

(b) Aids for the classification of pure seed, other crop seed, weed seed, and inert matter may include visual examination, use of transmitted light (diaphanoscope), or specific gravity (seed blowers). Specific instructions for classification of the various components are given in §§201.47a to 201.51, inclusive.

(c) The components shall be weighed and percentages calculated as follows:

(1) For sample sizes less than 25 grams, all four components shall be weighed; the percentages shall be based on the sum of these weights and not on the original weight. The sum of these weights shall be compared with the original weight of the working sample as a check against the loss of material, or other errors.

(2) For sample sizes of 25 grams or more, the components—other crop seed, weed seed, and inert matter—shall be weighed separately and their percentages determined by dividing these weights by the original weight of the working sample. The pure seed need not be weighed; its percentage may be determined by subtracting the sum of the percentages of the other three components from 100.

(3) When rounding off the calculated percentages of each component to the second decimal place, round down if the third decimal place is 4 or less and round up if the third decimal place is 5 or more, except that if any component is determined to be present in any amount calculated to be less than 0.015 percent, then that component shall be reported as 0.01 percent. If any component is not found in the purity analysis, then that component shall be reported as 0.00 percent.

(4) The total percentage of all components shall be 100.00 percent. If the total does not equal 100.00 percent (e.g. 99.99 percent or 100.01 percent), then add to or subtract from the component with the largest value (usually the pure seed component).

(d) When the working sample consists of two or more similar kinds or varieties which would be difficult to separate in the entire sample, it is permissible to weigh the similar kinds or varieties together as one component and make the separation on a reduced portion of the sample. At least 400 seeds or

an equivalent weight shall be taken indiscriminately from the pure seed component and the separation made on this portion. The proportion of each kind present shall then be determined by weight and from this the percentage in the entire sample shall be calculated.

(e) The Uniform Blowing Procedure described in §201.51a(a) shall be used for the separation of pure seed and inert matter in seeds of Kentucky bluegrass, Canada bluegrass, rough bluegrass, Pensacola variety of bahiagrass, orchardgrass, side-oats grama, and blue grama.

(f) Procedures for purity analysis for coated seed are given in §201.51b.

[25 FR 8770, Sept. 13, 1960, as amended at 30 FR 7890, June 18, 1965; 46 FR 53635, Oct. 29, 1981; 59 FR 64497, Dec. 14, 1994; 65 FR 1707, Jan. 11, 2000]

§201.47a Seed unit.

The seed unit is the structure usually regarded as a seed in planting practices and in commercial channels. The seed unit may consist of one or more of the following structures:

- (a) True seeds;
- (b) For the grass family:
 - (1) Caryopses and single florets;
 - (2) Multiple florets and spikelets in tall oatgrass (*Arrhenatherum elatius*), oat (*Avena* spp.), grammas (*Bouteloua* spp.), rhodesgrass (*Chloris gayana*), barley (*Hordeum vulgare*), and bluegrass (*Poa* spp.);
 - (3) Entire spikelets in bahiagrass, bentgrasses, dallisgrass, guineagrass, browntop millet, foxtail millet, proso millet, panicgrasses, redtop, rice, switchgrass, and vaseygrass. Entire spikelets which may have attached rachis segments, pedicels, and sterile spikelets in big bluestem, little bluestem, sand bluestem, yellow bluestem, bottlebrush-squirreltail, broomcorn, yellow indiagrass, johnsongrass, sorghum, sorghum-sudangrass, sorghum alnum, sorgrass, and sudangrass;
 - (4) Spikelet groups:
 - (i) Spikelet groups that disarticulate as a unit in galletagrass;
 - (ii) Spikelet groups that disarticulate as units with attached rachis and internodes in bluestems, side-oats grama, and yellow indiagrass;

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(5) Fascicles of buffelgrass (*Cenchrus ciliaris*) consisting of bristles and spikelets;

(6) Burs of buffalograss (*Buchloe dactyloides*);

(7) Bulblets of bulbous bluegrass (*Poa bulbosa*);

(8) Multiple units as defined in §201.51a(b)(1).

(c) Dry indehiscent fruits in the following plant families: Buckwheat (*Polygonaceae*), sunflower (*Compositae*), geranium (*Geraniaceae*), goosefoot (*Chenopodiaceae*), and valerian (*Valerianaceae*);

(d) One- and two-seeded pods of small-seeded legumes (*Leguminosae*), burs of the burclovers (*Medicago arabica*, *M. polymorpha*), and pods of peanuts (*Arachis hypogaea*). (This does not preclude the shelling of small-seeded legumes for purposes of identification.) Pods of legumes normally containing more than two seeds, when occurring incidentally in the working sample, should be hulled if the kind is hulled when marketed;

(e) Fruits or half fruits in the carrot family (*Umbelliferae*);

(f) Nutlets in the following plant families: Borage (*Boraginaceae*), mint (*Labiatae*), and vervain (*Verbenaceae*);

(g) "Seed balls" or portions thereof in multigerminous beets, and fruits with accessory structures such as occur in other *Chenopodiaceae* and New Zealand spinach. For forage kochia refer to §201.48(j) and §201.51(a)(7).

[46 FR 53636, Oct. 29, 1981, as amended at 59 FR 64497, Dec. 14, 1994; 65 FR 1707, Jan. 11, 2000]

§201.47b Working samples.

The purity working sample is the sample on which the purity analysis is made. The noxious-weed seed working sample is the sample on which the noxious-weed seed examination is made.

[20 FR 7930, Oct. 21, 1955]

§201.48 Kind or variety considered pure seed.

The pure seed shall include all seeds of each kind or each kind and variety under consideration present in excess of 5 percent of the whole. Seeds of kinds or kinds and varieties present to the extent of 5 percent or less of the whole may be considered pure seed if

shown on the label as components of a mixture in amounts of 5 percent or less. The following shall be included with the pure seed:

(a) Immature or shriveled seeds and seeds that are cracked or injured. For seeds of legumes (*Leguminosae*) and crucifers (*Cruciferae*) with the seed coats entirely removed refer to §201.51(a)(1);

(b) Pieces of seeds which are larger than one-half of the original size. For separated cotyledons of legume seeds refer to §201.51(a)(2);

(c) Insect-damaged seeds, provided that the damage is entirely internal, or that the opening in the seed coat is not sufficiently large so as to allow the size of the remaining mass of tissue to be readily determined. Weevil-infested vetch seeds, irrespective of the amount of insect damage, are to be considered pure seed, unless they are broken pieces one-half or less than the original size. For classification of broken pieces of seed units one-half or less than the original size, refer to §201.51(a)(2). Refer to §201.51(a)(3) for chalcid-damaged seeds;

(d) Seeds that have started to germinate;

(e) Seeds of the cucurbit family (*Cucurbitaceae*) and the nightshade family (*Solanaceae*) whether they are filled or empty;

(f) Intact fruits, whether or not they contain seed, of species belonging to the following families: Sunflower (*Compositae*), buckwheat (*Polygonaceae*), carrot (*Umbelliferae*), valerian (*Valerianaceae*), mint (*Labiatae*) and other families in which the seed unit may be a dry, indehiscent one-seeded fruit. For visibly empty fruits, refer to inert matter, §201.51(a)(6);

(g) Seed units of the grass family listed in §201.47a(b) (1) through (5) if a caryopsis with some degree of endosperm development can be detected in the units, either by slight pressure or by examination over light. Species in which determination of endosperm development is not necessary are listed in paragraphs (g) (1) and (2) of this section. Refer to §§201.48(h) and 201.51(a)(5) when nematode galls and fungal bodies have replaced the caryopsis in seed units. The