: 1045</p>	<p>Soft White Wheat <u>(6 - 22%)</u> WHEAT SOFT WHITE 100405N K1: 0484 K2: 1438 K3: 1175 K4: 0500 K5: 2505 K6: 1074 K7: 2206 K8: 9928 K9: 1045</p>		



OFFICIAL GAC 2100 CALIBRATION CONSTANTS  
for Non-NTEP Commodities

Black Beans <u>(8 - 20%)</u>	Blackeye Beans <u>(8 - 18%)</u>	Cranberry Beans <u>(8 - 20%)</u>	Garbanzo Beans <u>(6 - 18%)</u>	Great Northern Beans <u>(8 - 20%)</u>	Kidney Beans <u>(8 - 20%)</u>
BEANS BLACK 990415	BEANS BLACKEYE 010409	BEANS CRANBERRY 010409	BEANS GARBANZO 060308	BEANS GR NORTH 060322	BEANS KIDNEY 010418
K1: 1673	K1: 0236	K1: 1814	K1: 3212	K1: 1557	K1:1359
K2: 5429	K2: 1323	K2: 3995	K2: 5646	K2: 3103	K2:3101
K3: 1352	K3: 1103	K3: 1256	K3: 1327	K3: 1139	K3:1159
K4: 6177	K4: 0420	K4: 4738	K4: 6661	K4: 2632	K4:2538
K5: 2605	K5: 2395	K5: 2385	K5: 2565	K5: 2425	K5:2335
K6: 1097	K6: 2068	K6: 1087	K6: 2080	K6: 1876	K6:1280
K7: 2008	K7: 1808	K7: 2008	K7: 1806	K7: 2008	K7:2008
K8: 2304	K8: 0310	K8: 0370	K8: 0305	K8: 2438	K8:1802
K9: 1077	K9: 1088	K9: 1119	K9: 1109	K9: 1098	K9:1109
					Small Red Beans <u>(8-18%)</u>
Baby Lima Beans <u>(8 - 18%)</u>	Large Lima Beans <u>(9 - 15%)</u>	Pea Beans <u>(8 - 20%)</u>	Pink Beans <u>(8 - 20%)</u>	Pinto Beans <u>(8 - 18%)</u>	BEANS SM RED 030320
BEANS BABY LIMA 010409	BEANS LARGE LIMA 010411	BEANS PEA-SM WH 990406	BEANS PINK 030320	BEANS PINTO 990326	
K1: 1393	K1: 1125	K1: 1139	K1: 1356	K1: 3390	K1: 1854
K2: 3057	K2: 1492	K2: 3109	K2: 1960	K2: 5752	K2: 5307
K3: 1151	K3: 1081	K3: 1190	K3: 1139	K3: 1317	K3: 1304
K4: 2506	K4: 0749	K4: 2457	K4: 2385	K4: 6836	K4: 6101
K5: 2555	K5: 2275	K5: 2675	K5: 2455	K5: 2445	K5: 2505
K6: 2073	K6: 2085	K6: 1086	K6: 1873	K6: 2073	K6: 1089
K7: 1808	K7: 1509	K7: 2008	K7: 2008	K7: 1808	K7: 1808
K8: 0347	K8: 0377	K8: 2150	K8: 1814	K8: 2073	K8: 1863
K9: 1109	K9: 1149	K9: 1077	K9: 1108	K9: 1098	K9: 1098
Small White Beans <u>(8 - 20%)</u>	Yelloweye Beans <u>(10 - 18%)</u>	Canola <u>(4 - 15%)</u>	Corn (High-Oil) <u>(6 - 30%)</u>	Flaxseed <u>(5 - 15%)</u>	Lentils <u>(7 - 15%)</u>
BEANS PEA-SM WH 990406	BEANS YELLOWEYE 030404	CANOLA 100408	CORN (HIGH-OIL) 990422	FLAX 000411	LENTILS 110330
K1: 1139	K1: 1392	K1: 0012	K1: 0437	K1: 0114	K1: 3309
K2: 3109	K2: 3024	K2: 1425	K2: 1699	K2: 1394	K2: 5814
K3: 1190	K3: 1149	K3: 1084	K3: 1211	K3: 1090	K3: 1348
K4: 2457	K4: 2482	K4: 0582	K4: 0815	K4: 0501	K4: 6901
K5: 2675	K5: 2455	K5: 2201	K5: 2305	K5: 2255	K5: 2505
K6: 1086	K6: 1881	K6: 1369	K6: 2560	K6: 1557	K6: 0798
K7: 2008	K7: 1810	K7: 1504	K7: 3006	K7: 1505	K7: 1507
K8: 2150	K8: 1095	K8: 2243	K8: 1988	K8: 1202	K8: 1046
K9: 1077	K9: 1108	K9: 1024	K9: 1087	K9: 1034	K9: 1087



OFFICIAL GAC 2100 CALIBRATION CONSTANTS  
for Non-NTEP Commodities

Brown Mustard Seed <u>(5 - 14%)</u> MUSTARD BROWN 030324	Oriental Mustard Seed <u>(5 - 14%)</u> MUSTARD ORIENT 030324	Yellow Mustard Seed <u>(5 - 14%)</u> MUSTARD YELLOW 030324	Austrian Winter Peas <u>(8 - 14%)</u> PEAS AUST WINTER 030326	Smooth Dry Peas <u>(8 - 19%)</u> PEAS SMOOTH DRY 000425	Split Peas <u>(8 - 14%)</u> PEAS SPLIT 030320
K1: 3216	K1: 3219	K1: 3213	K1: 1507	K1: 1422	K1: 0231
K2: 3749	K2: 3749	K2: 3749	K2: 5589	K2: 5251	K2: 0069
K3: 1171	K3: 1171	K3: 1171	K3: 1407	K3: 1354	K3: 1048
K4: 4629	K4: 4629	K4: 4629	K4: 6316	K4: 4884	K4: 0000
K5: 2355	K5: 2355	K5: 2355	K5: 2635	K5: 2635	K5: 2805
K6: 1573	K6: 1573	K6: 1573	K6: 1884	K6: 0894	K6: 1870
K7: 1405	K7: 1405	K7: 1405	K7: 1408	K7: 1908	K7: 1408
K8: 1035	K8: 1022	K8: 1028	K8: 1097	K8: 1603	K8: 1066
K9: 1024	K9: 1034	K9: 1034	K9: 1087	K9: 1098	K9: 1066
Wrinkled Dry Peas <u>(6 - 12%)</u> PEAS WRINKL DRY 030326	Popcorn <u>(6 - 26%)</u> POPCORN 920104	Rapeseed <u>(4 - 15%)</u> RAPESEED 990426	Brewers Milled Rice <u>(10 - 15%)</u> RICE BM-SCM-SHM 030417	Brewers Milled Rice – Parboiled <u>(10 - 14%)</u> RICE BMP-SHMP 030505	Long Grain Brown Rice <u>(10 - 21%)</u> RICE LG BROWN 100408
K1: 1893	K1: 0657	K1: 0013	K1: 0732	K1: 0429	K1: 0909
K2: 5190	K2: 1270	K2: 1425	K2: 3804	K2: 1926	K2: 3431
K3: 1282	K3: 1180	K3: 1084	K3: 1472	K3: 1244	K3: 1419
K4: 4999	K4: 0260	K4: 0582	K4: 4000	K4: 2029	K4: 2501
K5: 2445	K5: 2650	K5: 2201	K5: 2800	K5: 2800	K5: 2410
K6: 1893	K6: 2060	K6: 1369	K6: 1054	K6: 1038	K6: 1068
K7: 1206	K7: 2606	K7: 1504	K7: 1510	K7: 1410	K7: 2110
K8: 0382	K8: 1669	K8: 1450	K8: 0295	K8: 0236	K8: 0213
K9: 1068	K9: 1074	K9: 1024	K9: 1024	K9: 1024	K9: 1045
L G Brown Rice - Parboiled <u>(10 - 14%)</u> RICE LG BROWNP 010521	Long Grain Milled Rice <u>(10 - 20%)</u> RICE LG MILLED 100408	L G Milled Rice – Parboiled <u>(8 - 20%)</u> RICE LGMILL PAR 020326	Medium Grain Brown Rice <u>(10 - 20%)</u> RICE MG BROWN 030325	Medium Grain Milled Rice <u>(10 - 16%)</u> RICE MG MILLED 040331	M G Milled Rice - Parboiled <u>(10 - 14%)</u> RICE MGMILL PAR 030507
K1: 1623	K1: 5278	K1: 1470	K1: 2100	K1: 2387	K1: 1454
K2: 0465	K2: 5070	K2: 0411	K2: 1333	K2: 7751	K2: 0400
K3: 0087	K3: 1123	K3: 0058	K3: 1251	K3: 1919	K3: 0057
K4: 0001	K4: 6499	K4: 0001	K4: 0164	K4: 8002	K4: 0001
K5: 2500	K5: 2630	K5: 2460	K5: 2550	K5: 2770	K5: 2460
K6: 2065	K6: 1052	K6: 1085	K6: 1072	K6: 1061	K6: 1088
K7: 1410	K7: 2010	K7: 2008	K7: 2010	K7: 1610	K7: 1410
K8: 0259	K8: 0302	K8: 0223	K8: 0216	K8: 0345	K8: 1054
K9: 1054	K9: 1045	K9: 1055	K9: 1045	K9: 1045	K9: 1045

OFFICIAL GAC 2100 CALIBRATION CONSTANTS  
 for Non-NTEP Commodities

Screenings Milled Rice (10-15%) RICE BM-SCM-SHM 030417	Second Head Milled Rice (10-15%) RICE BM-SCM-SHM 030417	S H Milled Rice - Parboiled (10-14%) RICE BMP-SHMP 030505	Short Grain Brown Rice (10-18%) RICE SG BROWN 030422	Short Grain Milled Rice (10-16%) RICE SG MILLED 030417	Short Grain Rough Rice (10 - 26%) RICE SG ROUGH 020327
K1: 0732	K1: 0732	K1: 0429	K1: 0443	K1: 0115	K1: 1441
K2: 3804	K2: 3804	K2: 1926	K2: 5583	K2: 0157	K2: 3846
K3: 1472	K3: 1472	K3: 1244	K3: 1561	K3: 1047	K3: 1280
K4: 4000	K4: 4000	K4: 2029	K4: 6001	K4: 0001	K4: 4455
K5: 2800	K5: 2800	K5: 2800	K5: 2550	K5: 2850	K5: 1900
K6: 1054	K6: 1054	K6: 1038	K6: 1085	K6: 1056	K6: 2058
K7: 1510	K7: 1510	K7: 1410	K7: 1810	K7: 1610	K7: 2610
K8: 0295	K8: 0295	K8: 0236	K8: 1070	K8: 1088	K8: 0233
K9: 1024	K9: 1024	K9: 1024	K9: 1045	K9: 1045	K9: 1047
Rye (8 - 20%) RYE 060322	Safflower Seed (4 - 14%) SAFFLOWER 000405	Sunflower Seed (Confectionary) (5 - 17%) SUNFL CONFECT 000413	Triticale (8-15%) TRITICALE 040330		
K1: 0402	K1: 1690	K1: 1744	K1: 0500		
K2: 1305	K2: 3005	K2: 1791	K2: 1898		
K3: 1138	K3: 1093	K3: 1057	K3: 1246		
K4: 0390	K4: 2518	K4: 2355	K4: 0998		
K5: 2265	K5: 1605	K5: 1015	K5: 2420		
K6: 1074	K6: 1549	K6: 1562	K6: 1074		
K7: 2008	K7: 1404	K7: 1705	K7: 1508		
K8: 1312	K8: 1880	K8: 1701	K8: 1548		
K9: 1055	K9: 1057	K9: 1089	K9: 1045		

EFFECTIVE DATES OF CALIBRATIONS LISTED IN ATTACHMENTS 1 and 2.

<u>Grain/Commodity</u>	<u>Calibration</u>	<u>Calibration Effective Date</u>
<u>A. NTEP</u>		
Barley, Six-Rowed	BARLEY SIX ROWED 110330N	May 01, 2011
Barley, Two-Rowed	BARLEY TWO ROWED 080324N	May 01, 2008
Corn	CORN 100326N	Aug 01, 2010
Corn (High-Moisture)	CORN HI MOIST 100326N	Aug 01, 2010
Oats	OATS 100408N	May 01, 2010
Rice, Long Grain Rough	RICE LG ROUGH 100407N	Aug 01, 2010
Rice, Medium Grain Rough	RICE MG ROUGH 100326N	Aug 01, 2010
Sorghum	SORGHUM 100409N	Aug 01, 2010
Soybeans	SOYBEANS 050210N	Aug 01, 2005
Sunflower Seed (Oil-Type)	SUNFLOWER OIL 090330N	Aug 01, 2009
Wheat, Durum	DURUM 110329N	May 01, 2011
Wheat, Hard Red Spring	WHEAT HRS 080326N	May 01, 2008
Wheat, Hard Red Winter	WHEAT HRW 060308N	May 01, 2006
Wheat, Hard White	WHEAT HARD WHITE 080331N	May 01, 2008
Wheat, Soft Red Winter	WHEAT SRW 070327N	May 01, 2007
Wheat, Soft White	WHEAT SOFT WHITE 100405N	May 01, 2010
<u>B. Non-NTEP</u>		
Beans, Black	BEANS BLACK 990415	Jun 15, 1999
Beans, Blackeye	BEANS BLACK EYE 010409	Jun 15, 2001
Beans, Cranberry	BEANS CRANBERRY 010409	Jun 15, 2001
Beans, Garbanzo	BEANS GARBANZO 060308	Aug 01, 2006
Beans, Great Northern	BEANS GR NORTH 060322	Aug 01, 2006
Beans, Kidney (Light and Dark)	BEANS KIDNEY 010418	Jun 15, 2001
Beans, Baby Lima	BEANS BABY LIMA 010409	Jun 15, 2001
Beans, Large Lima	BEANS LARGE LIMA 010411	Jun 15, 2001
Beans, Pea (Navy)	BEANS PEA-SM WH 990406	Jun 15, 1999
Beans, Pink	BEANS PINK 030320	Jul 01, 2003
Beans, Pinto	BEANS PINTO 990326	Jun 15, 1999
Beans, Small Red	BEANS SM RED 030320	Jul 01, 2003
Beans, Small White	BEANS PEA-SM WH 990406	Jul 01, 2003
Beans, Yelloweye	BEANS YELLOW EYE 030404	Jul 01, 2003
Canola	CANOLA 100408	Aug 01, 2010
Corn (High-Oil)	CORN (HIGH-OIL) 990422	Jun 15, 1999
Flaxseed	FLAX 000411	Jun 15, 2000

EFFECTIVE DATES OF CALIBRATIONS LISTED IN ATTACHMENTS 1 and 2 (Continued)

<u>Grain/Commodity</u>	<u>Calibration</u>	<u>Calibration Effective Date</u>
<u>B. Non-NTEP (Continued)</u>		
Lentils	LENTILS 110330	Aug 1, 2011
Mustard Seed, Brown	MUSTARD BROWN 030324	Jul 01, 2003
Mustard Seed, Oriental	MUSTARD ORIENT 030324	Jul 01, 2003
Mustard Seed, Yellow	MUSTARD YELLOW 030324	Jul 01, 2003
Peas, Austrian Winter	PEAS AUSTR WINTER 030326	Jul 01, 2003
Peas, Smooth Dry	PEAS SMOOTH DRY 000425	Jun 15, 2000
Peas, Split	PEAS SPLIT 030320	Jul 01, 2003
Peas, Wrinkled Dry	PEAS WRINKL DRY 030326	Jul 01, 2003
Popcorn	POPCORN 920104	Jul 01, 2003
Rapeseed	RAPESEED 990426	Jun 15, 1999
Rice, Brewers Milled	RICE BM-SCM-SHM 030417	Sep 01, 2003
Rice, Brewers Milled - Parboiled	RICE BMP-SHMP 030505	Sep 01, 2003
Rice, Long Grain Brown	RICE LG BROWN 100408	Aug 01, 2010
Rice, Long Grain Brown - Parboiled	RICE LG BROWNP PAR 010521	Jun 15, 2001
Rice, Long Grain Milled	RICE LG MILLED 100408	Aug 01, 2010
Rice, Long Grain Milled - Parboiled	RICE LGMILL PAR 020326	Jul 01, 2002
Rice, Medium Grain Brown	RICE MG BROWN 030325	Sep 01, 2003
Rice, Medium Grain Milled	RICE MG MILLED 040331	Sep 01, 2004
Rice, Medium Grain Milled - Parboiled	RICE MGMILL PAR 030507	Sep 01, 2003
Rice, Screenings Milled	RICE BM-SCM-SHM 030417	Sep 01, 2003
Rice, Second Head Milled	RICE BM-SCM-SHM 030417	Sep 01, 2003
Rice, Second Head Milled - Parboiled	RICE BMP-SHMP 030505	Sep 01, 2003
Rice, Short Grain Brown	RICE SG BROWN 030422	Sep 01, 2004
Rice, Short Grain Milled	RICE SG MILLED 030417	Sep 01, 2003
Rice, Short Grain Rough	RICE SG ROUGH 020327	Jul 01, 2002
Rye	RYE 060322	May 01, 2006
Safflower Seed	SAFFLOWER 000405	Jun 15, 2000
Sunflower Seed (Confectionary)	SUNFL CONFECT 000413	Aug 01, 2000
Triticale	TRITICALE 040330	Sep 01, 2004

ACCURACY OF OFFICIAL / NTEP GAC 2100 CALIBRATIONS\*  
 Average Differences (GAC 2100 minus Air Oven), as Percent Moisture

Moisture <u>Interval</u> (%)	Six-rowed <u>Barley</u> (%)	Two-rowed <u>Barley</u> (%)	<u>Corn</u> (%)	<u>Oats</u> (%)	Long Grain <u>Rough Rice</u> (%)	Medium Grain <u>Rough Rice</u> (%)
8-10	0.22	-0.07	--	+0.22	--	--
10-12	0.05	-0.13	+0.19	-0.03	-0.05	-0.14
12-14	-0.02	-0.25	+0.16	-0.13	-0.11	+0.06
14-16	-0.20	-0.14	-0.21	-0.08	-0.33	+0.14
16-18	--	--	-0.07	--	0.00	+0.01
18-20	--	--	+0.11	--	0.00	-0.23

Moisture <u>Interval</u> (%)	<u>Sorghum</u> (%)	<u>Soybeans</u> (%)	Sunflower Seed <u>(Oil-Type)</u> (%)	Durum <u>Wheat</u> (%)	Hard Red <u>Spring Wheat</u> (%)	Hard Red <u>Winter Wheat</u> (%)
6-8	--	--	-0.08	--	--	--
8-10	--	+0.10	+0.11	+0.25	0.00	+0.09
10-12	+0.08	+0.06	+0.20	+0.16	+0.07	+0.06
12-14	+0.06	+0.09	+0.21	+0.10	+0.01	+0.05
14-16	-0.06	+0.08	-0.20	-0.23	+0.08	+0.08
16-18	-0.15	+0.15	--	--	+0.05	-0.09

Moisture <u>Interval</u> (%)	Hard White <u>Wheat</u> (%)	Soft Red <u>Winter Wheat</u> (%)	Soft White <u>Wheat</u> (%)	Moisture <u>Interval</u> (%)	Corn (High- <u>Moisture</u> ) (%)
6-8	--	--	--	20-22	-0.05
8-10	+0.13	--	-0.03	22-24	-0.10
10-12	+0.19	-0.03	-0.06	24-26	+0.36
12-14	+0.08	-0.05	-0.18	26-28	+0.77
14-16	--	-0.12	-0.18	28-30	+0.19
16-18	--	-0.10	--		

\* For typical market moisture ranges  
 Basis: U.s nationwide sample set, 3 year's data, most recent review

ACCURACY of OFFICIAL non-NTEP GAC 2100 CALIBRATIONS\*  
 Average Differences (GAC 2100 minus Air Oven), as Percent Moisture

Moisture <u>Interval</u> (%)	Black <u>Beans</u> (%)	Blackeye <u>Beans</u> (%)	Cranberry <u>Beans</u> (%)	Garbanzo <u>Beans</u> (%)	Great Northern <u>Beans</u> (%)	Kidney <u>Beans</u> (%)
6-8	--	--	--	+0.22	--	--
8-10	--	+0.11	--	+0.01	+0.16	-0.08
10-12	+0.25	-0.16	+0.03	+0.14	-0.11	-0.07
12-14	+0.41	+0.02	+0.05	+0.01	-0.05	-0.10
14-16	+0.10	+0.03	-0.04	--	--	+0.33
16-18	+0.33	--	-0.02	--	--	--
18-20	--	--	--	--	--	--

Moisture <u>Interval</u> (%)	Baby Lima <u>Beans</u> (%)	Large Lima <u>Beans</u> (%)	Pea (Navy) <u>Beans</u> (%)	Pink <u>Beans</u> (%)	Pinto <u>Beans</u> (%)	Small Red <u>Beans</u> (%)
8-10	+0.05	+0.11	--	+0.04	+0.01	+0.14
10-12	-0.05	-0.11	+0.14	+0.09	+0.17	+0.32
12-14	+0.15	--	+0.24	+0.44	+0.08	+0.25
14-16	--	--	+0.12	+0.17	-0.20	-0.16
16-18	--	--	+0.04	+0.25	--	--
18-20	--	--	--	--	--	--

Moisture <u>Interval</u> (%)	Yelloweye <u>Beans</u> (%)	Austrian <u>Winter Peas</u> (%)	Smooth <u>Dry Peas</u> (%)	Split <u>Peas</u> (%)	Wrinkled <u>Dry Peas</u> (%)	<u>Lentils</u> (%)
6-8	--	--	-0.07	--	+0.13	+0.05
8-10	--	-0.06	-0.13	+0.09	+0.11	-0.10
10-12	--	-0.07	+0.04	0.00	-0.16	-0.03
12-14	-0.05	--	+0.36	+0.02	--	-0.02
14-16	--	--	+0.46	--	--	--

\* For typical market moisture ranges  
 Basis U.S. nationwide sample set, most recent review

ACCURACY of OFFICIAL non-NTEP GAC 2100 CALIBRATIONS\*  
 Average Differences (GAC 2100 minus Air Oven), as Percent Moisture

Moisture Interval (%)	Canola (%)	Flaxseed (%)	Mustard Seed (Brown) (%)	Mustard Seed (Oriental) (%)	Mustard Seed (Yellow) (%)	Rapeseed (%)
4-6	-0.02	+0.28	--	-0.10	+0.18	-0.05
6-8	+0.14	+0.06	--	-0.04	+0.03	-0.17
8-10	+0.19	+0.02	-0.02	+0.06	+0.10	--
10-12	--	--	--	--	--	--
12-14	--	--	--	--	--	--

Moisture Interval (%)	Safflower Seed (%)	Sunflower Seed (Confection.) (%)	Rye (%)	Brewers Milled Rice (%)	Brewers Milled Rice (Parboiled) (%)	Long Grain Brown Rice (%)
4-6	+0.11	--	--	--	--	--
6-8	-0.24	-0.09	--	--	--	--
8-10	-0.52	-0.15	--	--	--	--
10-12	--	-0.29	+0.09	-0.18	-0.06	+0.04
12-14	--	-0.05	+0.07	-0.14	--	-0.04

Moisture Interval (%)	Long Grain Brown Rice (Parboiled) (%)	Long Grain Milled Rice (%)	Long Grain Milled Rice (Parboiled) (%)	Medium Grain Brown Rice (%)	Medium Grain Milled Rice (%)	Medium Grain Milled Rice (Parboiled) (%)
8-10	--	--	--	--	--	--
10-12	-0.12	+0.11	+0.02	+0.16	-0.05	0.00
12-14	-0.02	-0.08	-0.11	+0.05	-0.04	--
14-16	--	--	-0.21	--	-0.04	--
16-18	--	--	--	--	--	--

\* For typical market moisture ranges  
 Basis: U.S. nationwide sample set, most recent review

ACCURACY of OFFICIAL non-NTEP GAC 2100 CALIBRATIONS\*  
 Average Differences (GAC 2100 minus Air Oven), as Percent Moisture

Moisture <u>Interval</u> (%)	Second Head				
	<u>Second Head Milled Rice</u> (%)	<u>Milled Rice (Parboiled)</u> (%)	<u>Short Grain Brown Rice</u> (%)	<u>Short Grain Milled Rice</u> (%)	<u>Short Grain Rough Rice</u> (%)
8-10	--	--	--	--	+0.11
10-12	--	+0.08	+0.15	+0.24	+0.38
12-14	+0.03	--	+0.05	+0.05	-0.06
14-16	+0.08	--	+0.11	0.00	-0.63
16-18	--	--	-0.12	--	--

Moisture <u>Interval</u> (%)	Corn		
	<u>(High-Oil)</u> (%)	<u>Popcorn</u> (%)	<u>Triticale</u>
8-10	-0.01	--	--
10-12	0.00	--	-0.24
12-14	-0.12	+0.34	+0.05
14-16	-0.03	+0.21	--
16-18	+0.20	--	--
18-20	+0.20	--	--

\* For typical market moisture ranges  
 Basis: U.S. nationwide sample set, most recent review