§ 52.38a Definitions of terms applicable to statistical sampling.

(a) Terms applicable to both on-line inspection and lot inspection.

(1) Acceptable Quality Level (AQL). The maximum percent of defective units of product or the maximum number of defects per hundred units of product which are acceptable as a process average. At the AQL’s contained in the statistical sampling plans of this subpart, production has a probability of acceptance (“Pa”) of approximately 95 percent.

(2) Acceptance sampling. Sampling inspection in which decisions are made to accept or reject product.

(3) Attributes. A method of measurement whereby units of product are examined for the presence or absence of specified characteristics in each unit in the sample.
§ 52.38b  Statistical sampling procedures for on-line inspection by attributes of processed fruits and vegetables.

(a) General. The Cumulative Sum Sampling Plan, hereinafter referred to as “CuSum,” shall be used as the on-line sampling plan for attributes standards under the following conditions.

(1) The producer has designated the intended grade for the basic inspection period prior to the start of production.

(2) Inspection of the product shall be made during the basic inspection period at a point after which all product characteristics, subject to inspection, are fixed and will not be subject to change during final packaging.

(3) A shift to CuSum sampling plans from lot sampling plans during a basic inspection period is not permitted (or vice versa).

(b) Sampling rate/frequency. The minimum number of standard sample units which would be expected if a large number of sample units are to be inspected. For the CuSum plans referenced in these procedures, the probability of acceptance at the Acceptable Quality Level (AQL) is approximately 95 percent. The starting value (“S”) associated with each CuSum plan helps to make the probability of acceptance of the first portions of production of a basic inspection period as close as possible to 95 percent.

§ 52.38b  Defect. Any nonconformance of a unit of product from specified requirements of a single quality characteristic. Defects are classed as “minor,” “major,” “severe” or “critical” depending upon the severity and undesirability of the defect.

(4) Defect. Any nonconformance of a unit of product from specified requirements of a single quality characteristic. Defects are classed as “minor,” “major,” “severe” or “critical” depending upon the severity and undesirability of the defect.

(5) Defective. A unit of product that has one or more defects.

(6) Inspection by attributes. Inspection whereby a unit of product is classified as defective or nondefective or the number or defects in the unit of product is counted.

(7) Standard sample unit size. A specified amount of product to be used for inspection.

(b) Terms applicable to on-line inspection only.

(1) Basic inspection period. A specified period of consecutive production designated for on-line inspection.

(2) Cumulative Sum Sampling (CuSum) Plan. An on-line sampling plan that accumulates the number of defects (or defectives), which exceed the sample unit tolerance (“T”), in a series of consecutive samples. Terms specific to the CuSum sampling plan are:

(i) Acceptance limit (“L”). The maximum accumulation of defects (or defectives) allowed to exceed the sample unit tolerance (“T”) in any sample unit or consecutive group of sample units.

(ii) CuSum value. The accumulated number of defects (or defectives) that exceed the sample unit tolerance (“T”).

(iii) Sample unit tolerance (“T”). The allowable number of defects (or defectives) in any sample unit.

(iv) Starting value (“S”). The initial CuSum value used to begin a CuSum sampling plan.

(3) On-line sampling inspection. The random selection and subsequent inspection of sample units from a production line.

(4) Probability of acceptance (“Pa”). The probability that a portion of production, with a given level of quality, will be accepted. In on-line sampling inspection, the probability of acceptance of any portion of production depends on the sample results obtained from the preceding portions. The probability of acceptance values associated with these procedures are the values which would be expected if a large number of sample units are to be inspected. For the CuSum plans referenced in these procedures, the probability of acceptance at the Acceptable Quality Level (AQL) is approximately 95 percent. The starting value (“S”) associated with each CuSum plan helps to make the probability of acceptance of the first portions of production of a basic inspection period as close as possible to 95 percent.