



United States Department of Agriculture

Agricultural  
Marketing  
Service

Federal Grain Inspection  
Service

Field Management  
Division

1400 Independence Ave.  
SW, Stop 3630  
Washington, D.C. 20250

Voice (202) 720-0228  
Fax (202) 690-3951

Hotline 1-800-998-3447

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TO: FGIS POLICY BULLETIN BOARD

FROM: Samantha Simon, Deputy Director  
Field Management Division

SUBJECT: Unit Train Inspection Options

ORIGINATING OFFICE: Policies, Procedures, and Market Analysis Branch

## 1. PURPOSE

This memorandum clarifies the policy on inspection options for unit trains.

## 2. BACKGROUND

The variety of load orders presented to the official inspection system for unit train loading has grown recently. The applicant can choose to have each car graded as an individual lot, load the unit train using the CuSum plan, use composite sample analysis, or use average composite analysis to achieve the desired quality. Combined lot procedures can be used to further combine multiple carriers on a single certificate. If the applicant requests multiple railcars on a single certificate, the applicant has several options for certification.

## 3. POLICY

### a. Individual Lot.

(1) Inspection. When inspecting each rail car on an individual basis each rail car will represent one lot and a certificate will be issued for each car.

(2) Review Inspection.

Applicants may request review inspections (reinspection, appeal inspection, or Board appeal inspection) for each lot.

(3) Combined Lot.

When the inspection of all rail cars has been completed, the applicant has the option of requesting combined lot procedures for certifying multiple carriers of similar grade on a single certificate (see Code of Federal Regulations (CFR) 800.85). For example, if the first, third, and fifth car all grade #2 Yellow Corn, these railcars can be combined on one certificate.

b. CuSum.

(1) Inspection.

Performing grain inspections under Uniform Shiplot and Combined Lot Inspection Plan, commonly known as the CuSum plan is also an option when loading a unit train (**Grain Inspection Handbook, Book III, Chapter 1 Inspection of Shiplots, Unit Trains and Lash Barges and CFR 800.86**). CuSum represents an online acceptance sampling plan that provides continuous quality information with the objective of obtaining a consistent quality throughout the lot. This is achieved by using statistically based tolerances.

Under CuSum each railcar is considered a component when multiple cars are combined to form a subplot. Component samples are combined to form a subplot sample, which may represent as much as 10 cars in a unit train if certain conditions are met. Unit train components are combined in the order they are sampled if order can be determined. Each component sample is analyzed for odor, insects and condition to determine whether any factor exceeds the limits for the declared grade by more than one numerical grade. If a component sample result exceeds the grade limit by more than one numerical grade (does not apply to nonnumeric grading factors, such as dockage, subclass, protein, oil, etc.) or contains a condition not included in the load order, the grain in that component is declared a “material portion”. The applicant will then have an option to either remove the material portion from the lot, or leave the material portion on board and request a separate certificate. The component samples not designated as a “material portion” are then combined with other uniform component samples to form a subplot.

Each subplot sample is analyzed for all factors and criteria in accordance with the Official U.S. Standards for Grain and the sales contract. The subplot is designated a “material portion” if any factor exceeds allowable CuSum breakpoints or the load order limits, exceeds FDA defect action levels, or meets U.S. Sample Grade criteria for other factors. **Once a subplot is formed it cannot be reassembled to avoid exceeding the allowable breakpoints or to avoid declaring the subplot U.S. Sample Grade.**

Grain conforming to CuSum requirements is certified as a single lot based on the combined average of the subplot results.

(2) Review Inspections.

Applicants may request review inspections of material portions (components or sublots) or of the entire lot.

(3) Average Quality.

(a) Inspection.

Average quality is part of the CuSum loading plan and adheres to the basic CuSum rules, (e.g. combining acceptable component samples in the order that sampling was completed to form a subplot etc.). Average quality pertains to factors that are grade determining, and some non-grade determining such as moisture content. When “average quality certification” is requested on the load order, average quality will not apply to class (except for grain where class is a grading factor), subclass, special grade factors, sample grade factors, or aflatoxin. CuSum rules must be applied.

(b) Components.

Component samples must meet the type of grain definition for the contracted grain (e.g. corn, soybeans, wheat, etc.). Component samples not meeting the type of grain definition for the contracted grain or identified as Sample Grade, because they meet or exceed the Sample Grade limits for that particular type of grain, will be designated as material portions.

(c) Sublots.

Sublot results are averaged to arrive at the final grade. Material portions occur when CuSum or absolute limits are exceeded for type of grain, class or subclass factors, or when a sample exceeds limits for Sample Grade factors. Material portions cannot occur when a subplot exceeds self imposed limits for a particular factor. For example, the load order specifies #2 or better Yellow Corn, average quality all factors, maximum 12.0 percent DKT. Since 12.0 percent DKT is outside the parameters for #2 Yellow Corn, the limit of 12.0 percent is interpreted as a self imposed limit, not a CuSum factor. A subplot result of 12.2 percent therefore would not be a material portion, as it only exceeds a self imposed limit. Thus, a review inspection cannot be obtained on a self imposed limit violation.

(d) Review Inspections.

Only sublots that are out of condition, have an odor, exceed class requirements under cusum when applicable, or are sample grade can be designated as material portions. Sublots/components that are not material portions cannot be reviewed individually, however, the applicant can request review inspection of entire lots.

c. Composite.

(1) Inspection.

The applicant can request official personnel to combine or composite samples from a maximum of five railcars into one sample for analysis for certification called Composite Sample Analysis. Unlike the CuSum plan, it is not necessary to sample the carriers comprising the requested composite sample in the order they were loaded.

To form a composite sample from multiple railcars, official personnel must sample each individual railcar (component) and examine the component for odor, insects, and condition. All of the rail cars that are combined must be uniform with respect to condition (i.e., infestation, odor, sample grade factors, special grades) and must meet class requirements. Components representing railcars that contain grain that has an odor, or is out of condition, may not be joined with samples of good quality to form a composite sample. Components representing individual carriers that contain insects, but are not “infested” by definition in the U.S. Standards for Grain, may be composited with other samples that are “OK” for odor and condition to form a composite sample of the lot. For individual carriers that meet the definition of “infested”, the shipper has the options listed in **Directive 9180.59 “Composite Analysis for Combined Land Carrier Inspections”**.

The official service provider cannot grade and certify the individual cars prior to the applicant selecting which carriers to combine for the composite. However, the applicant can request submitted sample analysis or official commercial inspection service (OCIS) analysis of the railcars (components) prior to designating the cars selected for a composite.

**Once the composite is formed, the composite group may not be reassembled into different combinations to meet the desired quality.**

(2) Review Inspection.

The applicant may request review (reinspection, appeal, board appeal) inspections on the composite sample. The basis of the inspection is the file sample of the composite.

(3) Combined Lot.

When complete inspection of all composites has been finished, the applicant has the option of requesting combined lot procedures for certifying multiple composites on a single certificate (see Code of Federal Regulations 800.85). For example if the first, third, and fifth composites are #2 Yellow Corn, these composites (of like quality) may be combined on a single certificate.

d. Average Composite.

(1) Inspection.

To form an average composite sample from multiple railcars, official personnel must sample each individual railcar, examine the component for odor, insects, and condition, and grade each component individually (with no certificates issued). After grading individual components, the applicant may select the components to be combined for the average composite grade. The components have to be similar in condition but do not have to be of the same grade. However, all of the components must be of the same class. Component samples which exceed FDA defect action levels or are identified as sample grade based on sample grade criteria may not be combined for the average composite grade. Each average composite may contain a maximum of five railcars and each railcar represents a component.

**Once an average composite is formed it may not be reassembled.**

(2) Reinspection.

After an average composite is formed, a review inspection can be performed but must be on the same basis as the original inspection. Since cars/components were graded individually then averaged, the review inspection will be on the basis of a review of each carrier. For example, cars/components 1, 8, 12, 20, and 25 were graded individually then averaged to form a single grade, thus the review inspection would be on the basis of a review of each car, then averaged. Appeal and board appeal inspections follow the same logic.

(3) Combined Lot.

When complete inspection of all composites has been finished, the applicant has the option of requesting combined lot procedures for certifying multiple composites on a single certificate (**see Code of Federal Regulations 800.85**). For example if the first, third, and fifth composites are #2 Yellow Corn, these composites (of like quality) may be combined on a single certificate.

#### 4. QUESTIONS

Direct any questions concerning this policy

[AMS - FGIS Policies Procedures Market Analysis Branch.](#)