

# Directive

9180.41

April 22, 1997

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## SACKED GRAIN

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## 1. PURPOSE

This directive establishes procedures for sampling and determining the quality of sacked grain.

## 2. REPLACEMENT HIGHLIGHTS

This directive replaces FGIS Instruction 918-41, Sacked Grain, dated 11/18/85. This directive is revised to remove weighing related information; remove the detailed portion of the procedure for coding sacks but retain a general statement; remove the cancellation procedure of identity preserved services on lots that exceed the 30-day requirement, but retain the cancellation procedure whenever the lot condition changes or the identity preserved condition is lost; include procedures for sacked grain inspection performed on grain purchased by the Farm Service Agency (FSA); and include minor editorial changes. Weighing procedures are contained in the appropriate chapter of the Weighing Handbook.

## 3. POLICY

The Federal Grain Inspection Service (FGIS) policy is to provide sacked grain inspection and weighing service. This directive outlines only inspection procedures for sacked grain operations.

## 4. INTRODUCTION

- a. General Instructions. Grain may be inspected prior to or during the sacking operation (online) or after sacking when the lot is at rest in a warehouse (warehouse-lot).
  - (1) Grain may be sampled prior to sacking using approved online sampling devices. Grain sampled after sacking must be sampled with a probe. Samples must be drawn according to procedures described in Book I, Grain Sampling, of the Grain Inspection Handbook, for the sampling device being used.
  - (2) Grain may be inspected in the interior and shipped to an export location in an identity preserved condition. In this instance, the domestic certificate is exchanged for an export certificate if the lot meets the requirements contained in this directive.
  - (3) Lots inspected online must be graded using the procedures in Chapter 2, Inspection of Shiplots and Combined Lots (Cu-Sum), Book III, Inspection Procedures, of the Grain Inspection Handbook.
  - (4) Lots inspected on the warehouse floor must be divided into sublots, and each subplot must meet contract requirements.

b. Applicant Responsibilities.

- (1) Application. The applicant must submit an application for service.
- (2) Manual Labor. The applicant is responsible for making sacks accessible. This includes moving pallets, unstacking loaded pallets, and unloading pallets to reach the selected sack. If the grain is not fully accessible, the request for inspection service shall be dismissed.
- (3) Recouping. The applicant is responsible for recouping all sacks opened by official personnel.

**5. SUBLOT AND SAMPLE SIZE**

- a. Sublot Size. The maximum subplot size is 10,000 sacks. Except for the last subplot, no subplot shall be more than 10 percent larger or smaller than the established normal or predetermined size. Component samples represent approximately one-fourth of a subplot.
- b. Sample Size. The inspection sample size will be 36 sacks per subplot. Select the sacks according to Section 6, Sample Selection Procedure, of this directive.
- c. Infestation Sample Size.
  - (1) Online.
    - (a) Probe. Examine each probe sample for live infestation. If the sample is considered "infested," then all sacks since the last sample are considered infested.
    - (b) All Other Devices. Examine representative portions for live infestation at periodic intervals of every 2,000 bushels. Standardize each representative portion to weigh approximately 500 grams. Consider each interval independently. Start a new count with each new interval, the start of a new subplot, or after a material portion.
  - (2) Warehouse. Determine live infestation for each component. Use the guidelines in the "infested" section for the appropriate grain in Book II, Grain Grading Procedures, of the Grain Inspection Handbook.

## 6. SAMPLE SELECTION PROCEDURE

The time method or the random number method of sample selection may be used for online sampling service. Only the random number method can be used for warehouse lots.

- a. Time Method. Determine the number of hours it should normally take to complete a subplot. Divide the sample size (36) by the number of hours to determine the number of samples per hour. Round up to the next whole number when the answer contains a fraction. Randomly select that number of samples each hour during the sampling period. Do not set a pattern of selecting samples at any one time during the sampling period. Alternate the samples between lines if more than one line is used for sacking.

Preselect the sacks to be sampled. Use a reference point (for example, sack in front of you now) and sample the tenth sack from the reference point using a different number each time. This should reduce bias in sample selection.

Example: The applicant is sacking a subplot of 8,100 50-kilogram sacks over an 8-hour shift. The sample size is 36 sacks.

$$36 \text{ (sample size)} \div 8 \text{ (number of hourly segments)} = 4.5 \text{ sacks/hour (rounded to 5)}$$

1st hour	5 sacks	5th hour	5 sacks
2nd hour	5 sacks	6th hour	5 sacks
3rd hour	5 sacks	7th hour	5 sacks
4th hour	5 sacks	8th hour	5 sacks
	20 sacks	20 sacks	= 40 sacks total*

\* The number of samples actually drawn is four more than the sample size because of rounding (4.5 to 5).

- b. Random Number Method. Use the random number tables (attachment) to determine which sacks will be selected. The use of random numbers ensures that each sack has an equal chance of being selected. A random number may (1) designate the number of the selected sack or (2) designate the pallet from which a sack will be selected. When a random number is used to designate the number of the pallet from which a sack is selected, randomly select a sack from the pallet.

Use the random number tables as follows:

- (1) Determine the starting point in the random number tables. When the tables are used for the first time, the starting point will be the upper left hand block of numbers on the first page. When using the tables on subsequent occasions, the starting point will be the row of numbers immediately following the last row of numbers used.

- (2) Begin at the left of the first row of numbers used. Combine as many consecutive digits in the number as needed to coincide with the number of sacks in the subplot. For example, for subplot sizes of 10 to 99 sacks, combine 2 digits to form a single number; for subplot sizes 100 to 999 sacks, combine 3 digits to form a single number, etc.
- (3) Proceed reading digits from the starting point to the bottom of the page. Continue to the top of the next column to the right when the end of a column is reached. Proceed to the beginning of the next page when the end of a page is reached. Go back to the first page when the end of the last page is reached.
- (4) Discard groups of consecutive digits that are larger than the subplot size and continue to the next row of digits.
- (5) Discard groups of consecutive digits that are repeated.
- (6) Record the usable groups of consecutive digits until 36 random numbers are identified.
- (7) List the numbers in numerical order. (Retain the list with the work records.)
- (8) Determine which sacks comprise each subplot. Divide each subplot into components. Group the subplot components together in an orderly manner.
- (9) Select the sacks and/or pallets that correspond to each random number.
- (10) Alternate the sample between the lines for online operations, if more than one line is used for sacking. Keep an accurate count of the sacks in order to determine which sack to sample. Use the counter on the sacking line, if available. For warehouse lots, the applicant must make selected pallets accessible for sampling.

## **7. PROBING SACKS**

Use a double-tubed, compartmented grain trier when a lot is sampled after sacking. Select sacks for sampling according to procedures outlined in section 6.

Probe the selected sack according to procedures described in Chapter 3, Book I, of the Grain Inspection Handbook.

## 8. IDENTITY PRESERVED

- a. General. Grain intended for loading aboard an export carrier at a later date must be identity preserved (IP) or another inspection and weighing service is required. IP services consist of the following:
  - (1) At Origin or Before Loading Begins.
    - (a) Issuing applicable certificates for an identified lot.
    - (b) Identifying the lot by one of the approved identification procedures stated in this section.
  - (2) At Destination or Once Export Loading is Requested.
    - (a) Verifying the lot's identity.
    - (b) Examining the lot for condition and torn or leaking sacks.
    - (c) Checkloading the sacks into the final carrier.
    - (d) Issuing official export certificates.
- b. Origin or Prior to Export Loading Responsibilities.
  - (1) Applicants requesting Identity Preserved (IP) services must:
    - (a) Complete an application and request IP services.
    - (b) File the application with official personnel prior to or at the time of service.
    - (c) Identify the type of lot identification to be used.
  - (2) Official Personnel must:
    - (a) Perform inspection services according to this directive.
    - (b) Ensure lot identity is maintained according to one of the following procedures.
      - 1 Coding Sacks. Ensure that a special and unique identification code is applied to no less than 25 percent of the sacks in each carrier/sublot. Use a hand roller stamp, commercial coder, coded tags (sewn in seams), or any other method approved by FGIS. Apply the code so that it can be read after the sacks are stacked on pallets. Record the code on work records and certificates using a separate code for each lot.

- 2 Identification by Seals. Witness the lot being loaded into a carrier and sealed. Record the carrier identification and seal numbers on the appropriate work records and certificates.
- 3 Identification by Warehouse Space. Witness the sacks being stored in the warehouse. Identify the storage area by a warehouse identification scheme and strategically place marks on sacks or pallets for later identification. Determine if the lot was tampered with by determining if the lot is in the recorded storage area and strategically placed marks are still where they were placed.

(c) Ensure that, if a component/sublot does not meet contract specifications, it is removed from the lot and certificated separately. These sacks, if coded, must have the code obliterated or the sacks must be emptied. When any part of a coded component/sublot which does not meet contract specifications leaves the inspection site without the code being obliterated, the IP part of the service is canceled.

(d) Origin Certification. Issue appropriate certificates according to the Grain Inspection Handbook, Book IV, Forms and Certificates, and the following requirements:

- 1 Issue domestic certificates if the lot is not loaded aboard the final export carrier within 88 hours after completion. Record the applied IP code in the space provided for "Remarks" on official certificates using the following statement: "FGIS IDENTITY PRESERVED CODE NUMBER: ( )." Record the seal numbers in the "Remarks" section of the certificate if seals are applied.
- 2 For shipments where destination services are performed before certificates can be delivered to the destination office, the applicant should surrender the original certificate(s) to the origin office. The origin office will transmit the results and the identification codes to the destination office. They will then mail the domestic certificate(s) to the destination office.

c. Destination or Prior to Export Loading Responsibilities.

(1) Applicant at destination must:

- (a) Complete an application and show "IP Service" in the "Remarks" section.
- (b) File the application with official personnel prior to or at the time of examination along with all the original domestic certificates and any other document which indicates the location of the lot. The applicant must also state the amount of grain to be shipped.
- (c) Notify official personnel so seals on carriers can be recorded or sacks can be examined for codes and the condition of the grain can be determined.

(2) Official Personnel performing the export inspection must:

- (a) Review all domestic certificates, applications, and any other document which indicates the location of the lot.
- (b) Verify the lot is the same lot(s) covered by the domestic certificate(s) by reviewing codes, carrier identification and seals, or storage location and strategically placed marks. Verify that the lot has not undergone a change in condition. Analyze the component sample(s) if a factor(s) obviously appears to be a lower quality than the contract requirement. This includes internal and external infestation. Cancel the IP service for the lot if the component(s) does not meet contract requirements after applying the breakpoint. Cancel the IP service only for the nonuniform portion if the applicant elects to segregate the nonuniform portion. Document the nonuniform portion so it may not be included in another lot without being inspected.

Condition examination procedures are as follows:

- 1 Warehouse. Sample<sup>1</sup> and examine for condition approximately one percent of the sacks throughout the entire lot. Examine each sample. Examine also the outside of all visible sacks on each pallet for animal filth, wetness, infestation, and large holes. Set aside all out-of-condition sacks of grain and subtract that quantity from the lot.
- 2 Barge. Sample<sup>2</sup> and examine for condition approximately one percent of the sacks throughout the entire lot. Examine each sample. Examine also the outside of all visible sacks on each pallet for animal filth, wetness, infestation, and large holes. Set aside all out-of-condition sacks of grain and subtract that quantity from the lot. Examine the grain in the barge, on the deck of the ship, or in the shiphold. **SAFETY IS THE FOREMOST CONSIDERATION WHEN DETERMINING LOCATION TO PERFORM EXAMINATIONS.**

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<sup>1</sup> Samples shall be drawn with a tapered bag trier inserted into the sack's side. Approximately 500 grams shall be allowed to flow through the trier into the pan. Seal the punctured sacks after sampling.

<sup>2</sup> Samples shall be drawn with a tapered bag trier inserted into the sack's side. Approximately 500 grams shall be allowed to flow through the trier into the pan. Seal the punctured sacks after sampling.



- (c) Perform the service according to procedures in this directive.
- 1 Stowage Examination. Perform an official stowage examination for all waterborne carriers or containers.
  - 2 Checkloading. Observe the sacks being loaded after the stowage examination is performed. Obtain an accurate sack count on the warehouse floor or while loading.

Monitor and record the disposition of grain spilled from torn and leaking sacks as well as the number of sacks delivered. Consider the grain loaded when it is being lowered into the hold.

- (3) Destination Certification. Issue official export certificates according to procedures in the Grain Inspection Handbook, Book IV, Forms and Certificates, and the following requirements.
- (a) Record the grade designation, class, kind, and factor information from the domestic certificate(s) on the export inspection certificate. Do not show the IP code on the export certificate.
  - (b) Record all other information, such as place of issuance (field office, suboffice, or agency), date, quantity, and location as if the entire inspection/weighing services are performed at destination.
  - (c) Mark the original domestic certificate(s) VOID.
  - (d) IP lots may be combined if they are of like grade and dockage and protein if applicable. In addition, IP lots may be combined with warehouse lots. Base the information for the export certificate on the weighted average from all lots as outlined below.
    - 1 Multiply the number of sacks recorded on each origin certificate by the results shown on the certificate.

Example:

	<u>Quantity</u>		<u>Factor</u>		<u>Product</u>
Certificate 1	26,250 sacks	x	2.3	=	60,375
Certificate 2	48,750 sacks	x	2.8	=	136,500
Certificate 3	<u>28,350 sacks</u>	x	2.5	=	<u>70,875</u>
Total:	103,350				267,750

- 2 To find the weighted average, divide the total product (267,750) by the total quantity of sacks (103,350):

$$267,750 \div 103,350 = 2.59 \text{ or } 2.6 \text{ percent}$$

- 3 Follow the same procedures for percentages, count factors, and weights.
  - 4 Attach and file superseded certificate(s) with the first export certificate issued.
- (e) Apply the following procedures if a lot(s) is loaded aboard two or more vessels :
- 1 Verify the lot(s) identity has not been lost.
  - 2 Verify the condition has not changed.
  - 3 Issue export certificates based on the domestic certificate or on the weighted average of the domestic certificates when more than one lot is involved.
  - 4 Issue additional export certificate(s) on the remainder of the lot(s) if the identity and condition have not changed.
- (f) Issue the certificate(s) for the amount loaded aboard the carrier as long as it does not exceed the amount covered by the IP lot(s).
- (g) Cancel the IP service whenever the lot's condition changes or the identity preserved condition is lost, and perform a warehouse-lot inspection.

## **9. FARM SERVICE AGENCY (FSA) PURCHASES**

- a. When sacked grain inspections are performed on grain purchases by FSA, field offices must:
- (1) Read and understand the purchase announcement and invitation under which the grain is purchased.
  - (2) Bill the contractor for all services associated with the domestic certificate.
  - (3) Bill FSA for all services associated with the export certificate. Send bills for services associated with the export certificate to:

U.S. Department of Agriculture  
FSA/KCCO/FOD/PB  
P.O. Box 419205  
Kansas City, MO 64141-6205

- (4) Include the following information on the export certificate:
  - (a) The number of sacks loaded.
  - (b) The total net weight (excluding spills, damaged, and rejected quantities) of the sacks loaded.
  - (c) The average tare weight of the sacks.
  - (d) The contract number.
  - (e) The notice to deliver (N/D) number.
  - (f) The container or barge numbers as applicable.
  
- (5) Provide the following information by phone to FSA's Kansas City Commodity Office as soon as loading is completed:
  - (a) The number of sacks loaded.
  - (b) The total net weight (excluding spills, damaged, and rejected quantities) of the sacks loaded.
  - (c) The average tare weight of the sacks.

***/s/ David Orr***

David Orr, Acting Director  
Field Management Division

Attachment

TABLE OF RANDOM NUMBERS					
659156	034646	346480	021038	340229	043907
339770	290314	143688	354422	900012	760590
652044	207095	373834	997281	115078	716662
611444	708280	866070	910648	695118	311367
110968	687516	391094	909960	262444	487474
111915	611507	425447	157400	225774	017486
851530	207095	373874	273439	996536	285019
150568	170875	487757	747819	743117	739804
726277	473839	596930	070539	269265	087977
679120	812174	290054	354988	912359	585474
464872	557335	476317	352911	484005	870949
602112	587987	300584	911185	863961	639395
376150	263426	207152	738668	948411	254414
735632	150005	142274	916354	600718	271947
204354	125854	528863	356264	688128	824011
000557	528178	182821	692693	542295	218048
009409	933180	318040	953374	463100	480121
114919	339542	291124	607111	204584	766318
379602	660350	780628	137970	047943	750622
330422	991713	422284	015147	165306	117489
220588	848405	171778	476792	584954	356754
049989	553212	449279	742879	661439	460088
379700	467808	707323	800869	835417	312729
155939	224928	453673	188840	555956	220729
017807	706164	665123	987776	781819	761225
553427	184457	358926	524470	916395	509820
016168	755051	384587	972765	925887	862768
851524	731371	833053	605497	554063	549270
204917	784068	641878	280888	435342	674021
151493	056222	565821	087277	204956	931346
908728	911726	857092	611042	937856	351455
041776	466190	129324	676840	527197	292262
138039	814858	759662	383733	662609	799617
329071	664128	606642	727344	749813	895958
406473	439998	032398	388978	664972	340645
548231	849909	676377	810241	355630	050915
378866	900340	555925	313041	588990	600555
018893	130783	725123	705134	318525	547001
452251	373431	195667	644061	268222	877293
362662	330379	930324	275971	766010	862085
626364	197638	657972	864978	231215	947098
183701	199838	409792	333233	821235	724195
089046	655418	469721	977730	467257	213289
119041	550088	999560	219654	223109	005876
517543	386505	575827	963159	918977	304469
661366	343519	595822	856819	196561	968089
713933	714842	082929	595429	587982	069876
06847	669360	778282	665204	373982	205768

**TABLE OF RANDOM NUMBERS**

117765	906701	425055	010152	471312	479957
136075	775006	882310	900136	808662	029405
314872	503938	557383	209444	005589	652115
619896	875875	902471	456209	867789	111985
024860	226692	617250	234214	665892	523446
982363	025912	624434	913875	645892	523443
031763	601487	607081	055478	938287	603723
312603	487608	508546	696647	750773	803659
910928	632377	687231	699795	593444	254968
708789	468824	505992	089389	844746	641044
977532	858191	837708	528063	651814	493198
154913	000563	361080	840178	474332	782525
712659	006378	146925	689428	695586	981411
974906	082998	126328	656166	237092	098055
815580	373563	282399	521379	864980	783019
406945	320181	469445	085552	888670	256524
024917	961097	295247	724030	569060	701093
479160	840407	238605	698412	758672	429641
366848	524205	121358	296023	746741	658875
718939	753183	857051	023170	970834	529912
172506	823446	420751	945808	095292	788706
147017	197887	676053	407507	317664	532339
758053	896357	123844	178871	061284	126141
055691	907814	127083	224626	064547	118183
886394	285272	564562	259292	050288	516333
198537	119943	099727	626665	313260	956242
909340	461582	268809	564682	660389	495991
734114	695511	711673	934654	741440	577086
837743	347749	329985	779050	580398	953156
192991	714852	382392	331828	514719	396086
678301	169027	348318	966446	349957	219455
510366	268175	916299	129340	623209	972180
576601	153946	531371	193021	153068	862977
531854	201051	624313	197608	507127	687524
313452	847637	433267	029847	306942	433778
935693	246704	072701	314715	990109	599242
220263	923131	103841	501740	033904	448129
182199	559087	473263	437440	993213	804412
010073	367236	278179	623975	641953	274844
388061	458061	335694	334583	677684	562455
523659	223003	751716	479298	967099	218435
185725	294664	139472	905566	836680	541922
443459	984450	029116	478545	529271	578744
803529	612472	648763	320273	888245	578715
268571	269342	332049	404283	530621	023923
590482	091185	559806	328155	873070	073638
162143	877403	715811	024770	713007	370581
770488	104891	512963	815067	173726	059667