CHAPTER 7

ROUNDLOT INSPECTION PLAN

7.1 GENERAL INFORMATION

A. A roundlot is a single lot of bulk or sacked rice that is comprised of multiple units. Roundlots are usually loaded aboard, or unloaded from, two or more carriers. However, a lot of rice loaded aboard a single barge or ship may also be considered a roundlot.

B. The roundlot inspection plan provides for sampling and inspecting roundlots of rice.

1. Rice inspected under this plan is examined for both uniformity in quality and compliance with grade, factor, and/or contract requirements. (Roundlots may be inspected for grade, grade and special factors, or factors only.)

2. This plan utilizes established tolerances (i.e., statistically predetermined limits) for accepting those occasional portions of a lot that, due to known sampling and grading variations, may grade below the desired lot quality.

7.2 APPLICATION FOR INSPECTION

Prior to loading or unloading the lot, the applicant must submit a form FGIS-955, "Application for Inspection under the Agricultural Marketing Act of 1946", or an appropriate Federal cooperator's form.

A. The application shall declare: (1) the contract requirements (i.e., contract grade, factor limits, and/or other specifications); (2) the approximate quantity of rice in the lot; (3) the sublot size; (4) "Option 1" or "Option 2" certification; and (5) any other needed information.

B. The application must be signed.

7.3 COMPONENTS AND SUBLOTS

A. A component is a portion of a sublot; e.g., one compartment of a hopper car.

1. Generally, there should be no less than two components in every sublot.

2. All components in the lot shall be uniform in size; i.e., the largest sized component not more than 5 percent larger than the smallest component.

3. Component size shall be established by the official inspection personnel and may not be changed once loading or unloading has begun.

B. A sublot is a portion of the overall lot; e.g., one railcar in a unit train.

1. Except for the last sublot, all sublots in the lot should be reasonably uniform in size; i.e., the largest sized sublot not more than 25 percent larger than the smallest sublot - excluding the last sublot.

2. The last sublot should not amount to less than 5 percent of the average size of the sublots in the lot.

3. Sublot size must be established by the applicant for inspection and may not be changed once loading or unloading has begun without the approval of the field office or Federal/State manager.

C. Components and sublots shall comply with the size restrictions in Table 1.

TABLE I - COMPONENT AND SUBLOT SIZE

Carriers	Maximum Component Size	Maximum Sublot Size
Ships	300,000 pounds	1,000,000 pounds
Standard Barges	300,000 pounds	1,000,000 pounds
Lash Barges (400-500 tons)	30,000 pounds	One barge
Hopper Cars	30,000 pounds or one compartment	One car
Box Cars	50,000 pounds	One car
Trucks	20,000 pounds or one truck	Four trucks

NOTE: When two packers are fed from one bin and are used for sacking rice for two different boxcars simultaneously, four component samples representing approximately 60,000 pounds each, when uniform, may be combined and graded as one sublot sample representing the two carriers, provided that each component sample is obtained proportionally from each packing line.

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7.4 UNIFORMITY CRITERIA

A. During the loading or unloading of a lot, draw a sample from each component according to the procedures in Chapter 2 of this handbook.

1. When bulk rice is sampled with a compartmented trier, consider each probe as one component sample.

2. When sacked rice is sampled, each component shall be approximately equal in size and should be taken from not less than eight sacks.

a. If the rice is sampled in a boxcar, use an **X** probing pattern across the face of a tier and randomly space the sampling during the loading or unloading.

b. When the rice is sampled online, randomly space the sampling during the loading or unloading.

B. Visually examine each component sample for uniformity of quality 1/; i.e., no factors appear to exceed the grade/contract requirements by more than the grade limit or the established roundlot tolerance (see Attachment 1).

NOTE: Do not examine component samples for milling yield.

C. If the component sample appears to be uniform in quality, combine the sample with other uniform component samples to form a sublot sample.

D. When the component sample appears to be not uniform in quality, analyze the sample for the potentially nonuniform factor(s).

1. For factors that have roundlot tolerances, make **only** one determination.

a. If the results do not exceed the roundlot tolerance, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or form FGIS-911.

b. When the results exceed the roundlot tolerance, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate.

1/ Re Chapters 3, 4, and 5 for insect infestation.

2. For all other factors, make two determinations.

a. If the results of either determination are within the grade/contract requirement, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or form FGIS-911.

b. If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate.

E. Analyze each sublot sample for all contract and grade determining factors, and record the results on the log or form FGIS-911.

NOTE: For a factor's average results to be shown on the roundlot inspection certificate, all sublots must be analyzed for that factor and the sublot results must be properly recorded on the log or form FGIS-911.

1. For factors that have roundlot tolerances, make **only** one determination.

a. If the results do not exceed the grade/contract requirement, consider the sublot as being □within contract.□

b. If the results exceed the roundlot tolerance, declare the rice represented by that sublot sample to be a material portion, certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate, and line through the factor results on the log or form FGIS-911.

c. If the results exceed the grade/contract requirement, but not the roundlot tolerance, consider the sublot as "within contract"; provided that, the run rule is not subsequently violated (see Section 7.5).

NOTE: If the applicant requests "average milling yield", do not apply roundlot tolerances to the results.

2. For all other factors, make one determination.

a. If the results do not exceed the grade/contract requirement, consider the sublot as being "within contract."

b. If the results exceed the grade/contract requirement, make another determination and average the results of the two determinations.

(1) If the average meets the grade/ contract requirement, consider the sublot as being "within contract."

(2) If the average does not meet the grade/contract requirement, declare the rice represented by that sublot sample to be a material portion, certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate, and line through the factor results on the log or form FGIS-911.

7.5 RUN RULE

A. When a sublot exceeds the grade/contract requirement for a factor, but not the roundlot tolerance, average that sublots' factor results with the factor results of the next four consecutive sublots from the same source. 1/

1. If the average results are equal to or better than the grade/contract requirements for all factors, consider the first sublot to be "within contract."

2. If the average results are not equal to or better than the grade/contract requirements for all factors, consider all five sublots as a material portion and certificate them as a separate lot, unless corrective action is taken. Corrective action consists of:

a. Withdrawing (unloading) one or more of the five sublots included in the average,

b. Separately certificating the withdrawn sublot(s), and

c. After withdrawal, reapplying the run rule. When a sublot(s) is withdrawn, the run rule shall be reapplied as if the withdrawn sublot(s) had never been offered for inspection.

1/ A "source" may be: (a) Rice moving from the warehouse floor to one carrier; (b) One packer that is used for sacking rice for one carrier; (c) Two packers fed from two different bins, but used for sacking rice for one carrier; (d) Two packers fed from the same bin, but used for sacking rice for two different carriers simultaneously; (e) Each belt delivering bulk rice to a carrier; (f) Each spout receiving rice from different belts or shipping bins. Consider all other systems as "multiple sources" and sample/grade the rice from each packer as a "source."

NOTE: Do not apply the run rule if there are less than five sublots in the entire lot or less than four sublots remaining in the lot after a "run" has started.

7.6 TIME LIMITATIONS

If reasonably continuous inspection service is not maintained, a roundlot inspection certificate shall be issued for that portion of the lot inspected prior to the break in inspection service or after each additional break in inspection service.

1. "Reasonably continuous inspection service" can include inactive periods of not more than 88 consecutive hours.

2. To be considered "reasonably continuous service,"at least one sublot must be loaded during any 88-hour period. The 88-hour limit may be extended at the discretion of the appropriate FGIS or Federal/State office manager.

7.7 REVIEW INSPECTIONS

When a sublot's factor results exceed either the grade/contract requirements or the roundlot tolerance, the applicant may request an appeal inspection on that sublot; provided that, the applicant withdraws the sublot from the lot.

1. The roundlot tolerances cannot be applied to a single sublot.

2. If the appeal inspection determines that the sublot meets the grade/contract requirements, the sublot cannot be re-entered in the original lot unless the applicant requests an appeal inspection on all of the other sublots in that lot.

7.8 MATHEMATICAL OR WEIGHTED AVERAGE

After completing the inspection of all sublots, calculate the factor information to be shown on the certificate(s) by one of the following methods:

1. Mathematical Average Method. If the lot is composed of 10 or more "reasonably uniform" 1/ sublots or any number of "uniform" 2/ sublots, mathematically average the sublot factor results (excluding any sublot(s) to be certificated as a separate lot).

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1/ The term "reasonably uniform" means that the largest sized sublot is not more than 25 percent larger than the size of the smallest sublot (excluding the first and last sublots) in the lot.

2/ The term "uniform" means that the sublots are one standard size or are within 5 percent of the standard.

2. Weighted Average Method. For all other lots, average the sublot factor results (excluding any sublot(s) to be certificated as a separate lot) in the following manner:

a. Multiply each sublot factor result by the quantity of rice (sacks or pounds) in the sublot.

For example:

Sublot	Quantity		Factor Results		Product
Sublot No. 1	1,200 sacks	x	19.6	=	23,520
Sublot No. 2	869 sacks	x	18.9	=	16,424
Sublot No. 3	1,163 sacks	x	20.8	=	24,190
Sublot No. 4	1,006 sacks	x	19.3	=	19,416
	4,238 sacks				83,550

b. Total the products for each factor column. (In the above example, the total is 83,550.)

c. Divide each totaled product by the total quantity; e.g., 83,550) 4,238 = 19.71 or 19.7 percent total broken kernels.

NOTE: For subjective factors (e.g., milling degree), show on the certificate the lowest quality determined for one or more sublots.

7.9 CERTIFICATION

A.. If the mathematical or weighted average of all factors in the lot are within contract requirements, issue one certificate.

B. When the average of all factors are not within contract requirements, issue separate certificates for each individual sublot. Two or more sublots failing to meet the same contract requirement may be combined and certificated together as a separate lot. Sublots that fail to meet different contract requirements shall be certificated as separate lots.

NOTE: If there are less than five sublots in the lot or less than four sublots remaining in a lot after a "run" has started, and the average of the overall lot is not within contract requirements, the applicant may request one certificate for the entire lot with the grade of the lot determined by the average sublot results.

C. If the applicant requests "average milling yield," show the average sublot milling yield results for the entire lot and include the following statement in the Remarks section of the certificate: "Sublot milling yield results ranged from (show the lowest percent of total rice and the lowest percent of whole kernels) percent to (show the highest percent of total rice and the highest percent of whole kernels) percent." (This statement may be modified, as necessary, so as to clearly indicate the actual range of total rice and whole kernels results in the lot.)

D. Issue an inspection certificate for each roundlot inspection. Show the following information on each certificate:

1. The identification and sampling date for each carrier;

2. The date on which the last official service was completed is the "inspection date";

3. The average results for each of the factors determined during inspection; and

4. The lowest results for subjective quality factors (e.g., milling degree and color) that were determined for one or more sublots.

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ROUNDLOT TOLERANCES

A. Rough Rice.

1. Milling yield (total).

   3.0 percent of contract requirement.

2. Milling yield (whole kernels).

   4.0 percent of contract requirement.

3. Seeds and heat-damaged kernels.

   a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	4	3
U.S. No. 2	7	4
U.S. No. 3	10	5
U.S. No. 4	27	6
U.S. No. 5	37	8
U.S. No. 6	75	12

   b. Heat-damaged kernels and objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	3	3
U.S. No. 2	5	4
U.S. No. 3	8	4
U.S. No. 4	22	7
U.S. No. 5	32	8
U.S. No. 6	75	12

   c. Heat-damaged kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

4. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6	15.0 1/	2.5 1/

5. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

B. Brown Rice for Processing.

1. Milling yield (total). 2.0 percent of contract requirement.

2. Milling yield (whole kernels). 3.0 percent of contract requirement.

3. Paddy kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	20 (count)	7
U.S. Nos. 2 - 5	2.0 percent	1.0 percent

4. Seeds and heat-damaged kernels.

a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	10	5
U.S. No. 2	40	10
U.S. No. 3	70	13
U.S. No. 4	100	16
U.S. No. 5	150	17

1/ U.S. No. 6 Rough rice shall contain not more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singly) is 1.5 percent.

b. Heat-damaged kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	4	3
U.S. No. 4	8	4
U.S. No. 5	15	6

c. Objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	10	5
U.S. No. 3	20	7
U.S. No. 4	35	10
U.S. No. 5	50	12

5. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	4.0	1.5
U.S. No. 4	8.0	2.0
U.S. No. 5	15.0	2.5

6. Total broken kernels.

Contract Requirement (%)	Tolerance (%)
1.0 - 5.0	1.0
5.1 - 10.0	1.2
10.1 - 15.0	1.5
15.1 - 25.0	2.0
25.1 - 35.0	2.4

7. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	5.0	1.1
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

8. Well-milled kernels.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	3.0	0.8
U.S. No. 3	10.0	1.5
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

C. Milled Rice.

1. Seeds, heat-damaged, and paddy kernels (singly or combined).

a. Total.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	4	3
U.S. No. 3	7	4
U.S. No. 4	20	7
U.S. No. 5	30	8
U.S. No. 6	75	13

b. Heat-damaged kernels and objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

2. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6	15.0 1/	2.5 1/

1/ U.S. No. 6 Milled rice shall contain not more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singly) is 1.5 percent.

3. Total broken kernels.

Contract Specification (%)	Tolerance (%)
1.0 - 4.0	1.0
4.1 - 7.0	1.2
7.1 - 15.0	1.8
15.1 - 27.0	2.0
27.1 - 35.0	2.4
35.1 - 50.0	2.5

4. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

D. Brewers Milled Rice.

1. Total paddy kernels and seeds.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.04
U.S. No. 2	1.0	0.10
U.S. No. 3	1.5	0.20
U.S. No. 4	3.0	0.20
U.S. No. 5	5.0	0.20

2. Objectionable seeds.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.05	0.02
U.S. No. 2	0.1	0.10
U.S. No. 3	0.2	0.10
U.S. No. 4	0.4	0.20
U.S. No. 5	1.5	0.20

E. Second-Head Milled Rice.

1. Seeds, heat-damaged, and paddy kernels (singly or combined).

a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	15	6
U.S. No. 2	20	7
U.S. No. 3	35	8
U.S. No. 4	50	10
U.S. No. 5	75	12

b. Heat-damaged kernels and objectionable seeds (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	5	4
U.S. No. 2	10	5
U.S. No. 3	15	6
U.S. No. 4	25	7
U.S. No. 5	40	9

2. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	3.0	1.2
U.S. No. 4	5.0	1.5
U.S. No. 5	10.0	2.0

F. Special Contract Limit. When the contract requires a factor limit that differs from the grade limit set in the U.S. Standards for Rice, use the tolerance established for the next higher quality grade.

EXAMPLE: A contract for U.S. No. 3 Long Grain Brown Rice for Processing limits the percentage of damaged kernels (DK) to a maximum of 1.5 percent. The grade limit for a U.S. No. 1 for red rice and damaged kernels is 1.0 percent, with a tolerance of 0.7 percent. The grade limit for a U.S. No. 2 is 2.0 percent, with a tolerance of 1.0 percent. Use the tolerance for a U.S. No. 1 for red rice and damaged kernels (0.7 percent), establishing the maximum DK for sublots graded under this contract at 2.2 percent.

EXAMPLES OF RUN RULE APPLICATIONS AND CORRECTIVE ACTION

EXAMPLE 1. The declared grade of the lot is U.S. No. 5 Long Grain Milled Rice, maxi-mum 20.0 percent total broken kernels (TBK). The sublot results for TBK are:

Sublot No. 1 - 21.3 percent
Sublot No. 2 - 20.0 percent
Sublot No. 3 - 21.9 percent
Sublot No. 4 - 19.9 percent
Sublot No. 5 - 19.6 percent
Sublot No. 6 - 18.5 percent
Sublot No. 7 - 19.0 percent

Explanation. Sublot 1 exceeds the contract requirement for TBK but not the tolerance. Therefore, the TBK results for sublots 1 - 5 are averaged. The average TBK result is 20.5 percent. Since this exceeds the contract requirement, sublots 1 - 5 are declared a material portion. To correct the material portion, the applicant elects to withdraw sublot 1. After withdrawing sublot 1, the run rule is reapplied with sublot 6 replacing sublot 1. The new average (sublots 2 - 6) is less than 20.0 percent.

After withdrawing sublot 1, the roundlot continues as if there had been no run, except that the next potential run begins with sublot 3 (21.9 percent). When the next four consecutive sublots (sublots 4 - 7) are averaged with sublot 3, the result is less than 20.0 percent, so the rice is considered to be within contract requirements.

NOTE: In this example, either sublot 1 or sublot 3 can be withdrawn from the roundlot in order to meet the contract requirement of 20.0 percent or less. When a sublot is withdrawn, the run rule is reapplied as if the withdrawn lot had never been offered for roundlot inspection.

EXAMPLE 2. The declared grade of the lot is U.S. No. 5 Long Grain Milled Rice, maximum 20.0 percent total broken kernels (TBK). The sublot results for TBK are:

Sublot No. 1 - 22.0 percent
Sublot No. 2 - 21.8 percent
Sublot No. 3 - 20.3 percent
Sublot No. 4 - 19.8 percent
Sublot No. 5 - 19.3 percent
Sublot No. 6 - 19.6 percent
Sublot No. 7 - 19.6 percent
Sublot No. 8 - 18.6 percent
Sublot No. 9 - 19.6 percent
Sublot No. 10 - 21.7 percent
Sublot No. 11 - 20.4 percent

Explanation. Sublot 1 exceeds the contract requirement for TBK but not the tolerance. Therefore, the TBK results for sublot 1 are averaged with the TBK results for sublots 2 - 5. The average result is over 20.0 percent. Since this exceeds the contract requirement, sublots 1 - 5 are declared a material portion. To correct the material portion, the applicant elects to withdraw sublot 1 and sublot 2. Withdrawal of only one of the two sublots would not have been sufficient to lower the average of the five sublot group to 20.0 percent or less.

After withdrawing sublots 1 and 2, the roundlot continues as if there had been no run, except that the next potential run begins with sublot 3 (20.3 percent). When the next four consecutive sublots (sublots 4 - 7) are averaged with sublot 3, the result is less than 20.0 percent, so the rice is considered to be within contract requirements.

EXAMPLE 3. The declared grade of the lot is U.S. No. 2 Long Grain Milled Rice. The sublot results for OBS and HT are:

Sublot No. 1 - 3	Sublot No. 6 - 3
Sublot No. 2 - 2	Sublot No. 7 - 2
Sublot No. 3 - 3	Sublot No. 8 - 3
Sublot No. 4 - 2	Sublot No. 9 - 3
Sublot No. 5 - 2	Sublot No. 10 - 2
Average 2.4 = 2	Average 2.6 = 3

Explanation. Sublot 1 exceeds the contract requirement for OBS and HT but not the tolerance. Therefore, the results for sublots 1 - 5 are averaged and yield an average result of 2.2, which rounds to 2. Since this does not exceed the contract requirement, sublots 1 - 5 are not considered to be a material portion.

Sublot 6 exceeds the contract requirement for OBS and HT but not the tolerance. Therefore, the results for sublots 6 - 10 are averaged and yield an average result of 2.6, which rounds to 3. Since this exceeds the contract requirement, sublots 6 - 10 are considered a material portion.

NOTE: To determine results for a run for factors determined by count, add the factor results for five consecutive sublots beginning with a sublot which does not meet the contract requirements. Determine the average for these sublots then round to the nearest whole number according to established rounding