

Corrections

Federal Register

Vol. 59, No. 94

Tuesday, May 17, 1994

This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. CP94-385-000]

Koch Gateway Pipeline Company, et al.; Request Under Blanket Authorization

Correction

In notice document 94-10772 appearing on page 23199 in the issue of Thursday, May 5, 1994, the docket number should read as set forth above.

BILLING CODE 1505-01-D

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. RP85-39-017]

Wyoming Interstate Co., Ltd; Proposed Changes in FERC Gas Tariff

Correction

In notice document 94-8306 beginning on page 16641 in the issue of Thursday, April 7, 1994, the document number should read as set forth above.

BILLING CODE 1505-01-D

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Secretary

24 CFR Part 888

[Docket No. N-3741; FR-3686-N-01]

Section 8 Housing Assistance Payments Program—Contract Rent Annual Adjustment Factors

Correction

In rule document 94-9886 beginning on page 21832 in the issue of Tuesday, April 26, 1994, make the following correction:

On page 21864, after the illustration, the file line should have read as set forth below:

[FR Doc. 94-9886 Filed 4-25-94; 8:45 am]

BILLING CODE 4210-32-P

BILLING CODE 1505-01-D

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-33934; File No. SR-NYSE-94-15]

Self-Regulatory Organizations; Notice of Filing of Proposed Rule Change by the New York Stock Exchange, Inc., Relating to Restructuring Companies Portfolio Market Index Target-Term Securities

Correction

In notice document 94-10088 beginning on page 22040 in the issue of Tuesday, April 28, 1994, make the following correction:

On page 22042, in the first column, just before the FR Doc. line, insert the following:

Margaret H. McFarland,
Deputy Secretary.

BILLING CODE 1505-01-D

Registered Federal Seed

Tuesday
May 17, 1994

Part II

Department of Agriculture

Agricultural Marketing Service

7 CFR Part 201

Amendments to Regulations Under the
Federal Seed Act; Proposed Rule

DEPARTMENT OF AGRICULTURE**Agricultural Marketing Service****7 CFR Part 201**

[No. LS-91-010 PR]

RIN 0581-AA52

Amendments to Regulations Under the Federal Seed Act**AGENCY:** Agricultural Marketing Service, USDA.**ACTION:** Proposed rule.

SUMMARY: The Agricultural Marketing Service (AMS) is proposing to revise the Federal Seed Act by changing the common and botanical names of several agricultural and vegetable seeds; adding several kinds to the list of agricultural and vegetables seeds subject to the Federal Seed Act; changing germination evaluation descriptions; changing the method of fluorescence use in determining pure seed percentages in ryegrasses; adding methods for testing coated seed; adding methods for determining the presence of fungal endophyte in seeds; and updating the standards for certified seed. These changes would result in the adoption of scientific names currently recognized by the scientific community and would provide for the use of common names most widely acceptable in seed trade. They would also eliminate potential conflicts between State and Federal regulations which could inhibit the interstate movement of seeds.

DATES: Public Hearing June 8, 1994, 10 a.m.; comments must be received on or before July 8, 1994.

ADDRESSES: Interested persons are invited to submit written comments concerning this proposed rule. Comments must be sent to James P. Triplitt, Chief, Seed Regulatory and Testing Branch, Livestock and Seed Division, AMS, USDA, Building 506, BARC-E, Beltsville, Maryland 20705. Comments will be available for public inspection during regular business hours in Building 506, BARC-E, Beltsville, Maryland. The public hearing will be held on June 8, 1994, at 10 a.m. in room 3501, South Building, United States Department of Agriculture, 14th and Independence Avenue, SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: James P. Triplitt, Chief, Seed Regulatory and Testing Branch, 301-504-9430.

SUPPLEMENTARY INFORMATION: This rule has been determined to be not-significant for purposes of Executive Order 12866 and therefore has not been reviewed by OMB.

The proposed rule has been reviewed under Executive Order 12778, Civil Justice Reform. It is not intended to have a retroactive effect. The rule would not preempt any State or local laws, regulations, or policies unless they present an irreconcilable conflict with this rule. There are no administrative procedures which must be exhausted prior to judicial challenge to the provision of this rule. The Administrator, Agricultural Marketing Service (AMS), has certified that this action would not have a significant impact on a substantial number of small entities as defined in the Regulatory Flexibility Act. Many small entities sell seed. However, small entities selling seed must test and label the seed to comply with the requirements of state laws. Generally the testing requirements of the state laws are similar to those of the Federal Seed Act (FSA). These changes would further reconcile State and Federal testing procedures. Using similar testing procedures would reduce the burden on small entities shipping seed in interstate commerce because the test used for intrastate commerce could also be used in interstate commerce. Some additional burden might occur concerning small entities shipping kinds which are added to those subject to the FSA. However, many small entities are likely to benefit because more small entities are purchasers of those kinds than sellers. The small entity purchasers would benefit from the regulations in that the interstate shipper would be required to test and label the kinds before shipping them to the purchaser. There would be no effect on the competitive position of small entities in relation to larger entities since both would have to comply with the same regulations.

This document does not contain new collection of information requirements. Sections which would be amended by the rule contain collection of information requirements that were previously submitted for review to the Director of Management and Budget (OMB) and assigned OMB control number 0581-0026 under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

Background*Seed Testing and Labeling*

This document would update the FSA regulations pertaining to seed testing to eliminate differences between the FSA regulations and the Association of Official Seed Analysts (AOSA) Rules for Testing Seed. The Association is made up of State and Federal seed testing agencies. Its function is to develop and

standardize methods to be used in testing seeds. These rules are widely recognized and are used by most state and commercial seed laboratories to test seed in the United States. In addition, common and scientific names are updated.

Agricultural and vegetable seeds shipped in interstate commerce must comply with the FSA and the regulations issued thereunder. The FSA requires seed to be labeled with certain information concerning its quality when moving across state lines. Once in a state, seed must comply with state laws and regulations. Labeling requirements in State and Federal laws are generally very similar so as not to inhibit the free movement of seed. Tests used prior to shipment to determine the required labeling information, as well as tests used by state seed regulatory agencies to check compliance, are generally performed using AOSA rules. Tests to assure that seed is in compliance with the FSA are performed using methods specified in the FSA regulations. Although the testing methods under the FSA regulations and those of AOSA are generally very similar, some changes have been made in the AOSA Rules For Testing Seed without corresponding changes in the FSA regulations. The changes to the AOSA rules were based on scientific research and were made with input from AMS. This document would amend the FSA seed testing regulations so that they are essentially the same as those contained in the AOSA rules. This would eliminate the need to perform separate tests to assure that seed labeling complies with both Federal and State laws. It would also facilitate seed trade and reduce cost to the seed industry and to seed buyers. These changes reflect improvements in seed testing technology and the current standards of usage within the industry. The specific changes to the testing rules are discussed under "Other Proposed Amendments."

Additional Kinds

There are presently about a dozen kinds (mostly grasses) which are being shipped interstate that are not subject to the FSA. Cooperating state seed regulatory agencies have requested that the list of kinds subject to the FSA be kept current so that interstate shipments of those kinds can be regulated. Occasionally complaints are received on these kinds. For that reason the proposal would add these kinds to the regulations under the FSA and thereby make them subject to Federal law. Bluejoint, galletagrass, bottlebrush-squirreltail, green needlegrass, kenaf, forage kochia, mountain rye,

intermediate ryegrass, northern sweetvetch, and basin wildrye would be added to the list of agricultural seeds subject to the FSA. Dill, sage, and summer savory would be added to the list of vegetable seeds subject to the FSA. Standardized test methods have been developed for the kinds to be added and they are currently covered by AOSA rules and are being regulated by the states. Therefore, this addition would result in little cost to the seed industry. Currently they can be shipped in interstate commerce without having to be labeled by the interstate shipper. If shipped without the required labeling, the responsibility for testing and labeling falls on the person receiving the seed rather than the interstate shipper.

Scientific Names

Changes to § 201.2 would update scientific names for the agricultural seeds colonial bentgrass, sand bluestem, soft chess, emmer, hard fescue, kudzu, Korean lespedeza, striate lespedeza, Japanese millet, pearl millet, rescuegrass, sorghum-sudangrass, sudangrass, turf timothy, velvetbean, beardless wheatgrass, intermediate wheatgrass, pubescent wheatgrass, Siberian wheatgrass, slender wheatgrass, streambank wheatgrass, tall wheatgrass, western wheatgrass, and Russian wildrye. The scientific names for the vegetable seeds trachypogon, cabbage, leek, and rhubarb would also be updated. The document would change the scientific names to those currently recognized by the scientific community and to be in agreement with the names used by the USDA Germplasm Resources Information Network.

At the request of growers, researchers, and breeders the document would change the kind name "muskmelon" to "melon," because "melon" is the more widely recognized name.

Seed Certification Standards

The rule would also update the FSA regulations pertaining to seed certification to eliminate differences with the standards of the Association of Official Seed Certifying Agencies (AOSCA). This Association is made up primarily of State seed certifying agencies. The function of AOSCA is to establish minimum standards for genetic purity and to standardize seed certification regulations and procedures. State seed certifying agencies recognize and follow minimum standards for genetic purity established by AOSCA.

Seed represented as a class of certified seed as defined in the FSA regulations, must meet the minimum genetic certification standards for certified

classes as provided by the regulations. State seed certifying agencies which certify seed pursuant to the standards contained in the FSA regulations, are members of AOSCA and must also maintain minimum AOSCA standards for certifying seed. This document would change the FSA regulations pertaining to genetic certification standards in order to bring them in conformity with the AOSCA Standards. The changes to the standards have been reviewed and found to be consistent with the requirements under the FSA.

Corrections and Clarifications

There are a number of technical nonsubstantive corrections and clarifications which would also be made. Some of the more important ones would change "Consumer and Marketing Service" to "Agricultural Marketing Service" and omit the word "hybrid" from the name "sorghum-sudangrass". In § 201.36b the word "pole" would be enclosed in parentheses. In § 201.36c the word "garden" would be added to bean to show the correct kind name. Section 201.34(d) would be changed to add a footnote to reflect the effective date which was previously omitted. Paragraph (e) of this section would be removed to delete partial lists of variety names.

Other Proposed Amendments

Changes to § 201.2 would redefine the Act to include 7 U.S.C 1551-1611, update scientific names, and add additional kinds as discussed above. Changes would also add a definition of coated seed and change the definition of certified seed to show the proper reference. § 201.70, rather than § 201.79 which does not exist. Section 201.22(c) would be changed to update scientific names to be consistent with changes in § 201.2(h). Section 201.31 would be changed to establish germination standards for dill, sage, and summer savory which were added to the list of vegetable seeds subject to the FSA in § 201.2(i), and to reflect the change of the name "muskmelon" to "melon".

Section 201.36c would be changed to separate and alphabetize agricultural seeds and vegetable seeds in the table, and to change "bean" in the vegetable list to "garden bean," the name recognized in § 201.2(i). Section 201.43 would be changed to add metric equivalents weights and to specify the minimum number of coated seeds to be taken during sampling.

Section 201.46(b) would be changed to substitute the word "comprise" for the incorrect word "compromise". Table 1 would be changed to reflect the

changes proposed in § 201.2. Scientific names would be changed to correspond with § 201.2 and working weights added for those kinds added in that section. In addition, several spelling errors would be corrected.

The document would change several sections to add provisions for testing coated seed. Specific procedures have been developed to provide for uniform methods to test seed coated with products such as those designed to improve planting characteristics or to improve seedling growth. Section 201.2 would add a definition of coated seed. Section 201.45 would add comments pertaining to dividing coated seed. Section 201.47 would cite added instructions for purity analysis of coated seed. Section 201.51b would establish purity testing procedures for coated seed. Section 201.52 would be changed to add a new paragraph (b) to establish the amount of seed to be examined for a noxious-weed seed test on coated seed. The existing § 201.52 would become paragraph (a).

Section 201.47a would also be changed to clarify that the "entire spikelet" for rice, browntop millet, and Paspalum spp. is considered to be a seed unit; to define a seed unit for galletagrass (a new kind which was added in § 201.2); to include side-oats grama and blue grama, as kinds for which the Uniform Blowing Procedure is used to determine the percentages of pure seed and inert matter; and to clarify that "seed balls" of other Chenopodiaceae (fourwing saltbush and forage kochia) are to be considered a seed unit.

Section 201.48 would be changed to update seed unit interpretations to be consistent with § 201.51, to make scientific names to be consistent with § 201.2, and to add procedures to determine pure seed of forage kochia which was added to the kinds subject to the FSA.

Sections 201.48, 201.49, and 201.51a would be changed, in part, to add tall wheatgrass and western wheatgrass to the list of kinds to be tested using the Multiple Unit Procedure. These kinds contain multiple florets. The Multiple Unit Procedure provides faster, more consistent test results without a loss of accuracy when compared to the current, more tedious, hand method.

Several sections, including some of the changes to § 201.47, § 201.48, § 201.49, and § 201.51a would add blue grama and side-oats grama to the kinds for which the purity percentages are determined by using the Uniform Blowing Procedure. The Uniform Blowing Procedure provides a method, for determining purity percentages for

these kinds, which has proven to be faster, more consistent, and just as accurate as the hand method.

Section 201.50 would be changed to clarify that wild onion and wild garlic bulblets devoid of husks are to be classified as weed seeds if not damaged at the basal end and are a specified size. Research has shown that these seeds would likely germinate.

Section 201.51 would update seed units that are considered to be inert matter, to include classification of certain seed units of newly added kinds, forage kochia and northern sweetvetch, as well as coating material.

Sections 201.56 through 201.56-12 would be changed to establish new procedures for describing abnormal seedlings of each seed group for use in determining germination percentages and to eliminate references to outdated photographs. Seedling descriptions which had been developed over many years are being completely revised so that consistent, current terminology is used to describe abnormal seedlings for all kinds. The changes are designed to make the seedling descriptions more easily interpreted so that more consistent, accurate test results will be achieved. The changes will not result in significant differences in the percentages of germination found when compared to tests made under the current regulations.

Changes to § 201.57 would add kenaf, a new kind, to the list of kinds containing hard seed.

Section 201.57a would be changed to correct scientific names to be consistent with § 201.2 and to add new kinds, bottlebrush-squirreltail, basin wildrye, galletagrass, mountain rye, johnsongrass, and forage kochia to the kinds having dormant seed.

Section 201.58 would be changed to clarify the definition of "prechill" applicable to Table 2, to make editorial changes in special procedures for alyceclover, bahiagrass, beet, and garden bean, and to add special procedures for green needlegrass. Changes would incorporate more specific information on the type of light to be used for ryegrass fluorescence tests, add germination procedures for coated seed, and correct common and scientific names in the section including Table 2. Germination test procedures for those kinds added in §§ 201.2(h) and 201.2(i) would be added, and references to outdated photographs of seedlings removed. The changes in testing procedures incorporate into the regulations the latest research on testing these kinds.

Section 201.58a would be changed to revise the use of the fluorescence test for

determining the percentages of pure seed and other crop seed of annual ryegrass and perennial ryegrass. The changes incorporate methods agreed on by AOSA, AASCO, the grass seed industry, and AMS. The procedure for determining percentages of white sweetclover and yellow sweetclover would be changed from a mottled seed test to chemical test because the chemical test provides a more accurate, consistent result. Procedures for the phenol test for wheat, previously cited in AOSA Handbook Number 28, are being added and the reference to AOSA Handbook Number 28 is being removed so that all information will be contained in the regulations removing the need to have a copy of Handbook Number 28. Procedures for conducting a peroxidase test for varietal purity of soybean, and to add fluorescence test procedures for determining varietal purity of oat are added. These procedures have been in use for many years and have proven to be accurate, reliable, and consistent. Tests are essential to check the accuracy of variety representations.

Section 201.58d would add established testing procedures for determining the percentage of fungal endophyte in seed and plant material growing therefrom to the regulations. Some grass seed is being labeled to indicate the presence or absence of fungal endophyte. Uniform testing procedures have been developed for determining the amount of fungal endophyte present.

Changes to § 201.60 would update scientific names as previously discussed, to add ryegrasses and galletagrass to the list of chaffy kinds, and to make editorial changes.

Changes to § 201.61 and § 201.62 would correct typographical errors in the tolerance table.

A change to § 201.76 would provide for the certification agency to grant a variance in the land cropping history in specific circumstances where cultural practices have been proven adequate to maintain genetic purity. Generally this change would allow for the agency to modify the number of years the field must have been free of potential contaminants before being planted to a crop under certification. Section 201.76 would also be changed to update Table 5 and the footnotes to Table 5 to include metric equivalents, to update names to be consistent with § 201.2, and to make editorial changes and corrections. Standards for chemically assisted hybrid barley, buckwheat, and chemically assisted hybrid wheat would be added. Field standards for classes of mung bean would be changed and a field standard for hybrid corn added. In

addition footnotes are added corresponding to those changes in the table.

List of Subjects in 7 CFR Part 201

Advertising, Agricultural commodities, Imports, Labeling, Reporting and recordkeeping requirements, Seeds, Vegetables.

For reason set forth in the preamble, 7 CFR part 201 is amended as follows:

PART 201—FEDERAL SEED ACT REGULATIONS

1. The authority citation for part 201 continues to read as follows:

Authority: 7 U.S.C. 1592.

2. In § 201.2, paragraphs (a), (h), (i), and (ee) are revised and (q) is added to read as follows:

§ 201.2 Terms defined.

(a) *The Act.* The Term "Act" means the Federal Seed Act approved August 9, 1939 (53 Stat. 1275; 7 U.S.C. 1551-1611 as amended);

(h) *Agricultural seeds.* The term "agricultural seeds" means the following kinds of grass, forage, and field crop seeds, that are used for seeding purposes in the United States:

Agroticum—x Agroticum Ciferri and Giacom.
Alfalfa—*Medicago sativa* L.
Alfilaria—*Erodium cicutarium* (L.) L'Her.
Alyceclover—*Alysicarpus vaginalis* (L.) DC.
Bahiagrass—*Paspalum notatum* Fluegge.
Barley—*Hordeum vulgare* L.
Barrelclover—*Medicago truncatula* Gaertn.
Bean, adzuki—*Vigna angularis* (Willd.) Ohwi and Ohashi.
Bean, field—*Phaseolus vulgaris* L.
Bean, mung—*Vigna radiata* (L.) Wilczek.
Beet, field—*Beta vulgaris* L. subsp. *vulgaris*.
Beet, sugar—*Beta vulgaris* L. subsp. *vulgaris*.
Beggarweed, Florida—*Desmodium illinoense* (Sw.) DC.
Bentgrass, colonial—*Agrostis capillaris* L.
Bentgrass, creeping—*Agrostis stolonifera* L. var. *palustris* (Huds.) Farw.
Bentgrass, velvet—*Agrostis canina* L.
Bermudagrass—*Cynodon dactylon* (L.) Pers. var. *dactylon*.
Bermudagrass, giant—*Cynodon dactylon* (L.) Pers. var. *aridus* Harlan and de Wet.
Bluegrass, annual—*Poa annua* L.
Bluegrass, bulbous—*Poa bulbosa* L.
Bluegrass, Canada—*Poa compressa* L.
Bluegrass, glaucantha—*Poa glaucantha* Gaud.
Bluegrass, Kentucky—*Poa pratensis* L.
Bluegrass, Nevada—*Poa nevadensis* Scribn.
Bluegrass, rough—*Poa trivialis* L.
Bluegrass, Texas—*Poa arachnifera* Torr.
Bluegrass, wood—*Poa nemoralis* L.
Bluejoint—*Calamagrostis canadensis* (Michx.) Nutt.
Bluestem, big—*Andropogon gerardii* Vitm. var. *gerardii*.
Bluestem, little—*Schizachyrium scoparium* (Michx.) Nash.

- Bluestem, sand—*Andropogon gerardii* Vitm.
 var. *paucipilus* (Nash) Fern.
 Bluestem, yellow—*Bothriochloa ischaemum*
 (L.) Keng.
 Bottlebrush-squirreltail—*Elymus elymoides*
 (Raf.) Swezey.
 Brome, field—*Bromus arvensis* L.
 Brome, meadow—*Bromus biebersteinii*
 Roem. and Schult.
 Brome, mountain—*Bromus marginatus*
 Steudel.
 Brome, smooth—*Bromus inermis* Leyss.
 Broomcorn—*Sorghum bicolor* (L.) Moench.
 Buckwheat—*Fagopyrum esculentum*
 Moench.
 Buffalograss—*Buchloe dactyloides* (Nutt.)
 Engl.
 Buffelgrass—*Cenchrus ciliaris* L.
 Burclover, California—*Medicago polymorpha*
 L.
 Burclover, spotted—*Medicago arabica* (L.)
 Huds.
 Burnet, little—*Sanguisorba minor* Scop.
 Buttonclover—*Medicago orbicularis* (L.)
 Bartal.
 Canarygrass—*Phalaris canariensis* L.
 Canarygrass, reed—*Phalaris arundinacea* L.
 Carpetgrass—*Axonopus affinis* Chase.
 Castorbean—*Ricinus communis* L.
 Chess, soft—*Bromus hordeaceus* L.
 Chickpea—*Cicer arietinum* L.
 Clover, alsike—*Trifolium hybridum* L.
 Clover, arrowleaf—*Trifolium vesiculosum*
 Savi.
 Clover, berseem—*Trifolium alexandrinum* L.
 Clover, cluster—*Trifolium glomeratum* L.
 Clover, crimson—*Trifolium incarnatum* L.
 Clover, Kenya—*Trifolium semipilosum*
 Fresen.
 Clover, ladino—*Trifolium repens* L.
 Clover, lappa—*Trifolium lappaceum* L.
 Clover, large hop—*Trifolium campestre*
 Schreb.
 Clover, Persian—*Trifolium resupinatum* L.
 Clover, red or
 Red clover, mammoth—*Trifolium pratense*
 L.
 Red clover, medium—*Trifolium pratense*
 L.
 Clover, rose—*Trifolium hirtum* All.
 Clover, small hop or suckling—*Trifolium*
dubium Sibth.
 Clover, strawberry—*Trifolium fragiferum* L.
 Clover, sub or subterranean—*Trifolium*
subterraneum L.
 Clover, white—*Trifolium repens* L. (also see
 Clover, ladino).
 Clover—(also see Alyceclover, Burclover,
 Buttonclover, Sourclover, Sweetclover).
 Corn, field—*Zea mays* L.
 Corn, pop—*Zea mays* L.
 Cotton—*Gossypium* spp.
 Cowpea—*Vigna unguiculata* (L.) Walp.
 subsp. *unguiculata*.
 Crambe—*Crambe abyssinica* R.E. Fries.
 Crested dogtail—*Cynosurus cristatus* L.
 Crotalaria, lance—*Crotalaria lanceolata* E.
 Mey.
 Crotalaria, showy—*Crotalaria spectabilis*
 Roth.
 Crotalaria, slenderleaf—*Crotalaria brevifolia*
 Benth. var. *intermedia* (Kotschy) Polh.
 Crotalaria, striped or smooth—*Crotalaria*
pallida Ait.
 Crotalaria, sunn—*Crotalaria juncea* L.
 Crownvetch—*Coronilla varia* L.
 Dallgrass—*Paspalum dilatatum* Poir.
 Dichondra—*Dichondra repens* Forst. and
 Forst. f.
 Dropseed, sand—*Sporobolus cryptandrus*
 (Torr.) A. Gray.
 Emmer—*Triticum dicoccon* Schrank.
 Fescue, chewings—*Festuca rubra* L. subsp.
commutata Gaud.
 Fescue, hair—*Festuca tenuifolia* Sibth.
 Fescue, hard—*Festuca trachyphylla* (Hack.)
 Krajina.
 Fescue, meadow—*Festuca pratensis* Huds.
 Fescue, red—*Festuca rubra* L. subsp. *rubra*.
 Fescue, sheep—*Festuca ovina* L. var. *ovina*.
 Fescue, tall—*Festuca arundinacea* Schreb.
 Flax—*Linum usitatissimum* L.
 Galletagrass—*Hilaria jamesii* (Torr.) Benth.
 Grama, blue—*Bouteloua gracilis* (Kunth)
 Griffiths.
 Grama, side-oats—*Bouteloua curtipendula*
 (Michx.) Torr.
 Guar—*Cyamopsis tetragonoloba* (L.) Taub.
 Guinea grass—*Panicum maximum* Jacq. var.
maximum.
 Hardinggrass—*Phalaris stenoptera* Hack.
 Hemp—*Cannabis sativa* L.
 Indiangrass, yellow—*Sorghastrum nutans* (L.)
 Nash.
 Indigo, hairy—*Indigofera hirsuta* L.
 Japanese lawnglass—*Zoysia japonica* Steud.
 Johnsongrass—*Sorghum halepense* (L.) Pers.
 Kenaf—*Hibiscus cannabinus* L.
 Kochia, forage—*Kochia prostrata* (L.) Schrad.
 Kudzu—*Pueraria montana* (Lour.) Merr. var.
lobata (Willd.)
 Maesen and S. Almeida.
 Lentil—*Lens culinaris* Medik.
 Lespedeza, Korean—*Kummerowia stipulacea*
 (Maxim.) Makino.
 Lespedeza, sericea or Chinese—*Lespedeza*
cuneata (Dum.-Cours.) G. Don.
 Lespedeza, Siberian—*Lespedeza juncea* (L. f.)
 Pers.
 Lespedeza, striate—*Kummerowia striata*
 (Thunb.) Schindler.
 Lovegrass, sand—*Eragrostis trichodes* (Nutt.)
 Wood.
 Lovegrass, weeping—*Eragrostis curvula*
 (Schrad.) Nees.
 Lupine, blue—*Lupinus angustifolius* L.
 Lupine, white—*Lupinus albus* L.
 Lupine, yellow—*Lupinus luteus* L.
 Manilagrass—*Zoysia matrella* (L.) Merr.
 Meadow foxtail—*Alopecurus pratensis* L.
 Medic, black—*Medicago lupulina* L.
 Milkvetch or cicer milkvetch—*Astragalus*
cicer L.
 Millet, browntop—*Brachiaria ramosa* (L.)
 Stapf.
 Millet, foxtail—*Setaria italica* (L.) Beauv.
 Millet, Japanese—*Echinochloa frumentacea*
 Link.
 Millet, pearl—*Pennisetum glaucum* (L.) R. Br.
 Millet, proso—*Panicum miliaceum* L.
 Molassesgrass—*Melinis minutiflora* Beauv.
 Mustard, black—*Brassica nigra* (L.) Koch.
 Mustard, India—*Brassica juncea* (L.) Czernj.
 and Coss.
 Mustard, white—*Sinapis alba* L.
 Napiergrass—*Pennisetum purpureum*
 Schumacher.
 Needlegrass, green—*Stipa viridula* Trinus.
 Oat—*Avena byzantina* C. Koch, A. *sativa* L.,
 A. *nuda* L.
 Oatgrass, tall—*Arrhenatherum elatius* (L.) J.S.
 Presl and K.B. Presl.
 Orchardgrass—*Dactylis glomerata* L.
 Panicgrass, blue—*Panicum antidotale* Retz.
 Panicgrass, green—*Panicum maximum* Jacq.
 var. *trichoglume* Robyns.
 Pea, field—*Pisum sativum* L.
 Peanut—*Arachis hypogaea* L.
 Poa trivialis—(see Bluegrass, rough).
 Rape, annual—*Brassica napus* L. var. *annua*
 Koch.
 Rape, bird—*Brassica rapa* L.
 Rape, turnip—*Brassica rapa* L.
 Rape, winter—*Brassica napus* L. var. *biennis*
 (Schubl. and Mart.) Reichenb.
 Redtop—*Agrostis gigantea* Roth.
 Rescuegrass—*Bromus catharticus* Vahl.
 Rhodesgrass—*Chloris gayana* Kunth.
 Rice—*Oryza sativa* L.
 Ricegrass, Indian—*Oryzopsis hymenoides*
 (Roem. and Schult.)
 Ricker.
 Roughpea—*Lathyrus hirsutus* L.
 Rye—*Secale cereale* L.
 Rye, mountain—*Secale montanum* Guss.
 Ryegrass, annual or Italian—*Lolium*
multiflorum Lam.
 Ryegrass, intermediate—*Lolium x hybridum*
 Hausskn.
 Ryegrass, perennial—*Lolium perenne* L.
 Ryegrass, Wimmera—*Lolium rigidum* Gaud.
 Safflower—*Carthamus tinctorius* L.
 Sagewort, Louisiana—*Artemisia ludoviciana*
 Nutt.
 Sainfoin—*Onobrychis viciifolia* Scop.
 Saltbush, fourwing—*Atriplex canescens*
 (Pursh) Nutt.
 Sesame—*Sesamum indicum* L.
 Sesbania—*Sesbania exaltata* (Raf.) A.W. Hill.
 Smilo—*Oryzopsis miliacea* (L.) Asch. and
 Schweinf.
 Sorghum—*Sorghum bicolor* (L.) Moench.
 Sorghum alnum—*Sorghum x alnum* L.
 Parodi.
 Sorghum-sudangrass—*Sorghum x*
drummondii (Steudel) Millsp. and Chase.
 Sorgrass—Rhizomatous derivatives of a
 johnsongrass x sorghum cross or a
 johnsongrass x sudangrass cross.
 Southernpea—(See Cowpea).
 Sourclover—*Melilotus indicus* (L.) All.
 Soybean—*Glycine max* (L.) Merr.
 Spelt—*Triticum spelta* L.
 Sudangrass—*Sorghum x drummondii*
 (Steudel) Millsp. and Chase.
 Sunflower—*Helianthus annuus* L.
 Sweetclover, white—*Melilotus albus* Medik.
 Sweetclover, yellow—*Melilotus officinalis*
 Lam.
 Sweet vernalgrass—*Anthoxanthum odoratum*
 L.
 Sweetvetch, northern—*Hedysarum boreale*
 Nutt.
 Switchgrass—*Panicum virgatum* L.
 Timothy—*Phleum pratense* L.
 Timothy, turf—*Phleum bertolonii* DC.
 Tobacco—*Nicotiana tabacum* L.
 Trefoil, big—*Lotus uliginosus* Schk.
 Trefoil, birdsfoot—*Lotus corniculatus* L.
 Triticale—x *Triticosecale* Wittm. (*Secale* x
Triticum).
 Vaseygrass—*Paspalum urvillei* Steud.
 Veldtgrass—*Ehrharta calycina* J. E. Smith.
 Velvetbean—*Mucuna pruriens* (L.) DC. var.
utilis (Wight) Burck.
 Velvetgrass—*Holcus lanatus* L.
 Vetch, common—*Vicia sativa* L. subsp.
sativa.

Vetch, hairy—*Vicia villosa* Roth subsp. villosa.
 Vetch, Hungarian—*Vicia pannonica* Crantz.
 Vetch, monantha—*Vicia articulata* Hornem.
 Vetch, narrowleaf or blackpod—*Vicia sativa* L. subsp. *nigra* (L.) Ehrh.
 Vetch, purple—*Vicia benghalensis* L.
 Vetch, woollypod or winter—*Vicia villosa* Roth subsp. *varia* (Host) Corb.
 Wheat, common—*Triticum aestivum* L.
 Wheat, club—*Triticum compactum* Host.
 Wheat, durum—*Triticum durum* Desf.
 Wheat, Polish—*Triticum polonicum* L.
 Wheat, poulard—*Triticum turgidum* L.
 Wheat x *Agroticum*—*Triticum x Agroticum*.
 Wheatgrass, beardless—*Elytrigia spicata* (Pursh) Dewey.
 Wheatgrass, crested or fairway crested—*Agropyron cristatum* (L.) Gaertn.
 Wheatgrass, crested or standard crested—*Agropyron desertorum* (Link) Schult.
 Wheatgrass, intermediate—*Elytrigia intermedia* (Host) Nevski subsp. *intermedia*.
 Wheatgrass, pubescent—*Elytrigia intermedia* (Host) Nevski subsp. *barbulata* (Schur) A. Love.
 Wheatgrass, Siberian—*Agropyron fragile* (Roth) Candargy subsp. *sibiricum* (Willd.) Meld.
 Wheatgrass, slender—*Elymus trachycaulus* (Link) Shinn.
 Wheatgrass, streambank—*Elytrigia dasystachya* (Hook.) A. Love and D. Love.
 Wheatgrass, tall—*Elytrigia elongata* (Host) Nevski.
 Wheatgrass, western—*Elymus smithii* (Rydb.) Gould.
 Wildrye, basin—*Leymus cinereus* (Scribn. and Merr.) A. Love.
 Wildrye, Canada—*Elymus canadensis* L.
 Wildrye, Russian—*Psathyrostachys juncea* (Fisch.) Nevski.
 Zoysia japonica—(see Japanese lawngrass).
 Zoysia matrella—(see Manilagrass).

(i) **Vegetable seeds.** The term "vegetable seeds" means the seeds of the following kinds that are or may be grown in gardens or on truck farms and are or may be generally known and sold under the name of vegetable seeds:

Artichoke—*Cynara scolymus* L.
 Asparagus—*Asparagus officinalis* L.
 Asparagusbean or yard-long bean—*Vigna unguiculata* (L.) Walp. subsp. *sesquipedalis* (L.) Verdc.
 Bean, garden—*Phaseolus vulgaris* L.
 Bean, lima—*Phaseolus lunatus* L.
 Bean, runner or scarlet runner—*Phaseolus coccineus* L.
 Beet—*Beta vulgaris* L. subsp. *vulgaris*.
 Broadbean—*Vicia faba* L.
 Broccoli—*Brassica oleracea* L. var. *botrytis* L.
 Brussels sprouts—*Brassica oleracea* L. var. *gemmifera* DC.
 Burdock, great—*Arctium lappa* L.
 Cabbage—*Brassica oleracea* L. var. *capitata* L.
 Cabbage, Chinese—*Brassica pekinensis* (Lour.) Rupr.
 Cabbage, troncchuda—*Brassica oleracea* L. var. *costata* DC.
 Cantaloupe—(see Melon).
 Cardoon—*Cynara cardunculus* L.

Carrot—*Daucus carota* L. subsp. *sativus* (Hoffm.) Arcang.
 Cauliflower—*Brassica oleracea* L. var. *botrytis* L.
 Celeriac—*Apium graveolens* L. var. *rapaceum* (Mill.) Gaud.
 Celery—*Apium graveolens* L. var. *dulce* (Mill.) Pers.
 Chard, Swiss—*Beta vulgaris* L. subsp. *cicla* (L.) Koch.
 Chicory—*Cichorium intybus* L.
 Chives—*Allium schoenoprasum* L.
 Citron—*Citrus limon* (Thunb.) Matsum. and Nakai var. *citroides* (Bailey) Mansf.
 Collards—*Brassica oleracea* L. var. *acephala* DC.
 Corn, sweet—*Zea mays* L.
 Cornsalad—*Valerianella locusta* (L.) Laterrade.
 Cowpea—*Vigna unguiculata* (L.) Walp. subsp. *unguiculata*.
 Cress, garden—*Lepidium sativum* L.
 Cress, upland—*Barbarea verna* (Mill.) Aschers.
 Cress, water—*Nasturtium officinale* R. Br.
 Cucumber—*Cucumis sativus* L.
 Dandelion—*Taraxacum officinale* Wigg.
 Dill—*Anethum graveolens* L.
 Eggplant—*Solanum melongena* L.
 Endive—*Cichorium endivia* L.
 Gherkin, West India—*Cucumis anguria* L.
 Kale—*Brassica oleracea* L. var. *acephala* DC.
 Kale, Chinese—*Brassica oleracea* L. var. *alboglabra* (Bailey) Musil.
 Kale, Siberian—*Brassica napus* L. var. *pabularia* (DC.) Reichb.
 Kohlrabi—*Brassica oleracea* L. var. *gongylodes* L.
 Leek—*Allium porrum* L.
 Lettuce—*Lactuca sativa* L.
 Melon—*Cucumis melo* L.
 Muskmelon (see Melon).
 Mustard, India—*Brassica juncea* (L.) Czernj. and Coss.
 Mustard, spinach—*Brassica perviridis* (Bailey) Bailey.
 Okra—*Abelmoschus esculentus* (L.) Moench.
 Onion—*Allium cepa* L.
 Onion, Welsh—*Allium fistulosum* L.
 Pak-choi—*Brassica chinensis* L.
 Parsley—*Petroselinum crispum* (Mill.) A. W. Hill.
 Parsnip—*Pastinaca sativa* L.
 Pea—*Pisum sativum* L.
 Pepper—*Capsicum* spp.
 Pe-tsai—(see Chinese cabbage).
 Pumpkin—*Cucurbita pepo* L., *C. moschata* (Duchesne) Poiret, and *C. maxima* Duchesne.
 Radish—*Raphanus sativus* L.
 Rhubarb—*Rheum rhabarbarum* L.
 Rutabaga—*Brassica napus* L. var. *napobrassica* (L.) Reichb.
 Sage—*Salvia officinalis* L.
 Salsify—*Tragopogon porrifolius* L.
 Savory, summer—*Satureja hortensis* L.
 Sorrel—*Rumex acetosa* L.
 Southernpea—(see Cowpea).
 Soybean—*Glycine max* (L.) Merr.
 Spinach—*Spinacia oleracea* L.
 Spinach, New Zealand—*Tetragonia tetragonoides* (Pall.) Ktze.
 Squash—*Cucurbita pepo* L., *C. moschata* (Duchesne) Poiret, and *C. maxima* Duchesne.

Tomato—*Lycopersicon esculentum* Mill.
 Tomato, husk—*Physalis pubescens* L.
 Turnip—*Brassica rapa* L.
 Watermelon—*Citrullus lanatus* (Thunb.) Matsum. and Nakai var. *lanatus*.

(g) **Coated seed.** The term "coated seed" means any seed unit covered with any substance which changes the size, shape, or weight of the original seed. Seeds coated with ingredients such as, but not limited to, rhizobia, dyes, and pesticides are excluded.

(ee) **Certified seed.** Certified seed is a class of certified seed which is the progeny of Breeder, Foundation, or Registered seed, except as provided in § 201.70 and is produced and handled under procedures established by the certifying agency, in accordance with this part, for producing the Certified class of seed, for the purpose of maintaining genetic purity and identity.

§ 201.3 [Amended]

3. Section 201.3 is amended by removing "shall" and adding in its place "may".

§ 201.10 [Amended]

4. Section 201.10(a) is amended by removing the word "hybrid".

§ 201.13 [Amended]

5. Section 201.13 is amended by removing "in" the first time it appears and adding in its place "on".

§ 201.17 [Amended]

6. Section 201.17 is amended by removing "bermuda grass" and adding its place "bermudagrass" everywhere it appears.

§ 201.20 [Amended]

7. Section 201.20 is amended by removing "for each kind or kind and variety or kind and type or kind and hybrid" and adding in its place "each kind, or kind and variety, or kind and type, or kind and hybrid".

8. In § 201.22, paragraph (c) is revised to read as follows:

§ 201.22 Date of test.

(c) The following kinds shall be tested within the indicated time before interstate shipment:

Agricultural seeds and mixtures thereof	Months from test date to shipment
Bentgrass, Colonial: <i>Agrostis capillaris</i> , Bentgrass, Creeping A. <i>stolonifera</i> var. <i>palustris</i>	

Agricultural seeds and mixtures thereof	Months from test date to shipment	Percent	Agricultural seeds	Percent
Bluegrass, Kentucky: <i>Poa pratensis</i>	15	Kale, Chinese	Leek	6.5
Fescue, Chewings: <i>Festuca rubra</i> subsp. <i>commutata</i> ..	15	Kale, Siberian	Lettuce	5.5
Fescue, Hard: <i>Festuca trachyphylla</i>	15	Kohlrabi	Melon	6.0
Fescue, Red: <i>Festuca rubra</i> subsp. <i>rubra</i>	15	Leek	Mustard, India	5.0
Fescue, Tall: <i>Festuca arundinacea</i>	15	Lettuce	Onion	6.5
Ryegrass, Annual: <i>Lolium multiflorum</i>	15	Melon	Onion, Welsh	6.5
Ryegrass, Perennial: <i>Lolium perenne</i>	15	Mustard, India	Parsley	6.5
		Mustard, spinach	Parsnip	6.0
		Okra	Pea	7.0
		Onion	Pepper	4.5
		Onion, Welsh	Pumpkin	6.0
		Pak-choi	Radish	5.0
		Parsley	Rutabaga	5.0
		Parsnip	Spinach	8.0
		Pea	Squash	6.0
		Pepper	Tomato	5.5
		Pumpkin	Turnip	5.0
		Radish	Watermelon	6.5
		Rhubarb	All others	6.0
		Rutabaga		
		Sage		
		Salsify		
		Savory, summer		
		Sorrel		
		Soybean		
		Spinach		
		Spinach, New Zealand		
		Squash		
		Tomato		
		Tomato, husk		
		Turnip		
		Watermelon		

§ 201.26 [Amended]

9. Section 201.26 is amended by removing "is" following the word "pollination" and adding in its place "in".

10. Section 201.31 is revised to read as follows:

§ 201.31 Germination standards for vegetable seeds in interstate commerce.

The following germination standards for vegetable seeds in interstate commerce, which shall be construed to include hard seed, are determined and established under section 403(c) of the act:

	Percent
Artichoke	60
Asparagus	70
Asparagusbean	75
Bean, garden	70
Bean, lima	70
Bean, runner	75
Beet	65
Broadbean	75
Broccoli	75
Brussels sprouts	70
Burdock, great	60
Cabbage	75
Cabbage, trionchuda	70
Cardoon	60
Carrot	55
Cauliflower	75
Celeriac	55
Celery	55
Chard, Swiss	65
Chicory	65
Chinese cabbage	75
Chives	50
Citron	65
Collards	80
Corn, sweet	75
Cornsalad	70
Cowpea	75
Cress, garden	75
Cress, upland	60
Cress, water	40
Cucumber	80
Dandelion	60
Dill	60
Eggplant	60
Endive	70
Kale	75

11. Section 201.34 is amended by revising paragraph (d)(5) and reserving paragraph (e) to read as follows:

§ 201.34 Kind, variety, and type; treatment substances; designation as hybrid.

(d) * * *

(5) Names of varieties which through broad general usage prior to July 28, 1956 were recognized variety names, except for hybrid seed corn, shall be considered variety names without regard to the principles stated in paragraph (d)(2) of this section.

* * *

(e) [Reserved]

§ 201.366 [Amended]

12. Section 201.36b, paragraph (b) is amended by removing "pole" and adding in its place "(pole) garden".

13. Section 201.36c, paragraph (c) is revised to read as follows:

§ 201.36c Hermetically-sealed containers.

* * *

(c) The seed in the container does not exceed the percentage of moisture, on a wet weight basis, as listed below:

Agricultural seeds	Percent
Beet, field	7.5
Beet, sugar	7.5
Bluegrass, Kentucky	6.0
Kale	5.0
Kohlrabi	5.0

§ 201.37 [Amended]

14. Section 201.37 is amended by removing "Consumer and Marketing Service" and adding in its place "Agricultural Marketing Service".

15. In § 201.43, paragraphs (a) through (e) are revised and a new paragraph (g) is added to read as follows:

§ 201.43 Size of sample.

* * *

(a) Two ounces (57 grams) of grass seed not otherwise mentioned, white or alsike clover, or seeds not larger than these.

(b) Five ounces (142 grams) of red or crimson clover, alfalfa, lespedeza, ryegrass, bromegrass, millet, flax, rape, or seeds of similar size.

(c) One pound (454 grams) of sudangrass, proso millet, hemp or seeds of similar size.

(d) Two pounds (907 grams) of cereals, sorghum, vetch, or seeds of similar or larger size.

(e) Two quarts (2.2 liters) of screenings.

* * *

(g) Coated seed for a purity analysis shall consist of at least 7,500 seed units. Coated seed for noxious-weed seed examination shall consist of at least 30,000 seed units. Coated seed for germination test only shall consist of at least 1,000 seed units.

16. Section 201.44 is revised to read as follows:

§ 201.44 Forwarding samples.

Before being forwarded for analysis, test, or examination, the containers of samples shall be properly sealed and identified in such manner as may be prescribed by the Agricultural Marketing Service. Samples of coated seed shall be forwarded in firmly packed crush-proof and moisture-proof containers.

§ 201.45 [Amended]

17. Section 201.45(b) is amended by removing “,” after the words “damaging large seeds” and adding in its place “and coated seeds.”

18. Section 201.46 is amended by adding a new paragraph (d) and revising Table 1 to read as follows:

§ 201.46 Weight of working sample.

(d) *Coated seed*—(1) *Unmixed coated seed*. Due to variation in the weight of coating materials, the size or weight of the working sample shall be determined separately for each lot. The weight of the working sample shall be determined

by weighing 100 completely coated units and calculating the weight of 2,500 coated units for the purity analysis and 25,000 coated units for the noxious-weed seed examination.

(2) *Mixtures of coated seed*. The working weight shall be determined in the following manner:

(i) Calculate the weight of the working sample to be used for the mixture under consideration as though the sample were not coated by following paragraph (b) or (c) of this section.

(ii) Determine the amount of coating material on 100 coated units by weighing the coated units. Remove the coating material using the methods

described in §§ 201.51b (c) and (d). Calculate the percentage of coating material using the following formulas:

Weight of coating material=weight of 100 coated units—weight of 100 de-coated units;

The percentage of coating material=weight of the coating material divided by the weight of 100 coated units $\times$ 100%.

(iii) The weight of the working sample shall be the product of the weight calculated in paragraph (d)(2)(i) of this section multiplied by 100%, divided by 100% minus the percentage of coating material calculated in paragraph (d)(2)(ii) of this section.

TABLE 1.—WEIGHT OF WORKING SAMPLE

Name of seed	Minimum weight for purity analysis (Grams)	Minimum weight for noxious-weed seed examination (Grams)	Approximate number of seeds per gram
Agricultural Seed			
Agroticum—x Agroticum	65	500	39
Alfalfa—Medicago sativa	5	50	500
Alfilaria—Erodium cicutarium	5	50	440
Alyceclover—Alysicarpus vaginalis	5	50	665
Bahiagrass—Paspalum notatum:			
Var. Pensacola	5	50	600
All other vars	7	50	365
Barley—Hordeum vulgare	100	500	30
Barrelclover—Medicago truncatula	10	100	250
Bean:			
Adzuki—Vigna angularis	200	500	11
Field—Phaseolus vulgaris	500	500	4
Mung—Vigna radiata	100	500	24
Beet, field—Beta vulgaris subsp. vulgaris	50	500	55
Beet, sugar—Beta vulgaris subsp. vulgaris	50	500	55
Beggarweed, Florida—Desmodium tortuosum	5	50	440
Bentgrass:			
Colonial (incl. vars. Astoria and Highland)—			
Agrostis capillaris	0.25	2.5	13,000
Creeping—Agrostis stolonifera var. palustris	0.25	2.5	13,515
Velvet—Agrostis canina	0.25	2.5	18,180
Bermudagrass—Cynodon dactylon var. dactylon	1	10	3,930
Bermudagrass, giant—Cynodon dactylon var. aridus	1	10	2,950
Bluegrass:			
Annual—Poa annua	1	10	2,635
Bulbous—Poa bulbosa	4	40	585
Canada—Poa compressa	0.5	5	5,050
Glaucantha—Poa glaucantha	1	10	
Kentucky (all vars.)—Poa pratensis	1	10	3,060
Nevada—Poa nevadensis	1	10	2,305
Rough—Poa trivialis	0.5	5	4,610
Texas—Poa arachnifera	1	10	2,500
Wood—Poa nemoralis	0.5	5	4,330
Bluejoint—Calamagrostis canadensis	0.5	5	8,461
Bluestem:			
Big—Andropogon gerardii var. gerardii	7	70	320
Little—Schizachyrium scoparium	5	50	525
Sand—Andropogon gerardii var. paucipilus	10	100	215
Yellow—Bothriochloa ischaemum	1	10	1,945
Bottlebrush-squirreltail—Elymus elymoides	9	90	300
Brome:			
Field—Bromus arvensis	5	50	465
Meadow—Bromus blebersteinii	13	130	190
Mountain—Bromus marginatus	20	200	140
Smooth—Bromus inermis	7	70	315
Broomcorn—Sorghum bicolor	40	400	60
Buckwheat—Fagopyrum esculentum	50	500	45

TABLE 1.—WEIGHT OF WORKING SAMPLE—Continued

Name of seed	Minimum weight for purity analysis (Grams)	Minimum weight for noxious-weed seed examination (Grams)	Approximate number of seeds per gram
Buffalograss— <i>Buchloe dactyloides</i> :			
(Burs)	20	200	110
(Caryopses)	3	30	740
Buffelgrass— <i>Cenchrus ciliaris</i> :			
(Fascicles)	6	66	365
(Caryopses)	2	20	1,940
Burclover, California— <i>Medicago polymorpha</i> :			
(in bur)	50	500	
(out of bur)	7	70	375
Burclover, spotted— <i>Medicago arabica</i> :			
(in bur)	50	500	50
(out of bur)	5	50	550
Burnet, little— <i>Sanguisorba minor</i>	25	250	110
Buttonclover— <i>Medicago orbicularis</i>	7	70	365
Canarygrass— <i>Phalaris canariensis</i>	20	200	150
Canarygrass, reed— <i>Phalaris arundinacea</i>	2	20	1,185
Carpetgrass— <i>Axonopus affinis</i>	1	10	2,230
Castorbean— <i>Ricinus communis</i>	500	500	5
Chess, soft— <i>Bromus hordeaceus</i>	5	50	555
Chickpea— <i>Cicer arietinum</i>	500	500	2
Clover:			
Alsike— <i>Trifolium hybridum</i>	2	20	1,500
Arrowleaf— <i>Trifolium vesiculosum</i>	4	40	705
Berseem— <i>Trifolium alexandrinum</i>	5	50	455
Cluster— <i>Trifolium glomeratum</i>	1	10	2,925
Crimson— <i>Trifolium incarnatum</i>	10	100	330
Kenya— <i>Trifolium semipilosum</i>	2	20	
Ladino— <i>Trifolium repens</i>	2	20	1,935
Lappa— <i>Trifolium lappaceum</i>	2	20	1,500
Large hop— <i>Trifolium campestre</i>	1	10	5,435
Persian— <i>Trifolium resupinatum</i>	2	20	1,415
Red— <i>Trifolium pratense</i>	5	50	600
Rose— <i>Trifolium hirtum</i>	7	70	360
Small hop— <i>Trifolium dubium</i>	2	20	1,950
Strawberry— <i>Trifolium fragiferum</i>	5	50	635
Sub— <i>Trifolium subterraneum</i>	25	250	120
White— <i>Trifolium repens</i>	2	20	1,500
Corn:			
Field— <i>Zea mays</i>	500	500	3
Pop— <i>Zea mays</i>	500	500	3
Cotton— <i>Gossypium</i> spp.	300	500	8
Cowpea— <i>Vigna unguiculata</i> subsp. <i>unguiculata</i>	300	500	8
Crambe— <i>Crambe abyssinica</i>	25	250	
Crested dogtail— <i>Cynosurus cristatus</i>	2	20	1,900
Crotalaria:			
Lance— <i>Crotalaria lanceolata</i>	7	70	375
Showy— <i>Crotalaria spectabilis</i>	25	250	80
Slenderleaf— <i>Crotalaria brevidens</i> var. <i>intermedia</i>	10	100	205
Striped— <i>Crotalaria pallida</i>	10	100	215
Sunn— <i>Crotalaria juncea</i>	75	500	35
Crownvetch— <i>Coronilla varia</i>	10	100	305
Dallisgrass— <i>Paspalum dilatatum</i>	4	40	620
Dichondra— <i>Dichondra repens</i>	5	50	470
Dropseed, sand— <i>Sporobolus cryptandrus</i>	0.25	2.5	12,345
Emmer— <i>Triticum dicoccon</i>	100	500	25
Fescue:			
Chewings— <i>Festuca rubra</i> subsp. <i>commutata</i>	3	30	900
Hair— <i>Festuca tenuifolia</i>	1	10	
Hard— <i>Festuca trachyphylla</i>	2	20	1,305
Meadow— <i>Festuca pratensis</i>	5	50	495
Red— <i>Festuca rubra</i> subsp. <i>rubra</i>	3	30	900
Sheep— <i>Festuca ovina</i> var. <i>ovina</i>	2	20	1,165
Tall— <i>Festuca arundinacea</i>	5	50	455
Flax— <i>Linum usitatissimum</i>	15	150	180
Galletagrass— <i>Hilaria jamesii</i> :			
(Other than caryopses)	10	100	260
(Caryopses)	5	50	580

TABLE 1.—WEIGHT OF WORKING SAMPLE—Continued

Name of seed	Minimum weight for purity analysis (Grams)	Minimum weight for noxious-weed seed examination (Grams)	Approximate number of seeds per gram
Gramma:			
Blue— <i>Bouteloua gracilis</i>	2	20	1,595
Side-oats— <i>Bouteloua curtipendula</i> :			
(Other than caryopses)	6	60	350
(Caryopses)	2	20	1,605
Guar— <i>Cyamopsis tetragonoloba</i>	75	500	35
Guineagrass— <i>Panicum maximum</i> var. <i>maximum</i>	2	20	2,205
Hardinggrass— <i>Phalaris stenoptera</i>	3	30	750
Hemp— <i>Cannabis sativa</i>	50	500	45
Indiangrass, yellow— <i>Sorghastrum nutans</i>	7	70	395
Indigo, hairy— <i>Indigofera hirsuta</i>	7	70	435
Japanese lawnglass— <i>Zoysia japonica</i>	2	20	1,325
Johnsongrass— <i>Sorghum halepense</i>	10	100	265
Kenaf— <i>Hibiscus cannabinus</i>	50	500	
Kochia, forage— <i>Kochia prostrata</i>	2	20	1,070
Kudzu— <i>Pueraria montana</i> var. <i>lobata</i>	25	250	80
Lentil— <i>Lens culinaris</i>	120	500	14–23
Lespedeza:			
Korean— <i>Kummerowia stipulacea</i>	5	50	525
Sericea— <i>Lespedeza cuneata</i>	3	30	820
Siberian— <i>Lespedeza juncea</i>	3	30	820
Striate— <i>Kummerowia striata</i>	5	50	750
Lovegrass, sand— <i>Eragrostis trichodes</i>	1	10	3,585
Lovegrass, weeping— <i>Eragrostis curvula</i>	1	10	3,270
Lupine:			
Blue— <i>Lupinus angustifolius</i>	500	500	7
White— <i>Lupinus albus</i>	500	500	7
Yellow— <i>Lupinus luteus</i>	300	500	9
Manilagrass— <i>Zoysia matrella</i>	2	20	
Meadow foxtail— <i>Alopecurus pratensis</i>	3	30	893
Medic, black— <i>Medicago lupulina</i>	5	50	585
Milkvetch— <i>Astragalus cicer</i>	9	90	270
Millet:			
Browntop— <i>Brachiaria ramosa</i>	8	80	315
Foxtail— <i>Setaria italica</i>	5	50	480
Japanese— <i>Echinochloa frumentacea</i>	9	90	315
Pearl— <i>Pennisetum glaucum</i>	15	150	180
Proso— <i>Panicum miliaceum</i>	15	150	185
Molassesgrass— <i>Melinis minutiflora</i>	0.5	5	7,750
Mustard:			
Black— <i>Brassica nigra</i>	2	20	1,255
India— <i>Brassica juncea</i>	5	50	625
White— <i>Sinapis alba</i>	15	150	160
Napiergrass— <i>Pennisetum purpureum</i>	5	50	
Needlegrass, green— <i>Stipa viridula</i>	7	70	370
Oat— <i>Avena</i> spp.	75	500	35–50
Oatgrass, tall— <i>Arrhenatherum elatius</i>	6	60	417
Orchardgrass— <i>Dactylis glomerata</i>	3	30	945
Panicgrass, blue— <i>Panicum antidotale</i>	2	20	1,370
Panicgrass, green— <i>Panicum maximum</i> var. <i>trichoglume</i>	2	20	1,305
Pea, field— <i>Pisum sativum</i>	500	500	4
Peanut— <i>Arachis hypogaea</i>	500	500	1–3
Rape:			
Annual— <i>Brassica napus</i> var. <i>annua</i>	7	70	345
Bird— <i>Brassica rapa</i>	7	70	425
Turnip— <i>Brassica rapa</i>	5	50	535
Winter— <i>Brassica napus</i> var. <i>biennis</i>	10	100	230
Redtop— <i>Agrostis gigantea</i>	0.25	2.5	10,695
Rescuegrass— <i>Bromus catharticus</i>	20	200	115
Rhodesgrass— <i>Chloris gayana</i>	1	10	4,725
Rice— <i>Oryza sativa</i>	50	500	65
Ricegrass, Indian— <i>Oryzopsis hymenoides</i>	7	70	355
Roughpea— <i>Lathyrus hirsutus</i>	75	500	40
Rye— <i>Secale cereale</i>	75	500	40
Rye, mountain— <i>Secale montanum</i>	28	280	90
Ryegrass:			
Annual— <i>Lolium multiflorum</i>	5	50	420

TABLE 1.—WEIGHT OF WORKING SAMPLE—Continued

Name of seed	Minimum weight for purity analysis (Grams)	Minimum weight for noxious-weed seed examination (Grams)	Approximate number of seeds per gram
Intermediate— <i>Lolium x hybridum</i>	8	80	338
Perennial— <i>Lolium perenne</i>	5	50	530
Wimmera— <i>Lolium rigidum</i>	5	50	
Safflower— <i>Carthamus tinctorius</i>	100	500	30
Sagewort, Louisiana— <i>Artemisia ludoviciana</i>	0.5	5	8,900
Sainfoin— <i>Onobrychis viciifolia</i>	50	500	50
Saltbush, fourwing— <i>Atriplex canescens</i>	15	150	185
Sesame— <i>Sesamum indicum</i>	7	70	360
Sesbania— <i>Sesbania exaltata</i>	25	250	105
Smilo— <i>Oryzopsis miliacea</i>	2	20	2,010
Sorghum— <i>Sorghum bicolor</i>	50	500	55
Sorghum alnum— <i>Sorghum x alnum</i>	15	150	150
Sorghum-sudangrass— <i>Sorghum x drummondii</i>	65	500	38
Sorghum ¹	15	150	135
Sourclover— <i>Melilotus indicus</i>	5	50	660
Soybean— <i>Glycine max</i>	500	500	6–13
Spelt— <i>Triticum spelta</i>	100	500	25
Sudangrass— <i>Sorghum x drummondii</i>	25	250	100
Sunflower (Cult.)— <i>Helianthus annuus</i>	100	500	
Sweetclover:			
White— <i>Melilotus albus</i>	5	50	570
Yellow— <i>Melilotus officinalis</i>	5	50	570
Sweet vernalgrass— <i>Anthoxanthum odoratum</i>	2	20	1,600
Sweetvetch, northern— <i>Hedysarum boreale</i>	19	190	130
Switchgrass— <i>Panicum virgatum</i>	4	40	570
Timothy— <i>Phleum pratense</i>	1	10	2,565
Timothy, turf— <i>Phleum bertolonii</i>	1	10	2,565
Tobacco— <i>Nicotiana tabacum</i>	0.5	5	15,625
Trefoil:			
Big— <i>Lotus uliginosus</i>	2	20	1,945
Birdsfoot— <i>Lotus corniculatus</i>	3	30	815
Triticale— <i>x Triticosecale</i>	100	500	
Vaseygrass— <i>Paspalum urvillei</i>	3	30	970
Veldtgrass— <i>Ehrharta calycina</i>	4	40	655
Velvetbean— <i>Mucuna pruriens</i> var. <i>utilis</i>	500	500	2
Velvetgrass— <i>Holcus lanatus</i>	1	10	3,360
Vetch:			
Common— <i>Vicia sativa</i> subsp. <i>sativa</i>	150	500	19
Hairy— <i>Vicia villosa</i> subsp. <i>villosa</i>	75	500	35
Hungarian— <i>Vicia pannonica</i>	100	500	24
Monantha— <i>Vicia articulata</i>	100	500	
Narrowleaf— <i>Vicia sativa</i> subsp. <i>nigra</i>	50	500	60
Purple— <i>Vicia benghalensis</i>	100	500	22
Woollypod— <i>Vicia villosa</i> subsp. <i>varia</i>	100	500	25
Wheat:			
Common— <i>Triticum aestivum</i>	100	500	25
Club— <i>Triticum compactum</i>	100	500	25
Durum— <i>Triticum durum</i>	100	500	25
Polish— <i>Triticum polonicum</i>	100	500	25
Poulard— <i>Triticum turgidum</i>	100	500	25
Wheat x Agrotricum— <i>Triticum x Agrotricum</i>	65	500	38
Wheatgrass:			
Beardless— <i>Elytrigia spicata</i>	8	80	275
Fairway crested— <i>Agropyron cristatum</i>	4	40	685
Standard crested— <i>Agropyron desertorum</i>	5	50	425
Intermediate— <i>Elytrigia intermedia</i> subsp. <i>intermedia</i>	15	150	175
Pubescent— <i>Elytrigia intermedia</i> subsp. <i>barbulata</i>	15	150	180
Siberian— <i>Agropyron fragile</i> subsp. <i>sibiricum</i>	5	50	
Slender— <i>Elymus trachycaulus</i>	7	70	295
Streambank— <i>Elytrigia dasystachya</i>	10	50	370
Tall— <i>Elytrigia elongata</i>	15	150	165
Western— <i>Elymus smithii</i>	10	100	250
Wildrye:			
Basin— <i>Leymus cinereus</i>	8	80	317
Canada— <i>Elymus canadensis</i>	11	110	190
Russian— <i>Psathyrostachys juncea</i>	6	60	360

TABLE 1.—WEIGHT OF WORKING SAMPLE—Continued

Name of seed	Minimum weight for purity analysis (Grams)	Minimum weight for noxious-weed seed examination (Grams)	Approximate number of seeds per gram
Vegetable Seed			
Artichoke— <i>Cynara scolymus</i>	100	500	24
Asparagus— <i>Asparagus officinalis</i>	100	500	25
Asparagusbean— <i>Vigna unguiculata</i> subsp. <i>sesquipedalis</i>	300	500	8
Bean:			
Garden— <i>Phaseolus vulgaris</i>	500	500	4
Lima— <i>Phaseolus lunatus</i>	500	500	2
Runner— <i>Phaseolus coccineus</i>	500	500	1
Beet— <i>Beta vulgaris</i> subsp. <i>vulgaris</i>	50	300	60
Broadbean— <i>Vicia faba</i>	500	500	
Broccoli— <i>Brassica oleracea</i> var. <i>botrytis</i>	10	50	315
Brussels sprouts— <i>Brassica oleracea</i> var. <i>gemmifera</i>	10	50	315
Burdock, great— <i>Arctium lappa</i>	15	150	
Cabbage— <i>Brassica oleracea</i> var. <i>capitata</i>	10	50	315
Cabbage, Chinese— <i>Brassica pekinensis</i>	5	50	635
Cabbage, tronchuda— <i>Brassica oleracea</i> var. <i>costata</i>	10	100	
Cardoon— <i>Cynara cardunculus</i>	100	500	
Carrot— <i>Daucus carota</i> subsp. <i>sativus</i>	3	50	825
Cauliflower— <i>Brassica oleracea</i> var. <i>botrytis</i>	10	50	315
Celeriac— <i>Apium graveolens</i> var. <i>rapaceum</i>	1	25	2,520
Celery— <i>Apium graveolens</i> var. <i>dulce</i>	1	25	2,520
Chard, Swiss— <i>Beta vulgaris</i> subsp. <i>cicla</i>	50	300	60
Chicory— <i>Cichorium intybus</i>	3	50	940
Chives— <i>Allium schoenoprasum</i>	5	50	
Citron— <i>Citrullus lanatus</i> var. <i>citroides</i>	200	500	11
Collards— <i>Brassica oleracea</i> var. <i>acephala</i>	10	50	315
Corn, sweet— <i>Zea mays</i>	500	500	
Cornsalad— <i>Valerianella locusta</i> :			
Vars. Fullhearted and Dark Green Fullhearted	5	50	
All other vars.	10	50	380
Cowpea— <i>Vigna unguiculata</i> subsp. <i>unguiculata</i>	300	500	8
Cress:			
Garden— <i>Lepidium sativum</i>	5	50	425
Upland— <i>Barbarea verna</i>	2	35	1,160
Water— <i>Nasturtium officinale</i>	1	25	5,170
Cucumber— <i>Cucumis sativus</i>	75	500	40
Dandelion— <i>Taraxacum officinale</i>	2	35	1,240
Dill— <i>Anethum graveolens</i>	3	50	800
Eggplant— <i>Solanum melongena</i>	10	50	230
Endive— <i>Cichorium endivia</i>	3	50	940
Gherkin, West India— <i>Cucumis anguria</i>	16	160	153
Kale— <i>Brassica oleracea</i> var. <i>acephala</i>	10	50	315
Kale, Chinese— <i>Brassica oleracea</i> var. <i>alboglabra</i>	10	50	
Kale, Siberian— <i>Brassica napus</i> var. <i>pabularia</i>	8	80	325
Kohlrabi— <i>Brassica oleracea</i> var. <i>gongylodes</i>	10	50	315
Leek— <i>Allium porrum</i>	7	50	395
Lettuce— <i>Lactuca sativa</i>	3	50	890
Melon— <i>Cucumis melo</i>	50	500	45
Mustard, India— <i>Brassica juncea</i>	5	50	625
Mustard, spinach— <i>Brassica pervinidis</i>	5	50	535
Okra— <i>Abelmoschus esculentus</i>	100	500	19
Onion— <i>Allium cepa</i>	7	50	340
Onion, Welsh— <i>Allium fistulosum</i>	10	50	
Pak-choi— <i>Brassica chinensis</i>	5	50	635
Parsley— <i>Petroselinum crispum</i>	5	50	650
Parsnip— <i>Pastinaca sativa</i>	5	50	430
Pea— <i>Pisum sativum</i>	500	500	3
Pepper— <i>Capsicum</i> spp.	15	150	165
Pumpkin— <i>Cucurbita maxima</i> , <i>C. moschata</i> , and <i>C. pepo</i>	500	500	5
Radish— <i>Raphanus sativus</i>	30	300	75
Rhubarb— <i>Rheum rhabarbarum</i>	50	300	60
Rutabaga— <i>Brassica napus</i> var. <i>napobrassica</i>	5	50	430
Sage— <i>Salvia officinalis</i>	25	150	120
Salsify— <i>Tragopogon porrifolius</i>	50	300	65
Savory, summer— <i>Satureja hortensis</i>	2	35	1,750
Sorrel— <i>Rumex acetosa</i>	2	35	1,080
Soybean— <i>Glycine max</i>	500	500	6-13

TABLE 1.—WEIGHT OF WORKING SAMPLE—Continued

Name of seed	Minimum weight for purity analysis (Grams)	Minimum weight for noxious-weed seed examination (Grams)	Approximate number of seeds per gram
Spinach— <i>Spinacia oleracea</i>	25	150	100
Spinach, New Zealand— <i>Tetragonia tetragonioides</i>	200	500	13
Squash— <i>Cucurbita maxima</i> , <i>C. moschata</i> , and <i>C. pepo</i>	200	500	14
Tomato— <i>Lycopersicon esculentum</i>	5	50	405
Tomato, husk— <i>Physalis pubescens</i>	2	35	1,240
Turnip— <i>Brassica rapa</i>	5	50	535
Watermelon— <i>Citrullus lanatus</i> var. <i>lanatus</i>	200	500	11

¹ Rhizomatous derivatives of a johnsongrass x sorghum cross or a johnsongrass x sudangrass cross.

19. Section 201.47 is amended by revising paragraph (e) and adding a new paragraph (f) to read as follows:

§ 201.47 Separation.

* * *

(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 (*Poa pratensis*), Canada bluegrass (*P. compressa*), rough bluegrass (*P. trivialis*), Pensacola variety of bahiagrass (*Paspalum notatum*), orchardgrass (*Dactylis glomerata*), side-oats grama (*Bouteloua curtipendula*), and blue grama (*Bouteloua gracilis*).

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

20. Section 201.47a is amended by revising paragraphs (b)(3), (b)(4), and (g) to read as follows:

§ 201.47a Seed unit.

* * *

(b) * * *

(3) Entire spikelets in bentgrasses and redtop (*Agrostis* spp.); browntop millet (*Brachiaria ramosa*); rice (*Oryza sativa*); panicgrasses, guineagrass, proso millet, and switchgrass (*Panicum* spp.); dallisgrass, bahiagrass, and vaseygrass (*Paspalum* spp.); and foxtail millet (*Setaria italica*). Entire spikelets which may have attached rachis segments, pedicels, and sterile spikelets in bluestems (*Andropogon* spp.); yellow bluestem (*Bothriochloa ischaemum*); bottlebrush-squirreltail (*Elymus elymoides*); little bluestem (*Schizachyrium scoparium*); yellow indiagrass (*Sorghastrum nutans*); and broomcorn, johnsongrass, sorghum, sorghum-sudangrass, sorghum alnum, sorgrass, and sudangrass (*Sorghum* spp.);

(4) Spikelet groups:

(i) Spikelet groups that disarticulate as a unit in galletagrass (*Hilaria jamesii*);

(ii) Spikelet groups that disarticulate as units with attached rachis and

internodes in bluestems (*Andropogon* spp., *Bothriochloa ischaemum*, and *Schizachyrium scoparium*), side-oats grama (*Bouteloua curtipendula*), and yellow indiagrass (*Sorghastrum nutans*);

* * *

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

21. In § 201.48, paragraphs (g)(2), (g)(3), (h), and (i) are revised and a new paragraph (j) is added to read as follows:

§ 201.48 Kind or variety considered pure seed.

* * *

(g) * * *

(2) The Uniform Blowing Procedure described in § 201.51a(a) shall be used to determine classification of florets into pure seed or inert matter for Kentucky bluegrass (*Poa pratensis*), Canada bluegrass (*P. compressa*), rough bluegrass (*P. trivialis*), Pensacola variety of bahiagrass (*Paspalum notatum*), orchardgrass (*Dactylis glomerata*), side-oats grama (*Bouteloua curtipendula*), and blue grama (*Bouteloua gracilis*).

(3) Special purity procedures for Chewings fescue (*Festuca rubra* subsp. *commutata*), red fescue (*F. rubra* subsp. *rubra*), orchardgrass (*Dactylis glomerata*), crested wheatgrass (*Agropyron cristatum* or *A. desertorum*), pubescent wheatgrass (*Elytrigia intermedia* subsp. *barbulata*), intermediate wheatgrass (*Elytrigia intermedia* subsp. *intermedia*), smooth brome (*Bromus inermis*), western wheatgrass (*Elymus smithii*), and tall wheatgrass (*Elytrigia elongata*) are listed in § 201.51a(b).

* * *

(h) Seed units with nematode galls, fungal bodies (i.e. ergot, other sclerotia,

and smut) and spongy or corky caryopses that are entirely enclosed within the seed unit. Refer to § 201.51(c)(1) for inert matter classification.

(i) Seed units of beet (*Beta vulgaris*) and other *Chenopodiaceae*, and New Zealand spinach (*Tetragonia tetragonioides*). Refer to § 201.47a(g) and § 201.51(a)(6) for definitions of seed units and inert matter, respectively.

(j) Seed units of forage kochia (*Kochia prostrata*) that are retained in a 1 mm opening square-hole sieve, when shaken for 30 seconds. For inert matter, refer to § 201.51(a)(7).

22. Section 201.49 is revised to read as follows:

§ 201.49 Other crop seed.

(a) Seeds of plants grown as crops (other than the kind(s) and variety(ies) included in the pure seed) shall be considered other crop seeds, unless recognized as weed seeds by applicable laws, or regulations, or by general usage. All interpretations and definitions for "pure seed" in § 201.48 shall also apply in determining whether seeds are "other crop seed" or "inert matter" with the following two exceptions which may be applied as acceptable alternatives:

(1) Uniform Blowing Procedure in § 201.51a(a) for kinds listed in § 201.47(e) may be disregarded. If disregarded, all seed units (as defined in § 201.47a) for these kinds found in the working sample shall be manually separated into pure seed and inert matter. Only units containing at least one caryopsis with some degree of endosperm development which can be detected either by slight pressure or by examination over light are considered other crop seed.

(2) Multiple Unit Procedure in § 201.51a(b) for kinds listed in § 201.48(g)(3) may be disregarded. If disregarded, all multiple units and single units (as defined in § 201.51a(b)) for these kinds found in the working

sample shall be manually separated into single florets. Each floret containing a caryopsis with some degree of endosperm development, which can be detected either by slight pressure or examination over light, is considered other crop seed. Empty florets and glumes, if present, are considered inert matter. Refer to § 201.51(a)(4).

(b) [Reserved]

23. Section 201.50 paragraph (c) is revised to read as follows:

§ 201.50 Weed seed.

* * * * *

(c) Wild onion and wild garlic (*Allium* spp.) bulblets that have any part of the husk remaining and are not damaged at the basal end are considered weed seeds regardless of size. Bulblets that are completely devoid of husk, and are not damaged at the basal end, and are retained by a 1/13th-inch (1.9 mm) round-hole sieve are considered weed seeds. For wild onion and wild garlic (*Allium* spp.) bulblets classed as inert matter, refer to § 201.51(b)(5).

24. Section 201.51 paragraphs (a)(5), (a)(6), and (c)(2) are revised and new paragraphs (a)(7), (a)(8), and (c)(3) are added to read as follows:

§ 201.51 Inert matter.

(a) * * *

(5) Seed units with nematode galls or fungal bodies (smut, ergot, and other sclerotia) that are not entirely enclosed within the seed unit. Refer to § 201.48(h) for pure seed classification.

(6) Broken seed units of *Chenopodiaceae* and fruit portions or fragments of monogerm beets (*Beta vulgaris*), New Zealand spinach (*Tetragonia tetragonioides*), buffalograss (*Buchloe dactyloides*), and families in which the seed unit is a dry indehiscent one-seeded fruit that visibly do not contain a seed. Refer to § 201.48(f), (g)(1), (i), and (j) for pure seed classification.

(7) Seed units of forage kochia (*Kochia prostrata*) that pass through a 1 mm opening, square-hole sieve, when shaken for 30 seconds.

(8) The thin pericarp (fruit wall), if present on seeds of northern sweetvetch (*Hedysarum boreale*).

* * * * *

(c) * * *

(2) Soil particles, sand, stone, chaff, stems, leaves, flowers, loose coating material, and any other foreign material.

(3) Coating material removed from coated seed by washing. Refer to § 201.51b(c).

25. Section 201.51a is revised to read as follows:

§ 201.51a Special procedures for purity analysis.

(a) The Uniform Blowing Procedure shall be used for the separation of pure seed and inert matter in the following: Kentucky bluegrass (*Poa pratensis*); Canada bluegrass (*P. compressa*); rough bluegrass (*P. trivialis*); Pensacola variety of bahiagrass (*Paspalum notatum*); orchardgrass (*Dactylis glomerata*); blue grama (*Bouteloua gracilis*); and side-oats grama (*Bouteloua curtipendula*). When kinds listed in this section appear in mixtures they shall be separated from other kinds before using the Uniform Blowing Procedure. To determine the blowing point for these procedures, individual calibration samples for Kentucky bluegrass, orchardgrass, and Pensacola variety of bahiagrass shall be used. The calibration sample for Kentucky bluegrass shall be used for Canada bluegrass and rough bluegrass. The blowing point for Canada bluegrass shall be the same as the blowing point determined for Kentucky bluegrass. The blowing point for rough bluegrass shall be a factor of 0.82 (82 percent) of the blowing point determined for Kentucky bluegrass. The 0.82 factor is restricted to the General-type seed blower. The blowing point for blue grama shall be a factor of 1.157 of the blowing point determined for Kentucky bluegrass. Before blowing, extraneous material that will interfere with the blowing process shall be removed. The sample to be blown shall be divided into four approximately equal parts and each blown separately. The 1.157 factor is restricted to the General-type seed blower. The blowing point for side-oats grama shall be a factor of 1.480 of the blowing point determined for Kentucky bluegrass. Before blowing, extraneous material that will interfere with the blowing process shall be removed. The sample to be blown shall be divided into four approximately equal parts and each part blown separately. The 1.480 factor is restricted to the General-type seed blower. Calibration samples and instructions are available through the Seed Regulatory and Testing Branch, LS, AMS, Building 306, room 213, Beltsville, Maryland 20705. The calibration samples shall be used to establish a blowing point prior to proceeding with the separation of pure seed and inert matter for these kinds. After completing the blowing procedure, remove all weed and other

crop seeds from the light portion and add these to the weed or other crop separation, as appropriate. The remainder of the light portion shall be considered inert matter. Remove all weed and other crop seeds and other inert matter (stems, leaves, dirt) from the heavy portion and add these to the weed seed, other crop seed, or inert matter separations, as appropriate. The remainder of the heavy portion shall be considered pure seed. With orchardgrass, after the blowing, proceed with the multiple unit procedure.

(b) The Multiple Unit Procedure of determining the pure seed fraction shall be used only for the kinds included in the following table when multiple units are present in a sample. These methods are applicable to the kinds listed when they occur in mixtures or singly. Any single unit without attached structures, as described below, shall be considered a single unit. Multiple units and single units for the kinds listed shall remain intact. The attached glumes and fertile or sterile florets shall not be removed from the fertile floret.

(1) A multiple unit is a seed unit that includes one or more structures as follows (the length of the awn shall be disregarded when determining the length of a fertile floret or an attached structure):

(i) An attached sterile or fertile floret that extends to or beyond the tip of a fertile floret;

(ii) A fertile floret with basally attached glume, glumes, or basally attached sterile floret of any length;

(iii) A fertile floret with two or more attached sterile and/or fertile florets of any length.

(2) Procedure for determination of multiple units:

(i) For the single kind: determine the percentage of single units present, based on the total weight of single units and multiple units. Apply the appropriate factor, as determined from the following table, to the weight of the multiple units and add that portion of the multiple unit weight to the weight of the single units. The remaining multiple unit weight shall be added to the weight of the inert matter.

(ii) For mixtures that include one or more of the kinds in the following table, determine the percentage of single units, based on the total weight of single units and multiple units, for each kind. Apply the appropriate factor as determined from the following table, to the weight of multiple units of each kind.

TABLE OF FACTORS TO APPLY TO MULTIPLE UNITS^a

Percent of single units of each kind	Chewings fescue	Red fescue	Orchard-grass	Crested wheat-grass ^b	Pubescent wheat-grass	Intermediate wheat-grass	Tall wheat-grass ^c	Western wheat-grass ^c	Smooth brome
50 or below	91	80	80	70	66	72			72
50.01-55.00	91	81	81	72	67	74			74
55.01-60.00	91	82	81	73	67	75			75
60.01-65.00	91	83	82	74	67	76			76
65.01-70.00	91	84	82	75	68	77		60	78
70.01-75.00	91	86	82	76	68	78		66	79
75.01-80.00	91	87	83	77	69	79	50	67	81
80.01-85.00	91	88	83	78	69	80	55	68	82
85.01-90.00	91	89	83	79	69	81	65	70	83
90.01-100.00	91	90	84	79	70	82	70	74	85

^a The factors represent the percentages of the multiple unit weights which are considered pure seed. The remaining percentage is regarded as inert matter.

^b Includes both *Agropyron cristatum* and *A. desertorum*.

^c Dashes in table indicate that no factors are available at the levels shown.

26. New § 201.51b is added to read as follows:

§ 201.51b Purity procedures for coated seed.

(a) The working sample for coated seed is obtained as described in § 201.46(d) (1) and (2), and weighed in grams to four significant figures.

(b) Any loose coating material shall be sieved, weighed, and included with the inert matter component.

(c) Coating material is removed from the seed by washing with water or other solvents such as, but not limited to, diluted sodium hydroxide (NaOH). Use of fine mesh sieves is recommended for this procedure, and stirring or shaking the coated units may be necessary to obtain de-coated seed.

(d) Spread de-coated seed on blotters or filter paper in a shallow container. Air dry overnight at room temperature.

(e) Separation of component parts:

(1) Kind or variety considered pure seed.

(2) Other crop seed.

(3) Inert matter.

(4) Weed seed.

(f) The de-coated seed shall be separated into four components in accordance with §§ 201.48 through 201.51. Sections 201.51a (a) and (b) shall not be followed. The weight of the coating material is determined by subtracting the sum of the weights of the other four components from the original weight of the working sample. The percentage of coating material shall be included with the inert matter percentage. Calculate percentages of all components based on the original weight of the working sample (see paragraph (a) of this section).

27. Section 201.52 is revised to read as follows:

§ 201.52 Noxious-weed seeds.

(a) The determination of the number of seeds, bulblets, or tubers of individual noxious weeds present per unit weight should be made on at least the minimum quantities listed in § 201.46 Table 1: *Provided*, That if the following indicated numbers of a single kind of seed, bulblet, or tuber are found in the pure seed analysis (or noxious-weed seed examination of a like amount) the occurrence of that kind in the remainder of the bulk examined for noxious-weed seeds need not be noted: 1/2-gram purity working sample, 16 or more seeds; 1-gram purity working sample, 23 or more seeds; 2-gram purity working sample or larger, 30 or more seeds. The seeds per unit weight shall be based on the number of single seeds. The number of individual seeds shall be determined in burs of sandbur (*Cenchrus* spp.) and cocklebur (*Xanthium* spp.); in capsules of dodder (*Cuscuta* spp.); in berries of groundcherry, horsenettle, and nightshade (*Solanaceae*); and in the fruits of other noxious weeds that contain more than one seed. Refer to §§ 201.50 and 201.51(b)(4) for the classification of weed seeds and inert matter, respectively.

(b) A noxious-weed seed examination of coated seed samples shall be made by examining approximately 25,000 units obtained in accordance with § 201.46(d) and which have been de-coated by the method described in § 201.51b(c).

28. Section 201.54 is revised to read as follows:

§ 201.54 Number of seeds for germination.

At least 400 seeds shall be tested for germination except that in mixtures 200 seeds of each of those kinds present to the extent of 15 percent or less may be used in lieu of 400, in which case an additional 2 percent is to be added to

the regular germination tolerances. The seeds shall be tested in replicate tests of 100 seeds or less.

29. In § 201.56, paragraphs (a), (b), (c), and (e) are revised to read as follows:

§ 201.56 Interpretation.

(a) A seed shall be considered to have germinated when it has developed those essential structures which, for the kind of seed under consideration, are indicative of its ability to produce a normal plant under favorable conditions. In general, the following are considered to be essential structures necessary for the continued development of the seedling (although some structures may not be visible in all kinds at the time of seedling evaluation). Seedlings possessing these essential structures are referred to as normal seedlings:

(1) Root system, consisting of primary, secondary, seminal, or adventitious roots.

(2) Hypocotyl.

(3) Epicotyl.

(4) Cotyledon(s).

(5) Terminal bud.

(6) Primary leaves.

(7) Coleoptile and mesocotyl (in the grass family).

(b) Abnormal seedlings consist of those with defects to these structures, as described in the abnormal seedling descriptions, and are judged to be incapable of continued growth.

(c) The seedling descriptions assume that test conditions were adequate to allow proper assessment of the essential seedling structures.

* * * * *

(e) Standard guides for seedling interpretation shall include the following descriptions for specific kinds and groups. The "General Description" for each group of crop kinds describes a seedling without defects. While such

a seedling is clearly normal, seedlings with some defects may also be classified as normal, provided the defects do not impair the functioning of the structure. The "Abnormal seedling description" is to be followed when judging the severity of defects.

30. Sections 201.56-1 through 201.56-12 are revised to read as follows:

§ 201.56-1 Goosefoot family, Chenopodiaceae, and Carpetweed family, Aizoaceae.

Kinds of seed: Beet, Swiss chard, fourwing saltbush, spinach, New Zealand spinach, and forage kochia.

(a) General description.

(i) Germination habit: Epigeal dicot.

(2) Food reserves: Leaf-like cotyledons and perisperm.

(3) Shoot system: The hypocotyl elongates carrying the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.

(4) Root system: A primary root; secondary roots may develop within the test period.

(5) Seedling: Frequent counts should be made on multigerm beet since the growing seedlings will separate from the cluster making it difficult to identify the source. Any cluster which produces at least one normal seedling is classified as normal; only one normal seedling per cluster is to be counted (see § 201.56(d)). Toxic substances from the clusters of beet and Swiss chard may cause discoloring of the hypocotyl and/or root. Seedlings which are slightly discolored are to be classified as normal; however, if there is excessive discoloration, retest by the method in § 201.58(b)(3).

(b) Abnormal seedling description.

(1) Cotyledons:

(i) Less than half of the original cotyledon tissue remaining attached.

(ii) Less than half of the original cotyledon tissue free of necrosis or decay.

(2) Epicotyl:

(i) Missing. (May be assumed to be present if cotyledons are intact.)

(3) Hypocotyl:

(i) Deep open cracks extending into the conducting tissue.

(ii) Malformed, such as markedly shortened, curled, or thickened.

(iii) Watery.

(4) Root:

(i) None.

(ii) Weak, stubby, or missing primary root with weak secondary or adventitious roots.

(iii) For discolored roots of beet and Swiss chard, see § 201.58(b)(3).

(5) Seedling:

(i) One or more essential structures impaired as a result of decay from

primary infection. (For discolored seedlings of beet and Swiss chard, see § 201.58(b)(3).)

(ii) Albino.

§ 201.56-2 Sunflower family, Asteraceae (Compositae).

Kinds of seed: Artichoke, cardoon, chicory, dandelion, endive, great burdock, lettuce, safflower, salsify, Louisiana sagewort, and sunflower.

(a) Lettuce.

(1) General description.

(i) Germination habit: Epigeal dicot.

(ii) Food reserves: Cotyledons which expand and become thin, leaf-like, and photosynthetic. The cotyledons of some varieties develop elongated petioles.

(iii) Shoot system: The hypocotyl elongates and carries the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.

(iv) Root system: A long primary root.

(v) Seedling: The interpretations of lettuce seedlings are made only at the end of the test period.

(2) Abnormal seedling description.

(i) Cotyledons:

(A) Less than half of the original cotyledon tissue remaining attached.

(B) Less than half of the original cotyledon tissue free of necrosis or decay. (Remove attached seed coat for evaluation of cotyledons. Physiological necrosis is manifested by discolored areas on the cotyledons and should not be confused with natural pigmentation of some lettuce varieties.)

(ii) Epicotyl:

(A) Missing. (May be assumed to be present if cotyledons are intact.)

(B) Any degree of necrosis or decay.

(iii) Hypocotyl:

(A) Deep open cracks extending into the conducting tissue.

(B) Severely twisted or grainy.

(C) Watery.

(iv) Root:

(A) Weak, stubby, or missing primary root. (Secondary roots will not compensate for a defective root.)

(B) Primary root tip blunt, swollen, or discolored. (Toxic materials in the substratum may cause short, blunt roots; see § 201.58(a)(9).)

(C) Primary root with splits or lesions.

(v) Seedling:

(A) Swollen cotyledons associated with extremely short or vestigial hypocotyl and root.

(B) One or more essential structures impaired as a result of decay from primary infection.

(C) Albino.

(b) Other kinds in the sunflower family: Artichoke, cardoon, chicory, dandelion, endive, great burdock, safflower, salsify, Louisiana sagewort, and sunflower.

(1) General description.

(i) Germination habit: Epigeal dicot.

(ii) Food reserves: Cotyledons which expand and become thin, leaf-like, and photosynthetic.

(iii) Shoot system: The hypocotyl elongates and carries the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.

(iv) Root system: A long primary root with secondary roots usually developing within the test period.

(2) Abnormal seedling description.

(i) Cotyledons:

(A) Less than half of the original cotyledon tissue remaining attached.

(B) Less than half of the original cotyledon tissue free of necrosis or decay. (Remove any attached seed coats at the end of the test period for evaluation of cotyledons.)

(ii) Epicotyl:

(A) Missing. (May be assumed to be present if cotyledons are intact.)

(iii) Hypocotyl:

(A) Deep open cracks extending into the conducting tissue.

(B) Malformed, such as markedly shortened, curled, or thickened.

(C) Watery.

(iv) Root:

(A) None.

(B) Weak, stubby, or missing primary root with weak secondary or adventitious roots. (Seedlings with roots bound within tough seed coats should be left in the test until the final count to allow for development.)

(v) Seedling:

(A) One or more essential structures impaired as a result of decay from primary infection.

(B) Albino.

§ 201.56-3 Mustard family, Brassicaceae (Cruciferae).

Kinds of seed: Broccoli, brussels sprouts, cabbage, Chinese cabbage, cauliflower, collards, garden cress, upland cress, water cress, kale, Chinese kale, Siberian kale, kohlrabi, mustard, pak-choi, radish, rape, rutabaga, and turnip.

(a) General description.

(1) Germination habit: Epigeal dicot.

(2) Food reserves: Cotyledons which expand and become thin, leaf-like and photosynthetic. In Brassica, Sinapis, and Raphanus, the cotyledons are bilobed and folded, with the outer cotyledon being larger than the inner.

(3) Shoot system: The hypocotyl elongates and carries the cotyledons above the soil surface; the epicotyl usually does not show any development within the test period.

(4) Root system: A long primary root.

(b) Abnormal seedling description.

(1) Cotyledons:

- (i) Decayed at point of attachment.
- (ii) Less than half of the original cotyledon tissue remaining attached.
- (iii) Less than half of the original cotyledon tissue free of necrosis or decay.

(2) Epicotyl:

- (i) Missing. (May be assumed to be present if the cotyledons are intact.)

(3) Hypocotyl:

- (i) Deep open cracks extending into the conducting tissue.

- (ii) Malformed, such as markedly shortened, curled, or thickened.

(iii) Watery.

(4) Root:

- (i) Weak, stubby, or missing primary root. (Secondary roots will not compensate for a defective root.)

(5) Seedling:

- (i) One or more essential structures impaired as result of decay from primary infection.

(ii) Albino.

§ 201.56-4 Cucurbit family, Cucurbitaceae.

Kinds of seed: Citron, cucumber, West India gherkin, melon, pumpkin, squash, and watermelon.

(a) General description.

(1) Germination habit: Epigeal dicot.

(2) Food reserves: Cotyledons which are large and fleshy; they expand, become photosynthetic, and usually persist beyond the seedling stage.

(3) Shoot system: The hypocotyl elongates and the cotyledons are pulled free of the seed coat, which often adheres to a peg-like appendage at the base of the hypocotyl. The epicotyl usually does not show any development within the test period.

(4) Root system: A long primary root with numerous secondary roots.

(b) Abnormal seedling description.

(1) Cotyledons:

- (i) Less than half of the original cotyledon tissue remaining attached.
- (ii) Less than half of the original cotyledon tissue free of necrosis or decay. (Remove any attached seed coats at the end of the test period for evaluation of cotyledons.)

(2) Epicotyl:

- (i) Missing. (May be assumed to be present if the cotyledons are intact.)

(3) Hypocotyl:

- (i) Deep open cracks extending into the conducting tissue.

- (ii) Malformed, such as markedly shortened, curled, or thickened.

(4) Root:

- (i) None.
- (ii) Weak, stubby, or missing primary root, with less than two strong secondary or adventitious roots.

(5) Seedling:

- (i) One or more essential structures impaired as a result of decay from primary infection.

(ii) Albino.

§ 201.56-5 Grass family, Poaceae (Gramineae).

Kinds of seed: Bentgrasses, bluegrasses, bluestems, bromes, cereals, fescues, millets, orchardgrass, redtop, ryegrasses, sorghums, timothy, turf timothy, wheatgrasses, and all other grasses listed in § 201.2(h).

(a) Cereals: Agroticum, barley, oat, rye, mountain rye, wheat, wheat x agroticum, and triticale.

(1) General description.

(i) Germination habit: Hypogeal monocot.

(ii) Food reserves: Endosperm. The scutellum is a modified cotyledon which is in direct contact with the endosperm. During germination the scutellum remains inside the seed to absorb nutrients from the endosperm and transfer them to the growing seedling.

(iii) Shoot system: The shoot consists of the coleoptile, leaves enclosed in the coleoptile, and the mesocotyl. The coleoptile elongates and pushes through the soil surface; the mesocotyl may elongate depending on the variety and light intensity, but may not be discernible. Splitting of the coleoptile occurs naturally as a result of growth and emergence of the leaves.

(iv) Root system: A primary root and seminal roots. The primary root is not readily distinguishable from the seminal roots; therefore, all roots arising from the seed are referred to as seminal roots.

(2) Abnormal seedling description.

(i) Shoot:

(A) Missing.

(B) No leaf.

(C) Leaf extending less than halfway up into the coleoptile.

(D) Leaf extensively shredded or split.

(E) Spindly or watery.

(F) Grainy, spirally twisted, shredded, and weak.

(G) Deep open cracks in the mesocotyl.

(ii) Root:

(A) Less than one strong seminal root.

(iii) Seedling:

(A) Decayed at point of attachment to the scutellum.

(B) One or more essential structures impaired as a result of decay from primary infection.

(C) Albino.

(D) Endosperm obviously detached from the root-shoot axis (e.g. kernel lifted away by the growing shoot).

(E) Thickened and shortened roots and/or shoots.

(b) Rice.

(1) General description.

(i) Germination habit: Hypogeal monocot.

(ii) Food reserves: Endosperm. The scutellum is a modified cotyledon which is in direct contact with the endosperm. During germination the scutellum remains inside the seed to absorb nutrients from the endosperm and transfer them to the growing seedling.

(iii) Shoot system: The shoot consists of the coleoptile, leaves enclosed in the coleoptile, and the mesocotyl. The coleoptile elongates and pushes through the soil or water surface; the mesocotyl may elongate depending on the variety and environmental conditions. Splitting of the coleoptile occurs naturally as a result of growth and emergence of the leaves.

(iv) Root system: Strong primary root and seminal roots. Adventitious roots may start to develop from the mesocotyl or coleoptilar node within the test period. If the mesocotyl elongates, the adventitious roots will be carried above the grain.

(2) Abnormal seedling description.

(i) Shoot:

(A) Missing.

(B) No leaf.

(C) Leaf extending less than halfway up into the coleoptile.

(D) Leaf extensively shredded or split.

(E) Spindly or watery.

(F) Deep open cracks in the mesocotyl.

(ii) Root:

(A) None.

(B) Weak primary root with insufficient seminal or adventitious roots.

(iii) Seedling:

(A) Decayed at point of attachment to the scutellum.

(B) One or more essential structures impaired as a result of decay from primary infection.

(C) Albino.

(c) Corn.

(1) General description.

(i) Germination habit: Hypogeal monocot.

(ii) Food reserves: Endosperm. The scutellum is a modified cotyledon which is in direct contact with the endosperm. During germination the scutellum remains inside the seed to absorb nutrients from the endosperm and transfer them to the growing seedling.

(iii) Shoot system: The shoot consists of the coleoptile, leaves enclosed in the coleoptile, and the mesocotyl. The coleoptile elongates and pushes through

the soil surface. The mesocotyl usually elongates. Splitting of the coleoptile occurs naturally as a result of growth and emergence of the leaves. A twisted and curled shoot bound by a tough seed coat may be considered normal, provided the shoot is not decayed.

(iv) Root system: Strong primary root and seminal roots. Adventitious roots may start to develop from the mesocotyl or coleoptilar node within the test period.

(2) Abnormal seedling description.

(i) Shoot:

(A) Missing.

(B) Thickened and shortened.

(C) No leaf.

(D) Leaf extending less than halfway up into the coleoptile.

(E) Leaf extensively shredded or split.

(F) Spindly or watery.

(G) Deep open cracks in the mesocotyl.

(ii) Root:

(A) None.

(B) Weak, stubby, or missing primary root with weak seminal roots.

(iii) Seedling:

(A) Decayed at point of attachment to the scutellum.

(B) One or more essential structures impaired as a result of decay from primary infection.

(C) Albino.

(d) Johnsongrass, sorghum, sorgrass, sorghum alnum, sudangrass, and sorghum-sudangrass.

(1) General description.

(i) Germination habit: Hypogeal monocot.

(ii) Food reserves: Endosperm. The scutellum is a modified cotyledon which is in direct contact with endosperm. During germination the scutellum remains inside the seed to absorb nutrients from the endosperm and transfer them to the growing seedling.

(iii) Shoot system: The shoot consists of the coleoptile, leaves enclosed in the coleoptile, and the mesocotyl. The coleoptile elongates and pushes through the soil surface; the mesocotyl usually elongates. Areas of natural, reddish pigmentation may develop on the mesocotyl and coleoptile. Splitting of the coleoptile occurs naturally as a result of growth and emergence of the leaves.

(iv) Root system: A long primary root, usually with secondary roots developing within the test period. Adventitious roots may start to develop from the mesocotyl or coleoptilar node within the test period. Areas of natural, reddish pigmentation may develop on the root.

(2) Abnormal seedling description.

(i) Shoot:

(A) Missing.

(B) Thickened and shortened.

(C) No leaf.

(D) Leaf extending less than halfway up into the coleoptile.

(E) Leaf extensively shredded or split.

(F) Spindly or watery.

(G) Deep open cracks in the mesocotyl.

(ii) Root:

(A) None.

(B) Damaged or weak primary root with less than two strong secondary roots.

(iii) Seedling:

(A) Decayed at point of attachment to the scutellum.

(B) One or more essential structures impaired as a result of decay from primary infection.

(C) Albino.

(e) Grasses and millets.

(1) General description.

(i) Germination habit: Hypogeal monocot.

(ii) Food reserves: Endosperm. The scutellum is a modified cotyledon which is in direct contact with the endosperm. During germination the scutellum remains inside the seed to absorb nutrients from the endosperm and transfer them to the growing seedling.

(iii) Shoot system: The shoot consists of the coleoptile, leaves enclosed in the coleoptile, and the mesocotyl. The coleoptile elongates and pushes through the soil surface. The mesocotyl may or may not elongate significantly, depending on the kind. Splitting of the coleoptile occurs naturally as a result of growth and emergence of the leaves.

(iv) Root system: A long primary root. Secondary or adventitious roots may develop within the test period. In certain kinds (e.g. bermudagrass) the primary root may not be readily visible because it is coiled inside the tightly fitting lemma and palea. At the time of evaluation, the glumes should be removed and the root observed. Such seedlings are classified as normal if the primary root has developed. For Kentucky bluegrass, a primary root $\frac{1}{16}$ inch (1.6 mm) or more in length is classified as normal.

(2) Abnormal seedling description.

(i) Shoot:

(A) Missing.

(B) Short, thick, and grainy.

(C) No leaf.

(D) Leaf extending less than halfway up into the coleoptile.

(E) Leaf extensively shredded or split.

(F) Spindly or watery.

(G) Deep open cracks in the mesocotyl.

(ii) Root:

(A) Missing or defective primary root even if other roots are present.

(B) Spindly, stubby, or watery primary root.

(iii) Seedling:

(A) Decayed at point of attachment to the scutellum.

(B) One or more essential structures impaired as a result of decay from primary infection.

(C) Albino.

(D) Yellow (when grown in light).

(E) Endosperm obviously detached from the root-shoot axis (e.g. kernel lifted away by the growing shoot).

§ 201.56-6 Legume or pea family, Fabaceae (Leguminosae).

Kinds of seed: Alfalfa, alcyoclover, asparagusbean, beans (*Phaseolus* spp.), Florida beggarweed, black medic, broadbean, burclovers, buttonclover, chickpea, clovers (*Trifolium* spp.), cowpea, crotalaria, crownvetch, guar, hairy indigo, kudzu, lentil, lespedeza, lupines, northern sweetvetch, peas, peanut, roughpea, sainfoin, sesbania, sourclover, soybean, sweetclovers, trefoils, velvetbean, and vetches.

(a) Field bean, garden bean, lima bean, mung bean, asparagusbean, and cowpea.

(1) General description.

(i) Germination habit: Epigeal dicot.

(ii) Food reserves: Cotyledons which are large and fleshy.

(iii) Shoot system: The hypocotyl elongates and carries the cotyledons above the soil surface. The epicotyl elongates, causing the terminal bud to emerge from between the cotyledons; the primary leaves expand rapidly.

(iv) Root system: A long primary root with secondary roots.

(2) Abnormal seedling description.

(i) Cotyledons:

(A) For garden bean (*Phaseolus vulgaris* in part), remove any attached seed coats at the end of the test period for evaluation of cotyledons:

(1) Less than half of the original cotyledon tissue remaining attached.

(2) Less than half of the original cotyledon tissue free of necrosis or decay.

(B) All other kinds:

(1) Both missing and the seedling generally weak.

(ii) Epicotyl:

(A) Missing.

(B) Deep open cracks.

(C) Malformed, such as markedly curled or thickened.

(D) Less than one primary leaf.

(E) Primary leaves too small in proportion to the rest of the seedling, usually associated with visible defects of, or damage to, the main stem of the epicotyl.

(F) Terminal bud missing or damaged. (If a few seedlings with total or partial

decay to the epicotyl are found, they may be classified as normal, provided the hypocotyl and root are normal. The epicotyl on such seedlings usually does not decay when grown in a fairly dry environment and exposed to light. A retest, preferably in soil or sand, will aid in interpretation of such seedlings.)

(iii) Hypocotyl:

(A) Deep open cracks extending into the conducting tissue. (A healed break, sometimes referred to as a "knee," is considered normal.)

(B) Malformed, such as markedly shortened, curled, or thickened. (Hypocotyl stunting or curling may be caused by seedling orientation or constriction on or in the substratum.) (Hypocotyl collar rot is the breakdown of hypocotyl tissue initially characterized by a watery appearance and collapse of the hypocotyl below the cotyledonary node. The area later becomes discolored, shrivelled, and necrotic. The condition is caused by insufficient calcium available to the seedling. If hypocotyl collar rot is observed on seedlings of garden bean, the sample involved shall be retested in accordance with § 201.58(b)(12).)

(iv) Root:

(A) None.

(B) Weak, stubby, or missing primary root with weak secondary or adventitious roots. (A root bound within a tough seed coat is considered normal.)

(v) Seedling:

(A) One or more essential structures impaired as the result of decay from primary infection. (Secondary infection is common in towel and blotter tests. Some pathogens, such as *Fusarium*, *Phomopsis*, and *Rhizoctonia*, can spread through the substratum and infect seedlings some distance away from the primary source. Seedlings with secondary infection are to be classified as normal. A retest in sand or soil may be advisable.)

(B) Albino.

(b) Adzuki bean, broadbean, chickpea, field pea, lentil, pea, rough pea, runner bean, velvetbean, and vetches.

(1) General description.

(i) Germination habit: Hypogeal dicot.

(ii) Food reserves: Cotyledons which are large and fleshy, and remain enclosed within the seed coat beneath the soil surface. They are usually not photosynthetic.

(iii) Shoot system: The epicotyl elongates and carries the terminal bud and primary leaves above the soil surface. The stem bears one or more scale leaves and, prior to emergence, is arched near the apex, causing the terminal bud to be pulled through the soil; after emergence, the stem straightens. For practical purposes, the

hypocotyl is not discernible and is not an evaluation factor. Buds in the axils of each cotyledon and scale leaf usually remain dormant unless the terminal bud is seriously damaged. In this case, one or more axillary buds may start to develop into a shoot. If the axillary shoot is well-developed, it may be considered normal.

(iv) Root system: A long primary root with secondary roots.

(2) Abnormal seedling description.

(i) Cotyledons:

(A) Less than half of the original tissue remaining attached.

(B) Less than half of the original tissue free of necrosis or decay.

(ii) Epicotyl:

(A) Missing.

(B) Less than one primary leaf.

(C) Malformed such as markedly shortened, curled, or thickened.

(D) Severely damaged (e.g. terminal bud missing or damaged) with only a weak shoot developing from the axil of a cotyledon or scale leaf.

(E) Two weak and spindly shoots.

(F) Deep open cracks extending into the conducting tissue.

(iii) Root:

(A) None.

(B) Weak, stubby, or missing primary root with weak secondary roots.

(iv) Seedlings:

(A) One or more essential structures impaired as a result of decay from primary infection. (Secondary infection is common in towel and blotter tests. Some pathogens can spread through the substratum and infect seedlings some distance away from the primary source. Seedlings with secondary infection are classified as normal. A retest in sand or soil may be advisable.)

(B) Albino.

(c) Soybean and lupine.

(1) General description.

(i) Germination habit: Epigeal dicot.

(ii) Food reserves: Cotyledons, which are large and fleshy; they expand and become photosynthetic.

(iii) Shoot system: The hypocotyl elongates and carries the cotyledons above the soil surface. The primary leaves usually increase in size and the epicotyl may elongate within the test period.

(iv) Root system: A long primary root with secondary roots.

(2) Abnormal seedling description.

(i) Cotyledons.

(A) Less than half of the original cotyledon tissue remaining attached.

(B) Less than half of the original cotyledon tissue free of necrosis or decay.

(ii) Epicotyl.

(A) Missing.

(B) Less than one primary leaf.

(C) Deep open cracks.

(D) Terminal bud damaged, missing, or decayed. (If a few seedlings with partial decay of the epicotyl are found they may be classified as normal, provided the hypocotyl and root are normal. The epicotyl on such seedlings usually does not decay when grown in a fairly dry environment and is exposed to light. A retest, preferably in soil or sand, will aid in interpretation of such seedlings.)

(iii) Hypocotyl:

(A) Deep open cracks extending into the conducting tissue. (Adventitious roots may occur at the site of injury, particularly on the hypocotyl and near the base of the cotyledons. The seedling is classified as normal if the injury is healed over and other essential structures are normal.)

(B) Malformed, such as markedly shortened, curled, or thickened. (Hypocotyl development is slow until the roots start functioning. Caution should be exercised to ensure slow seedlings are not classified as abnormal. Hypocotyl stunting or curling also may be caused by seedling orientation or constriction on or in the substratum.)

(iv) Root:

(A) None.

(B) Weak, stubby, or missing primary root with weak secondary or adventitious roots. (Roots of seedlings on "Kimpak" with insufficient moisture may not become established and hypocotyl elongation may appear to be abnormal. There may be curling of the root and hypocotyl. When a number of seedlings are observed with this condition, the sample should be retested.)

(v) Seedlings:

(A) One or more essential structures impaired as a result of decay from primary infection. (Secondary infection is common in towel and blotter tests. Some pathogens, such as *Fusarium*, *Phomopsis*, and *Rhizoctonia*, can spread through the substratum and infect seedlings some distance away from the primary source. Seedlings with secondary infection are to be classified as normal. A retest in sand or soil may be advisable.)

(B) Albino.

(d) Peanut.

(1) General description.

(i) Germination habit: Epigeal dicot.

(ii) Food reserves: Cotyledons, which are large and fleshy.

(iii) Shoot system: The cotyledons are carried to the soil surface by the hypocotyl which is very thick, narrowing abruptly at the root. Elongation of the hypocotyl stops when the epicotyl is exposed to light at the soil surface. The primary leaves are

compound and usually expand during the test period.

(iv) Root system: A long primary root with secondary roots. Adventitious roots develop from the base of the hypocotyl if the primary root is damaged.

(2) Abnormal seedling description.

(i) Cotyledons:

(A) Less than half of the original cotyledon tissue remaining attached.

(B) Less than half of the original cotyledon tissue free of necrosis or decay.

(ii) Epicotyl:

(A) Missing.

(B) Less than one primary leaf.

(C) Deep open cracks.

(D) Terminal bud damaged, missing, or decayed.

(iii) Hypocotyl:

(A) Deep open cracks extending into the conducting tissue.

(B) Malformed, such as markedly shortened or curled. (Hypocotyls remain somewhat thickened and may appear to be stunted. Light, depth of planting, and substratum moisture all contribute to the length of the hypocotyl. Hypocotyl stunting or curling may be caused by seedling orientation or constriction in the substratum. Seedlings planted in a soil test with the radicle too close to the surface may send roots above the soil and appear to exhibit negative geotropism and a distorted, U-shaped hypocotyl.)

(iv) Root:

(A) None.

(B) Weak, stubby, or missing primary root with weak secondary or adventitious roots.

(v) Seedling:

(A) One or more essential structures impaired as a result of primary infection.

(B) Albino.

(e) Alfalfa, alyceclover, Florida beggarweed, black medic, burclovers, buttonclover, milkvetch, clovers, crotalaris, crownvetch, guar, hairy indigo, kudzu, lespedezas, northern sweetvetch, sainfoin, sesbania, sourclover, sweetclovers, and trefoils.

(1) General description.

(i) Germination habit: Epigeal dicot.

(ii) Food reserve: Cotyledons, which are small and fleshy; they expand and become photosynthetic. The cotyledons of sub clover develop elongated petioles.

(iii) Shoot system: The hypocotyl elongates and carries the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.

(iv) Root system: A long, tapering primary root, usually with root hairs. Secondary roots may or may not

develop within the test period, depending on the kind.

(2) Abnormal seedling description.

(i) Cotyledons:

(A) Less than half of the original cotyledon tissue remaining attached. (Breaks at the point of attachment of the cotyledons to the hypocotyl are common in seeds which have been mechanically damaged. It is important that seedlings not be removed during preliminary counts unless development is sufficient to allow the conditions of the cotyledons to be determined. If the point of attachment of the cotyledons cannot be seen at the end of the test, the seed coat should be peeled back to determine whether a break has occurred.)

(B) Less than half of the original cotyledon tissue free of necrosis or decay.

(ii) Epicotyl:

(A) Missing. (May be assumed to be present if both cotyledons are intact.)

(iii) Hypocotyl:

(A) Deep open cracks extending into the conducting tissue.

(B) Malformed, such as markedly shortened, curled, or thickened. (Seedlings of sainfoin which have been constricted by growing through the netting of the pod, but which are otherwise normal, are classified as normal.)

(C) Weak and watery.

(iv) Root:

(A) None.

(B) Primary root stubby. (The roots of sweetclovers may be stubby when grown on artificial substrata due to the presence of coumarin in the seed; since this condition usually does not occur in soil, such seedlings are classified as normal. Roots may appear stubby as a result of being bound by the seed coat; such seedlings are classified as normal. Crownvetch produces phytotoxic effects similar to sweetclovers.)

(C) Split extending into the hypocotyl.

(v) Seedling:

(A) One or more essential structures impaired as a result of decay from primary infection.

(B) Albino.

§ 201.56-7 Lily family, Liliaceae.

Kinds of seed: Asparagus, chives, leek, onion, and Welsh onion.

(a) Asparagus.

(1) General description.

(i) Germination habit: Hypogeal monocot.

(ii) Food reserves: Endosperm which is hard, semi-transparent, and non-starchy; minor reserves in the cotyledon. The endosperm surrounds the entire embryo.

(iii) Cotyledon: A single cylindrical cotyledon; following germination, all

but the basal end remains embedded in the endosperm to absorb nutrients.

(iv) Shoot system: The epicotyl elongates and carries the terminal bud above the soil surface. The epicotyl may bear several small scale leaves. A short hypocotyl is barely distinguishable, joining the root to the basal end of the cotyledon. More than one shoot may arise simultaneously, and the seedling may be considered normal if at least one shoot is well-developed and has a terminal growing point, provided other essential structures are normal.

(v) Root system: A long slender primary root.

(2) Abnormal seedling description.

(i) Cotyledon:

(A) Detached from seedling.

(B) Deep open cracks at basal end.

(ii) Epicotyl:

(A) Missing.

(B) Terminal bud missing or damaged.

(C) Deep open cracks.

(D) Malformed, such as markedly shortened, curled, or thickened.

(E) Spindly.

(F) Watery.

(iii) Hypocotyl:

(A) Deep open cracks.

(iv) Root:

(A) No primary root.

(B) Stubby primary root with weak secondary roots.

(v) Seedling:

(A) One or more essential structures impaired as a result of decay from primary infection.

(B) Albino.

(b) Chives, leek, onion, Welsh onion.

(1) General description.

(i) Germination habit: Epigeal monocot.

(ii) Food reserves: Endosperm which is hard, semi-transparent, and non-starchy; minor reserves in the cotyledon.

(iii) Cotyledon: A single cylindrical cotyledon. The cotyledon emerges with the seed coat and endosperm attached to the tip. A sharp bend known as the "knee" forms; continued elongation of the cotyledon on each side of this knee pushes it above the soil surface. The cotyledon tip is pulled from the soil and straightens except for a slight kink which remains at the site of the knee.

(iv) Shoot system: The first foliage leaf emerges through a slit near the base of the cotyledon, but this does not usually occur during the test period. The hypocotyl is a very short transitional zone between the primary root and the cotyledon, and is not distinguishable for purposes of seedling evaluation.

(v) Root system: A long slender primary root with adventitious roots developing from the hypocotyl. The primary root does not develop secondary roots.

- (2) Abnormal seedling description.
 (i) Cotyledon:
 (A) Short and thick.
 (B) Without a definite bend or "knee".
 (C) Spindly or watery.
 (ii) Epicotyl:
 (A) Not observed during the test period.
 (iii) Hypocotyl:
 (A) Not evaluated.
 (iv) Root:
 (A) No primary root.
 (B) Short, weak, or stubby primary root.
 (v) Seedling:
 (A) One or more essential structures impaired as a result of decay from primary infection.
 (B) Albino.

§ 201.56-8 Flax family, Linaceae.

- Kind of seed: Flax.
 (a) General description.
 (1) Germination habit: Epigeal dicot.
 (Due to the mucilaginous nature of the seed coat, seedlings germinated on blotters may adhere to the blotter and appear to be negatively geotropic.)
 (2) Food reserves: Cotyledons which expand and become photosynthetic.
 (3) Shoot system: The hypocotyl elongates carrying the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.
 (4) Root system: A primary root, with secondary roots usually developing within the test period.
 (b) Abnormal seedling description.
 (1) Cotyledons:
 (i) Less than half of the original cotyledon tissue remaining attached.
 (ii) Less than half of the original cotyledon tissue free of necrosis or decay.
 (2) Epicotyl:
 (i) Missing. (May be assumed to be present if cotyledons are intact.)
 (3) Hypocotyl:
 (i) Deep open cracks extending into the conducting tissue.
 (ii) Malformed, such as markedly shortened, curled, or thickened.
 (4) Root:
 (i) None.
 (ii) Weak, stubby, or missing primary root with weak secondary or adventitious roots.
 (5) Seedling:
 (i) One or more essential structures impaired as a result of decay from primary infection.
 (ii) Albino.

§ 201.56-9 Mallow family, Malvaceae.

- Kinds of seed: Cotton, kenaf, and okra.
 (a) General description.
 (1) Germination habit: Epigeal dicot.

- (2) Food reserve: Cotyledons, which are convoluted in the seed; they expand and become thin, leaf-like, and photosynthetic.
 (3) Shoot system: The hypocotyl elongates carrying the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period. Areas of yellowish pigmentation may develop on the hypocotyl in cotton.
 (4) Root system: A primary root, with secondary roots usually developing within the test period. Areas of yellowish pigmentation may develop on the root in cotton.
 (b) Abnormal seedling description.
 (1) Cotyledons:
 (i) Less than half of the original cotyledon tissue remaining attached.
 (ii) Less than half of the original cotyledon tissue free of necrosis or decay. (Remove any attached seed coats at the end of the test period for evaluation of cotyledons.)
 (2) Epicotyl:
 (i) Missing. (May be assumed to be present if both cotyledons are intact.)
 (3) Hypocotyl:
 (i) Deep open cracks or grainy lesions extending into the conducting tissue.
 (ii) Malformed, such as markedly shortened, curled, or thickened.
 (4) Root:
 (i) None.
 (ii) Weak, stubby, or missing primary root with weak secondary or adventitious roots.
 (5) Seedling:
 (i) One or more essential structures impaired as a result of decay from primary infection. (A cotton seedling with yellowish areas on the root or hypocotyl is classified as normal, provided the cotyledons are free of infection.)
 (ii) Albino.

§ 201.56-10 Spurge family, Euphorbiaceae.

- Kind of seed: Castorbean.
 (a) General description.
 (1) Germination habit: Epigeal dicot.
 (2) Food reserves: Cotyledons, which are thin and leaf-like; endosperm (fleshy food-storage organs) usually persisting in the laboratory test.
 (3) Shoot system: The hypocotyl lengthens, carrying the cotyledons, endosperm, and epicotyl above the soil surface.
 (4) Root system: A primary root, with secondary roots usually developing within the test period.
 (b) Abnormal seedling description.
 (1) Cotyledons:
 (i) Less than half of the original cotyledon tissue remaining attached.
 (ii) Less than half of the original cotyledon tissue free of necrosis or decay.

- (2) Endosperm:
 (i) Missing.
 (3) Epicotyl:
 (i) Missing.
 (ii) Damaged or missing terminal bud.
 (4) Hypocotyl:
 (i) Deep open cracks extending into the conducting tissue.
 (ii) Malformed, such as markedly shortened, curled, or thickened.
 (5) Root:
 (i) None.
 (ii) Weak, stubby, or missing primary root with weak secondary or adventitious roots.
 (6) Seedling:
 (i) One or more essential structures impaired as a result of decay from primary infection.
 (ii) Albino.

§ 201.56-11 Knotweed family, Polygonaceae.

- Kinds of seed: Buckwheat, rhubarb, and sorrel.
 (a) General description.
 (1) Germination habit: Epigeal dicot.
 (2) Food reserves: Cotyledons, starchy endosperm.
 (3) Shoot system: The hypocotyl elongates carrying the cotyledons above the soil surface. The epicotyl usually does not show any development within the test period.
 (4) Root system: A primary root, with secondary roots developing within the test period for some kinds.
 (b) Abnormal seedling description.
 (1) Cotyledons:
 (i) Less than half of the original cotyledon tissue remaining attached.
 (ii) Less than half of the original cotyledon tissue free of necrosis or decay.
 (2) Epicotyl:
 (i) Missing. (May be assumed to be present if cotyledons are intact.)
 (3) Hypocotyl:
 (i) Deep open cracks or grainy lesions extending into the conducting tissue.
 (ii) Malformed, such as markedly shortened, curled, or thickened.
 (iii) Watery.
 (4) Root:
 (i) None.
 (ii) Weak, stubby, or missing primary root with weak secondary or adventitious roots.
 (5) Seedling:
 (i) One or more essential structures impaired as a result of decay from primary infection.
 (ii) Albino.

§ 201.56-12 Miscellaneous plant families.

- Kinds of seed by family:
 Carrot family, Apiaceae (Umbelliferae)—
 carrot, celery, celeriac, dill, parsley,
 parsnip;

Hemp family, Cannabaceae—hemp;
 Dichondra family, Dichondraceae—
 dichondra;
 Geranium family, Geraniaceae—alfilaria;
 Mint family, Lamiaceae (Labiatae)—sage,
 summer savory;
 Benne family, Pedaliaceae—sesame;
 Rose family, Rosaceae—little burnet;
 Nightshade family, Solanaceae—eggplant,
 tomato, husk tomato, pepper, tobacco; and
 Valerian family, Valerianaceae—cornsalad.

(a) General description.

(1) Germination habit: Epigeal dicot.

(2) Food reserves: Cotyledons;
 endosperm may or may not be present,
 depending on the kind.

(3) Shoot system: The hypocotyl
 elongates, carrying the cotyledons above
 the soil surface. The epicotyl usually
 does not show any development within
 the test period.

(4) Root system: A primary root;
 secondary roots may or may not develop
 within the test period, depending on the
 kind.

(b) Abnormal seedling description.

(1) Cotyledons:

(i) Less than half of the original
 cotyledon tissue remaining attached.

(ii) Less than half of the original
 cotyledon tissue free of necrosis or
 decay.

(2) Epicotyl:

(i) Missing. (May be assumed to be
 present if the cotyledons are intact.)

(3) Hypocotyl:

(i) Malformed, such as markedly
 shortened, curled, or thickened.

(ii) Deep open cracks extending into
 the conducting tissue.

(iii) Watery.

(4) Root:

(i) None.

(ii) Missing or stubby primary root
 with weak secondary or adventitious
 roots.

(5) Seedling:

(i) One or more essential structures
 impaired as a result of decay from
 primary infection.

(ii) Albino.

31. In § 201.57a, paragraph (b) is
 revised and a new paragraph (c) is
 added to read as follows:

§ 201.57a Dormant Seeds.

(b) The percentage of dormant seed, if
 present, shall be determined in addition
 to the percentage of germination for the
 following kinds: Bahiagrass (*Paspalum*
notatum), basin wildrye (*Leymus*
cinereus), bluestems (*Andropogon*
gerardii var. *gerardii*, *Andropogon*
gerardii var. *paucipilus*, *Bothriochloa*
ischaemum, and *Schizachyrium*
scoparium), bottlebrush-squirreltail
 (*Elymus elymoides*), buffalograss
 (*Buchloe dactyloides*), buffelgrass
 (*Cenchrus ciliaris*), galletagrass (*Hilaria*

jamesii), forage kochia (*Kochia*
prostrata), grammas (*Bouteloua* spp.),
 Indian ricegrass (*Oryzopsis*
hymenoides), johnsongrass (*Sorghum*
halepense), lovegrasses (*Eragrostis* spp.),
 mountain rye (*Secale montanum*), sand
 dropseed (*Sporobolus cryptandrus*),
 smilo (*Oryzopsis miliacea*), switchgrass
 (*Panicum virgatum*), veldtgrass
 (*Ehrharta calycina*), western wheatgrass
 (*Elymus smithii*), and yellow
 indiagrass (*Sorghastrum nutans*).

(c) For green needlegrass (*Stipa*
viridula), if the test result of method 2
 is less than the result of method 1,
 subtract the result of method 2 from
 method 1 and report the difference as
 the percentage of dormant seed. Refer to
 § 201.58(b)(7).

32. Section 201.58 is amended by
 revising the introductory text,
 paragraphs (a)(5), (b)(1) through (b)(4),
 adding a new paragraph (b)(7); revising
 paragraphs (b)(10), (b)(12), Table 2, and
 adding a new paragraph (c) to read as
 follows:

§ 201.58 Substrata, temperature, duration
 of test, and certain other specific directions
 for testing for germination and hard seed.

Specific germination requirements are
 set forth in table 2 to which the
 following paragraphs (a), (b), and (c) are
 applicable.

* * * * *

(a) * * *

(5) Prechill. The term "prechill"
 means a cold, moist treatment applied
 to seeds to overcome dormancy prior to
 the germination test. The prechill
 method varies among kinds, but is
 usually performed by holding imbibed
 seeds at a low temperature for a
 specified period of time. The prechill
 period is not included in the duration
 of tests given in table 2, unless
 otherwise specified.

* * * * *

(b) * * *

(1) *Alyce clover*. (*Alysicarpus*
vaginalis); swollen seeds. At the
 conclusion of the 21-day test period,
 carefully pierce the seed coat with a
 sharp instrument and continue the test
 for 5 additional days. Alternate method:
 The swollen seeds may be placed at 20°
 C for 48 hours and then at 35° C for 3
 additional days.

(2) *Bahiagrass* (*Paspalum notatum*);
 removal of glumes. On all varieties
 except "Pensacola," remove the
 enclosing structures (glumes, lemma,
 and palea) from the caryopsis with the
 aid of a sharp scalpel. If the seed is fresh
 or dormant, lightly scratch the surface of
 the caryopsis.

(3) *Beet*, *Swiss chard* (*Beta*);
 preparation of seed for test. Before the
 seeds are placed on the germination

substratum, they shall be soaked in
 water for 2 hours, using at least 250 mL
 of water per 100 seeds, then washed in
 running water and the excess water
 blotted off. The temperature of the
 soaking and washing water should be no
 lower than 20° C. Samples producing
 excessive discoloration of the hypocotyl
 or root should be retested in soil or by
 washing in running water for 3 hours
 and testing on "Kimpak," keeping the
 seed covered with slightly moist
 blotters. Sugar beets may require 16
 hours soaking in water at 25° C,
 followed by rinsing and then drying for
 2 hours at room temperature.

(4) *Buffelgrass* (*Cenchrus ciliaris*);
 alternate method for dormant seed. The
 caryopses shall be removed from the
 fascicles and placed on blotters
 moistened with a 0.2 percent solution of
 KNO₃ in petri dishes. The seeds from a
 fascicle should be arranged so they will
 not be confused with seeds from other
 fascicles during the test. The seeds are
 then prechilled at 5° C for 7 days and
 tested at 30° C in light for 21 additional
 days. Firm ungerminated seeds
 remaining at the conclusion of the test
 should be scratched lightly and left in
 test for 7 additional days.

* * * * *

(7) *Green needlegrass* (*Stipa viridula*);
 two test methods as prescribed in table
 2 shall be used on each sample:

(i) For method 1, acid scarify 400
 seeds for 10 minutes in concentrated
 sulfuric acid (95 to 98 percent H₂SO₄).
 Rinse seeds and dry on blotters for 16
 hours, then place seeds on blotters
 moistened with a solution of 0.055
 percent (500 ppm gibberellic acid GA₃)
 and 0.46 percent (3,000 ppm) thiram
 and germinate 14 days.

(ii) For method 2, plant 400 seeds on
 blotters moistened with a 0.2 percent
 solution of KNO₃ and germinate 14
 days. Refer to § 201.57a(c).

(iii) Report the results of method 2 as
 the percentage germination. If the
 number in method 2 is less than method
 1, subtract the results of method 2 from
 method 1 and report the difference as
 dormant seed.

* * * * *

(10) *Ryegrass* (*Lolium*); fluorescence
 test. The germination test for
 fluorescence of ryegrass shall be
 conducted in light [not to exceed 100
 foot candles (1,076 lux)] with white
 filter paper as the substratum. The white
 filter paper should be nontoxic to the
 roots of ryegrass and of a texture that
 will resist penetration of ryegrass roots.
 Distilled or deionized water shall be
 used to moisten the filter paper. The test
 shall be conducted in a manner that will
 prevent the contact of roots of different

seedlings. Roots of some seedlings produce fluorescent lines on white filter paper when viewed under ultraviolet light. First counts shall not be made before the eighth day; at that time remove only normal fluorescent seedlings. Evaluation of fluorescence shall be made under F15T8-BLB or comparable ultraviolet tubes in an area where light from other sources is excluded. If there are over 75 percent normal fluorescent seedlings present at the time of the first count, break the contact of the roots of the nonfluorescent seedlings from the substratum and reread the fluorescence at the time of the final count. At the final count, lift each remaining seedling, observing the path of each root since sometimes faint fluorescence will show on the substratum as the root is lifted. Abnormal seedlings and dead seeds are

not evaluated for fluorescence. See § 201.58a(a).

(12) *Garden bean (Phaseolus vulgaris)*; use of calcium nitrate. If hypocotyl collar rot is observed on seedlings, the sample involved shall be retested using a 0.3 to 0.6 percent solution of calcium nitrate (CaNO_3) to moisten the substratum.

(c) Procedures for coated seed:

(1) Germination tests on coated seed shall be conducted in accordance with methods in paragraphs (a) and (b) of this section. However, kinds for which soaking or washing is specified in paragraph (b) shall not be soaked or washed in the case of coated seed.

(i) Coated seed units shall be placed on the substratum in the condition in which they are received without rinsing, soaking, or any other pretreatment.

(ii) Coated seed units in mixtures which are color coded or can otherwise be separated by kinds shall be germinated as separate kinds without removing the coating material.

(iii) Coated seed units in mixtures which cannot be separated by kinds without removing the coating material shall be de-coated and germinated as separate kinds. The coating material shall be removed in a manner that will not affect the germination capacity of the seeds.

(2) The moisture level of the substratum is important. It may depend on the water-absorbing capacity of the coating material. A retest may be necessary before satisfactory germination of the sample is achieved.

(3) Phytotoxic symptoms may be evident when germinating coated seeds in paper substrata. In such cases a retest in sand or soil may be necessary.

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific require- ments	Fresh and dormant seed
Agricultural Seed						
Agrotricum—x Agrotriticum.	B,T,S	20; 15	4	7	.....	Prechill at 5° or 10° C for 5 days.
Alfalfa—Medicago sativa.	B,T,S	20	4	17	See ¶ (b)(11)	
Alfilaria—Erodium cicutarium.	B,T	20–30	3	14	Clip seeds	
Alyceclover— Alysicarpus vaginalis.	B,T	35	4	21	See ¶ (b)(1) for swollen seeds.	
Bahiagrass— paspalum notatum: Var. Pensacola. All other vars	P,S P	20–35 30–35	7 3	28 21	Light; see ¶ (b)(2) Light; remove glumes; see ¶ (b)(2).	See § 201.57a. Scratch caryopses; KNO ₃ ; see § 201.57a.
Barley—Hordeum vulgare	B,T,S	20; 15	4	7	.....	Prechill 5 days at 5° or 10° C or predry.
Barrelclover—Medicago truncatula.	B,T	20	4	14	Remove seeds from bur; see ¶ (b)(11).	
Bean:						
Adzuki—Vigna angularis.	B,T,S	20–30	4	10		
Field—Phaseolus vulgaris.	B,T,S,TC	20–30; 25	5	18		
Mung—Vigna radiata	B,T,S	20–30	3	17		
Beet, field—Beta vulgaris subsp., vulgaris.	B,T,S	20–30	3	14	See ¶ (b)(3)	
Beet, sugar—Beta vulgaris subsp., vulgaris.	B,T,S	20–30; 20	3	10	See ¶ (b)(3)	
Beggarweed, Florida— Desmodium tortuosum.	B,T	30	5	28		
Bentgrass:						
Colonial (incl. vars. Astoria and High- land)—Agrostis capillaris.	P	15–30; 10–30; 15–25	7	28	Light; KNO ₃	Prechill at 5° or 10° C for 7 days.
Creeping—Agrostis stolonifera var. palustris.	P	15–30; 10–30; 15–25	7	28	Light; KNO ₃	Prechill at 5° or 10° C for 7 days.
Velvet—Agrostis canina.	P	15–25; 20–30	7	21	Light; KNO ₃	

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Bermudagrass— Cynodon dactylon var. dactylon.	P	20–35	7	21	Light; KNO ₃ ; see § (a)(9).	
Bermudagrass, giant—Cynodon dactylon var. aridus.	P	20–35	7	21	Light; KNO ₃ ; see § (a)(9).	Prechill at 10° C for 7 days and then test at 20–35° C; continue tests of hulled seed for 14 days and of unhulled seed for 21 days.
Bluegrass:						
Annual—Poa annua	P	20–30	7	21	Light	Prechill all samples at 5° C for 7 days. 10–30° C.
Bulbous—Poa bulbosa.	P,S	10	10	35	KNO ₃ or soil	
Canada—Poa compressa.	P	15–25; 15–30	10	28	Light; KNO ₃	
Glaucantha—Poa glaucantha.	P	15–25; 15–30	10	28	Light; KNO ₃	
Kentucky—Poa pratensis All vars..	P	15–25; 15–30	10	28	Light; KNO ₃	Prechill at 10° C for 5 days.
Nevada—Poa nevadensis.	P	20–30	7	21	Light; KNO ₃	
Rough—Poa trivialis	P	20–30	7	21	Light	
Texas—Poa arachnifera.	P	20–30	7	28	Light; KNO ₃	Prechill at 5° C for 2 weeks.
Wood—Poa nemoralis.	P	20–30	7	28	Light	
Bluejoint—Calamagrostis canadensis.	TB,P	15–25	10	21	Light and KNO ₃ op- tional.	Prechill at 5° C for 5 days.
Bluestem:						
Big—Andropogon gerardii var. gerardii.	P,TS	20–30	7	14	Light; KNO ₃	Prechill at 5° C for 2 weeks; see § 201.57a.
Little—Schizachyrium scoparium.	P,TS	20–30	7	14	Light; KNO ₃	Prechill at 5° C for 2 weeks; see § 201.57a.
Sand—Andropogon gerardii var. paucipilus.	P,TS	20–30	7	14	Light; KNO ₃	Prechill at 5° C for 2 weeks; see § 201.57a.
Yellow—Bothriochloa ischaemum.	P,TS	20–30	5	14	Light; KNO ₃	Prechill at 5° C for 2 weeks; see § 201.57a.
Bottlebrush- squirreltail— Elymus elymoides.	P,B	20; 15	10	14	.....	See § 201.57a.
Brome:						
Field—Bromus arvensis.	P,TB	15–25; 20–30	6	14	Light	Prechill at 10° C for 5 days.
Meadow—Bromus biebersteinii.	B,T,TB	20–30	6	14	Light optional	
Mountain—Bromus marginatus.	P	20–30	6	14	Light	
Smooth—Bromus inermis.	P,B,TB	20–30	6	14	Light optional	Prechill at 5° or 10° C for 5 days, then test at 30° C for 9 addi- tional days.
Broomcorn—Sorghum bi- color.	B,T,S	20–30	3	10		
Buckwheat—Fagopyrum esculentum.	B,T	20–30	3	6		
Buffalograss—Buchloe dactyloides (Burs).	P,TB,TS	20–35	7	28	Light; KNO ₃	Prechill at 5° C for 6 weeks; test 14 additional days; see § 201.57a.
(Caryopses)	P	20–35	5	14	Light; KNO ₃	See § 201.57a.
Buffelgrass—Cenchrus ciliaris.	S	30	7	28	Light; press fascicles into well-packed soil and prechill at 5° C for 7 days.	See § (b)(4); see § 201.57a.
Burclover, California- Medicago polymorpha.	B,T	20	4	14	Remove seeds from bur; see § (b)(11).	
Burclover, spotted— Medicago arabica.	B,T	20	4	14	Remove seeds from bur; see § (b)(11).	
Burnet, Little— Sanguisorba minor.	B,T	15	5	14		

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Buttonclover— <i>Medicago orbicularis</i> .	B,T	20	4	110	See ¶ (b)(11)	15° C.
Canarygrass— <i>Phalaris canariensis</i> .	B,T	20–30	3	7		
Canarygrass, reed— <i>Phalaris arundinacea</i> .	P	20–30	5	21	Light; KNO ₃	
Carpetgrass— <i>Axonopus affinis</i> .	P	20–35	10	21	Light	KNO ₃ .
Castorbean— <i>Ricinus communis</i> .	T,S	20–30	7	14	Remove caruncle if mold interferes with test.	
Chess, soft— <i>Bromus hordeaceus</i> .	P	20–30	7	14	Light	Prechill at 5° or 10° C for 7 days.
Chickpea— <i>Cicer arietinum</i> .	T,S	20–30	3	17		
Clover:						
Alsike— <i>Trifolium hybridum</i> .	B,T,S	20	3	17	See ¶ (b)(11)	15° C.
Arrowleaf— <i>Trifolium vesiculosum</i> .	B,T	20; 15	4	114	See ¶ (b)(11)	
Berseem— <i>Trifolium alexandrinum</i> .	B,T,S	20	3	17	See ¶ (b)(11)	15° C.
Cluster— <i>Trifolium glomeratum</i> .	B,T	20	4	110	See ¶ (b)(11)	15° C.
Crimson— <i>Trifolium incarnatum</i> .	B,T,S	20	4	17	See ¶ (b)(11)	15° C.
Kenya— <i>Trifolium semipilosum</i> .	B,T,S	20	3	17		
Ladino— <i>Trifolium repens</i> .	B,T,S	20	3	17	See ¶ (b)(11)	15° C.
Lappa— <i>Trifolium lappaceum</i> .	B,T	20	3	17	See ¶ (b)(11)	15° C.
Large hop— <i>Trifolium campestre</i> .	B,T	20	4	114	See ¶ (b)(11)	15° C.
Persian— <i>Trifolium resupinatum</i> .	B,T	20	3	17	See ¶ (b)(11)	15° C.
Red— <i>Trifolium pratense</i> .	B,T,S	20	4	17	See ¶ (b)(11)	15° C.
Rose— <i>Trifolium hirtum</i> .	B,T	20	4	110	See ¶ (b)(11)	15° C.
Small hop— <i>Trifolium dubium</i> .	B,T	20	4	114	See ¶ (b)(11)	15° C.
Strawberry— <i>Trifolium fragiferum</i> .	B,T	20	3	17	See ¶ (b)(11)	15° C.
Sub— <i>Trifolium subterraneum</i> .	B,T	20	4	114	See ¶ (b)(11)	15° C.
White— <i>Trifolium repens</i> .	B,T,S	20	3	17	See ¶ (b)(11)	15° C.
Corn:						
Field— <i>Zea mays</i>	B,T,S,TC	20–30; 25	4	7		
Pop— <i>Zea mays</i>	B,T,S,TC	20–30; 25	4	7		
Cotton— <i>Gossypium</i> spp.	B,T,S	20–30; 30	4	112	.....	Test by alternate method; see ¶ (b)(5).
Cowpea— <i>Vigna unguiculata</i> subsp. <i>unguiculata</i> .	B,T,S	20–30	5	18		
Crambe— <i>Crambe abyssinica</i> .	T	25	3	7		
Crested dogtail— <i>Cynosurus cristatus</i> .	P	20–30	10	21	Light	Prechill at 5° or 10° C for 3 days.
Crotalaria:						
Lance— <i>Crotalaria lanceolata</i> .	B,T,S	20–30	4	110		
Showy— <i>Crotalaria spectabilis</i> .	B,T,S	20–30	4	110		

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Slenderleaf— <i>Crotalaria brevidens</i> var. <i>intermedia</i> .	B,T,S	20–30	4	10		
Striped— <i>Crotalaria pallida</i> .	B,T,S	20–30	4	10		
Sunn— <i>Crotalaria juncea</i> .	B,T,S	20–30	4	10		
Crownvetch— <i>Coronilla varia</i> .	B,T,S	20	7	14		
Dallisgrass— <i>Paspalum dilatatum</i> .	P	20–35	7	21	Light; KNO ₃ .	
Dichondra— <i>Dichondra repens</i> .	B,T	20–30	7	28		
Dropseed, sand— <i>Sporobolus cryptandrus</i> .	P	5–35; 15–35	5	14	Light; KNO ₃	Prechill at 5° C for 4 weeks; see § 201.57a.
Emmer— <i>Triticum dicoccon</i> .	B,T,S	20; 15	4	7	.....	Prechill at 5° or 10° C for 5 days or predry.
Fescue:						
Chewings— <i>Festuca rubra</i> subsp. <i>commutata</i> .	P	15–25	7	21	Light and KNO ₃ optional.	Prechill at 5° or 10° C for 5 days.
Hair— <i>Festuca tenuifolia</i> .	P	10–25	10	28	KNO ₃ .	
Hard— <i>Festuca trachyphylla</i> .	P	15–25	7	21	Light and KNO ₃ optional.	
Meadow— <i>Festuca pratensis</i> .	P	15–25; 20–30	5	14	Light and KNO ₃ optional.	
Red— <i>Festuca rubra</i> subsp. <i>rubra</i> .	P	15–25	7	21	Light and KNO ₃ optional.	
Sheep— <i>Festuca ovina</i> var. <i>ovina</i> .	P	15–25	7	21	Light and KNO ₃ optional.	
Tall— <i>Festuca arundinacea</i> .	P	15–25; 20–30	5	14	Light and KNO ₃ optional.	Prechill at 5° or 10° C for 5 days and test for 21 days.
Flax— <i>Linum usitatissimum</i> .	B,T,S	20–30	3	7		
Galletagrass— <i>Hilaria jamesii</i> .	P,B	20; 25; 20–30	4	10	.....	See § 201.57a.
Gramma:						
Blue— <i>Bouteloua gracilis</i> .	P,TB	20–30	7	14	Light	KNO ₃ ; see § 201.57a.
Side-oats— <i>Bouteloua curtipendula</i> .	P	15–30	7	14	Light; KNO ₃	See § 201.57a.
Guar— <i>Cyamopsis tetragonoloba</i> .	B,T,S	30; 20–30	5	14		
Guineagrass— <i>Panicum maximum</i> var. <i>maximum</i> .	P	15–35	10	28	Light; KNO ₃ optional.	
Hardinggrass— <i>Phalaris stenoptera</i> .	P	10–30	7	28	Light	KNO ₃ .
Alternate method	P	15–25	7	14	Light; presoak at 15° C for 24 hrs.	
Hemp— <i>Cannabis sativa</i> .	B,T	20–30	3	7		
Indiangrass, yellow— <i>Sorghastrum nutans</i> .	P,T,S	20–30	7	14	Light; KNO ₃	Prechill at 5° C for 2 weeks; see § 201.57a.
Indigo, hairy— <i>Indigofera hirsuta</i> .	B,T	20–30	5	14		
Japanese lawngress— <i>Zoysia japonica</i> .	P	35–20	10	28	Light; KNO ₃ .	
Johnsongrass— <i>Sorghum halepense</i> .	P	20–35	7	35	Light	KNO ₃ ; See § 201.57a.
Kenaf— <i>Hibiscus cannabinus</i> .	T,B	20–30	4	18		
Kochia, forage— <i>Kochia prostrata</i> .	P	20	4	14	.....	See § 201.57a.
Kudzu— <i>Pueraria montana</i> var. <i>lobata</i> .	B,T	20–30	5	14		
Lentil— <i>Lens culinaris</i>	B,T	20	5	10		

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Lespedeza:						
Korean—Kummerowia stipulacea.	B,T,S	20–35	5	14		
Sericea—Lespedeza cuneata.	B,T,S	20–35	7	21		
Siberian—Lespedeza juncea.	B,T,S	20–35	7	21		
Striate—Kummerowia striata.	B,T,S	20–35	7	14		
Lovegrass, sand—Eragrostis trichodes.	P	20–30	5	14	Light; KNO ₃	Prechill at 5° or 10° C for 6 weeks; see § 201.57a
Lovegrass, weeping—Eragrostis curvula.	P	20–35	5	14	Light	KNO ₃ ; see § 201.57a.
Lupine:						
Blue—Lupinus angustifolius.	B,T,S	20	4	10		
White—Lupinus albus.	B,T	20	3	10		
Yellow—Lupinus luteus.	B,T	20	7	10		
Manilagrass—Zoysia matrella.	P	35–20	10	28	Light; KNO ₃	
Meadow foxtail—Alopecurus pratensis.	P	20–30	7	14	Light	
Medic, black—Medicago lupulina.	B,T,S	20	4	17	See ¶ (b)(11)	
Milkvetch—Astragalus cicer.	B,T	20	6	14		
Alternate method	B,TB,T	15–25	10	21	•	
Millet:						
Browntop—Brachiaria ramosa.	B,P,T	20–30; 30	4	14	Light and KNO ₃ optional.	Predry at 35° or 40° C for 7 days and test at 30° C.
• Alternate method.	B,P,T	5–35	4	14	Light; KNO ₃	
Foxtail—Setaria italica.	B,T	15–30; 20–30	4	10		
Japanese—Echinochloa frumentacea.	B,T	20–30	4	10		
Pearl—Pennisetum glaucum.	B,T	20–30	3	7		
Proso—Panicum miliaceum.	B,T	20–30	3	7		
Molassesgrass—Melinis minutiflora.	P	20–30	7	21	Light	
Mustard:						
Black—Brassica nigra.	P	20–30	3	7	Light	KNO ₃ and prechill at 10° C for 3 days.
India—Brassica juncea.	P	20–30	3	7	Light	Prechill at 10° C for 7 days and test for 5 days; KNO ₃ .
White—Sinapis alba ...	P	20–30	3	5	Light	
Napiergrass—Pennisetum purpureum.	B,T	20–30	3	10		
Needlegrass, green—Stipa viridula:						
Method 1	P	15–30	7	14	H ₂ SO ₄ , GA ₃ and thiram; dark; see ¶ (b)(7).	
Method 2	P	15–30	7	14	KNO ₃ ; dark; see ¶ (b)(7).	
Oat—Avena spp	B,T,S	20; 15	5	10		Prechill at 5° or 10° C for 5 days and test for 7 days or predry and test for 10 days.
Oatgrass, tall—Arrhenatherum elatius.	P	20–30	6	14	Light	
Orchardgrass—Dactylis glomerata.	P,T,S	15–25	7	21	Light; germination more rapid on soil.	Prechill at 5° or 10° C for 7 days.

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Panicgrass, blue— <i>Panicum antidotale</i> .	P,TS	20–30	7	28	Light	
Panicgrass, green— <i>Panicum maximum</i> var. <i>trichoglume</i> .	P	15–35	10	28	Light; KNO ₃ optional	
Pea, field— <i>Pisum sativum</i> .	B,T,S	20	3	18		
Peanut— <i>Arachis hypogaea</i> .	B,T,S	20–30; 25	5	10	Remove shells	Ethephon or ethylene; see ¶ (a)(10) and (11).
Rape:						
Annual— <i>Brassica napus</i> var. <i>annua</i> .	B,T	20–30	3	7		
Bird— <i>Brassica rapa</i> .	P	20–30	3	10	Light	KNO ₃ .
Turnip— <i>Brassica rapa</i> .	B,T	20–30	3	7		
Winter— <i>Brassica napus</i> var. <i>biennis</i> .	B,T	20–30	3	7		
Redtop— <i>Agrostis gigantea</i> .	P,TB	20–30	5	10	Light	KNO ₃ .
Rescuegrass— <i>Bromus catharticus</i> .	P,S	10–30	7	28	Light; see ¶ (b)(8) for alternate method.	In soil at 15° C.
Rhodesgrass— <i>Chloris gayana</i> .	P	20–30	6	14	Light; KNO ₃	
Rice— <i>Oryza sativa</i>	T,S	20–30; 30	5	14	See ¶ (b)(9) for alternate method.	Presoak; see ¶ (b)(9).
Ricegrass, Indian— <i>Oryzopsis hymenoides</i> .	P	15	7	42		Prechill at 5° C for 4 weeks and test for 21 additional days; see §201.57a.
Alternate method	S	5–15; 15; 15–25	7	28		Dark; prechill in soil at 5° C for 4 weeks; see §201.57a.
Roughpea— <i>Lathyrus hirsutus</i> .	B,T	20	7	14		
Rye— <i>Secale cereale</i>	B,T,S	20; 15	4	7		Prechill at 5° or 10° C for 5 days or predry.
Rye, mountain— <i>Secale montanum</i> .	B,T	20; 15	4	7		See §201.57a.
Ryegrass:						
Annual— <i>Lolium multiflorum</i> .	P,TB	15–25	5	14	Light optional; see ¶ (b)(10) for fluorescence test.	Light; KNO ₃ ; prechill at 5° or 10° C for 5 days and test at 15–25° C; if still dormant prechill for 3 days and continue test at 15–25° C an additional 4 days.
Intermediate— <i>Lolium x hybridum</i> .	P,TB	15–25	7	14	Light	KNO ₃ and prechill at 5° or 10° C for 5 days and test at 15–25° C; if still dormant rechill for 3 days and continue test at 15–25° C an additional 4 days.
Perennial— <i>Lolium perenne</i> .	P,TB	15–25	5	14	Light optional; see ¶ (b)(1) for fluorescence test.	Light; KNO ₃ ; prechill at 5° or 10° C for 5 days and test at 15–25° C; if still dormant rechill for 3 days and continue test at 15–25° C an additional 4 days.
Wimmera— <i>Lolium rigidum</i> .	P,TB	15–25; 20–30	5	14	Light optional	Light; KNO ₃ ; prechill at 5° or 10° C for 5 days and test at 15–25° C; if still dormant rechill for 3 days and continue test at 15–25° C an additional 4 days.
Safflower— <i>Carthamus tinctorius</i> .	P,B,T,S	15; 20	4	14	Light at 15° C	
Sagewort, Louisiana— <i>Artemisia ludoviciana</i> .	P	15–25	7	14	Light	
Sainfoin— <i>Onobrychis viciifolia</i> .	B,T	20–30	4	14		
Saltbush, fourwing— <i>Atriplex canescens</i> .	B	20	5	14	See ¶ (b)(13)	Prechill at 5° C for 7 days.
Alternate method	B	15		21		
Sesame— <i>Sesamum indicum</i> .	B,T,TB	20–30	3	6		

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Sesbania—Sesbania exaltata.	B,T	20–30	5	17		
Smilo—Oryzopsis miliacea.	P	20–30	7	42	Light	Prechill at 5° C for 2 weeks; see §201.57a.
Sorghum: Grain and Sweet—Sorghum bicolor.	B,T,S	20–30	4	10	.....	Prechill grain vars. at 5° or 10° C for 5 days; test sweet vars. at 30–45° C, maintaining 45° C for 2–4 hours per day.
Sorghum alnum—Sorghum x alnum.	T,S	20–30; 15–35	5	21	.....	Prechill at 5° C for 5 days; on the 10th day of test, clip or pierce the distal end of ungerminated seeds.
Sorghum-sudangrass—Sorghum x drummondii.	B,T,S	20–30; 25	4	10	.....	Prechill at 5° or 10° C for 5 days.
Sorghgrass ²	B,T,S	15–35; 20–35	5	21	.....	Prechill at 5° or 10° C for 7 days.
Sourclover—Melilotus indicus.	B,T	20	3	14	See ¶ (b)(11)	
Soybean—glycine max	B,T,S,TC	20–30; 25	5	18	.....	
Spelt—Triticum spelta	B,T,S	20; 15	4	7	.....	Prechill at 5° or 10° C for 5 days, or predry.
Sudangrass—Sorghum x drummondii.	B,T,S	20–30; 15–30	4	10	.....	Prechill at 10° C for 5 days.
Sunflower (Cult.)—Helianthus annuus.	T,B	20–30	3	7		
Sweetclover: White—Melilotus albus.	B,T,S	20	4	17	See ¶ (b)(11)	
Yellow—Melilotus officinalis.	B,T,S	20	4	17	See ¶ (b)(11)	
Sweet vernalgrass—Anthoxanthum odoratum.	P	20–30	6	14	Light	
Sweetvetch northern—Hedysarum boreale.	B,TB,T	15–25; 20	14	128		
Switchgrass—Panicum virgatum.	P,TS	15–30	7	14	Light; KNO ₃	Prechill at 5° C for 2 weeks; see §201.57a.
Timothy—Phleum pratense.	P,TB	15–25; 20–30	5	10	Light; see ¶ (a)(9)	KNO ₃ and prechill at 5° or 10° C for 5 days.
Timothy, turf—Phleum bertolonii.	P,TB	15–25; 20–30	5	10	Light	KNO ₃ and prechill at 5° or 10° C for 5 days.
Tabacco—Nicotiana tabacum.	P,TB	20–30	7	14	Light	
Trefoil: Big—Lotus ulginosus	B,T	20	5	112		
Birdsfoot—Lotus corniculatus.	B,P,T	20	5	112		
Triticale—x Triticosecale	B,T,S	20; 15	4	7	.....	Prechill at 5° or 10° C for 5 days, or predry.
Vaseygrass—Paspalum urvillei.	P	20–35	7	21	Light	KNO ₃ .
Veldtgrass—Ehrharta calycina.	P	10–30	7	28	Light	See §201.571.
Velvetbean—Mucuna pruriens var. utilis.	B,T,S,C	20–30	3	114		
Veltvetgrass—Holcus lanatus.	P	20–30	6	14	Light	
Vetch: Common—Vicia sativa subsp. sativa.	B,T	20	5	110		
Hairy—Vicia villosa subsp. villosa.	B,T	20	5	114		
Hungarian—Vicia pannonica.	B,T	20	5	110		
Monantha—Vicia articulata.	B,T	20	5	110		
Narrowleaf—Vicia sativa subsp. nigra.	B,T	20	5	114		

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Purple— <i>Vicia benghalensis</i> .	B,T	20	5	10		
Wollypod— <i>Vicia villosa</i> subsp. <i>varia</i> .	B,T	20	5	14		Prechill at 10° C for 5 days, test at 15° C.
Wheat:						
Common— <i>Triticum aestivum</i> .	B,T,S	20; 15	4	7		Prechill at 5° or 10° C for 5 days, or predry.
Club— <i>Triticum compactum</i> .	B,T,S	20; 15	4	7		Prechill at 5° or 10° C for 5 days, or predry.
Durum— <i>Triticum durum</i> .	B,T,S	20; 15	4	10		Prechill at 5° or 10° C for 5 days, or predry.
Polish— <i>Triticum polonicum</i> .	B,T,S	20; 15	4	7		Prechill at 5° or 10° C for 5 days, or predry.
Poulard— <i>Triticum turgidum</i> .	B,T,S	20; 15	4	7		Prechill at 5° or 10° C for 5 days, or predry.
Wheat x <i>Agroticum</i> — <i>Triticum</i> x <i>Agrotriticum</i> .	B,T,S	20; 15	4	7		Prechill at 5° or 10° C for 5 days, or predry.
Wheatgrass:						
Beardless— <i>Elytrigia spicata</i> .	P,TB	15–25	7	14	Light and KNO ₃ optional.	KNO ₃ and prechill at 5° or 10° C for 7 days.
Fairway crested— <i>Agropyron cristatum</i> .	P,TB	15–25; 20–30	5	14	Light and KNO ₃ optional.	KNO ₃ and prechill at 5° or 10° C for 7 days.
Standard crested— <i>Agropyron desertorum</i> .	P,TB	15–25; 20–30	5	14	Light and KNO ₃ optional.	KNO ₃ and prechill at 5° or 10° C for 7 days.
Intermediate— <i>Elytrigia intermedia</i> subsp. <i>intermedia</i> .	P	15–25	5	28	Light and KNO ₃ optional.	KNO ₃ and prechill at 5° or 10° C for 7 days.
Alternate method.	P	20–30	5	28	Light	
Pubescent— <i>Elytrigia intermedia</i> subsp. <i>barbulata</i> .	P	15–25	5	28	Light and KNO ₃ optional.	KNO ₃ and prechill at 5° or 10° C for 7 days.
Alternate method.	P	20–30	5	28	Light	
Siberian— <i>Agropyron fragile</i> subsp. <i>sibiricum</i> .	P,TB	15–25;	7	14	Light and KNO ₃ optional.	KNO ₃ and prechill at 5° or 10° C for 7 days.
Slender— <i>Elymus trachycaulus</i> .	P,TB	15–25; 10–30	5	14	Light and KNO ₃ optional.	Prechill at 5° or 10° C for 5 days; if still dormant on the 10th day, rechill 2 days, then place at 20–30° C for 4 days.
Streambank— <i>Elytrigia dasystachya</i> .	P	15–25	5	14	Light and KNO ₃ optional.	Prechill at 5° or 10° C for 5 days.
Tall <i>Elytrigia dasystachya</i> .	P	15–25	5	21	Light and KNO ₃ optional.	Prechill at 5° or 10° C for 5 days.
Alternate method.	P	20–30	5	21	Light	Prechill at 5° or 10° C for 5 days.
Western— <i>Elymus smithii</i> .	B,P,T	15–30	7	28	Dark	KNO ₃ or soil; see §201.57a.
Wildrye:						
Basin— <i>Leymus cinereus</i> .	P	15–25	10	21		See §201.57a.
Canada— <i>Elymus canadensis</i> .	P	15–30	7	21	Light	Prechill at 5° C for 2 weeks.
Russian— <i>Psathrostachys juncea</i> .	P	20–30	5	14	Light	Prechill at 5° or 10° C for 5 days.
Vegetable Seed						
Artichoke— <i>Cynara scolymus</i> .	B,T	20–30	7	21		
Asparagus— <i>Asparagus officinalis</i> .	B,T,S	20–30	7	21		
Asparagusbean— <i>Vigna unguiculata</i> subsp. <i>sesquipedalis</i> .	B,T,S	20–30	5	18		

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Bean:						
Garden—Phaseolus vulgaris.	B,T,S,TC	20–30; 25	None	18	.....	See ¶ (b)(12).
Lima—Phaseolus lunatus.	B,T,C,S	20–30	5	1		
Runner—Phaseolus coccineus.	B,T,S	20–30	5	19		
Beet—Beta vulgaris subsp. vulgaris.	B,T,S	20–30	3	14	See ¶ (b)(3)	
Broadbean—Vicia faba ...	S,C	20	4	14	See ¶ (b)(11)	Prechill at 10° C for 3 days.
Broccoli—Brassica oleracea var. botrytis.	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.
Brussels sprouts—Brassica oleracea var. gemmifera.	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.
Burdock, great—Arctium lappa.	B,T	20–30	7	14		
Cabbage—Brassica oleracea var. capitata.	B,P,T	20–30	3	10	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.	
Cabbage, Chinese—Brassica pekinensis.	B,T	20–30	3	7		
Cabbage, tronchuda—Brassica oleracea var. costata.	B,P	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days, KNO ₃ and light.
Cardoon—Cynara cardunculus.	B,T	20–30	7	21		
Carrot—Daucus carota var. sativus.	B,T	20–30	6	14		
Cauliflower—Brassica oleracea var. botrytis.	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.
Celeriac—Apium graveolens var. rapaceum.	P	15–25; 20	10	21	Light; see ¶ (a)(9)	
Celery—Apium graveolens var. dulce.	P	15–25; 20	10	21	Light; see ¶ (a)(9)	
Chard, Swiss—Beta vulgaris subsp. cicla.	B,T,S	20–30	3	14	See ¶ (b)(3)	
Chicory—Cichorium intybus.	P,TS	20–30	5	14	Light; KNO ₃ or soil; see ¶ (a)(9).	
Chives—Allium schoenoprasum.	B,T	20	6	14		
Citron—Citrullus lanatus var. citroides.	B,T	20–30	7	14	Soak seeds 6 hrs	Test at 30° C.
Collards—Brassica oleracea var. acephala.	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days KNO ₃ and light.
Corn, sweet—Zea mays	B,T,S,TC	20–30; 25	4	7		
Cornsalad—Valerianella locusta.	B,T	15	7	28	.....	Test at 10° C.
Cowpea—Vigna unguiculata subsp. unguiculata.	B,T,S	20–30	5	18		
Cress:						
Garden—Lepidium sativum.	B,P,T	15	4	10	.....	Light.
Upland—Barbarea verna.	P,TB	20–35	4	7	Light; KNO ₃	
Water—Nasturtium officinale.	P	20–30	4	14	.....	Light.
Cucumber—Cucumis sativus.	B,T,S	20–30	3	7	Keep substratum on dry side; see ¶ (a)(3).	
Dandelion—Taraxacum officinale.	P,TB	20–30	7	21	Light; see ¶ (a)(9)	
Dill—Anethum graveolens	B,T	20–30	7	21		
Eggplant—Solanum melongena.	P,TB,RB,T	20–30	7	14	.....	Light; KNO ₃ .
Endive—Cichorium endivia.	P,TS	20–30	5	14	Light; KNO ₃ or soil ..	See ¶ (b)(6).

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Gherkin, West India— <i>Cucumis anguria</i> .	B,T,S	20–30	3	7	.....	Test at 30° C.
Kale— <i>Brassica oleracea</i> var. <i>acephala</i> .	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.
Kale, Chinese— <i>Brassica oleracea</i> var. <i>alboglabra</i> .	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.
Kale, Siberian— <i>Brassica napus</i> var. <i>pabularia</i> .	B,P,T	20–30; 20	3	7	.....	
Kohlrabi— <i>Brassica oleracea</i> var. <i>gongylodes</i> .	B,P,T	20–30	3	10	.....	Prechill at 5° or 10° C for 3 days; KNO ₃ and light.
Leek— <i>Allium porrum</i>	B,T	20	6	14		
Lettuce— <i>Lactuca sativa</i> ..	P	20	None	7	Light	Prechill at 10° C for 3 days or test at 15° C.
Melon— <i>Cucumis melo</i>	B,T,S	20–30	4	10	Keep substratum on dry side; see ¶ (a)(3).	
Mustard, India— <i>Brassica juncea</i> .	P	20–30	3	7	Light	Prechill at 10° C for 7 days and test for 5 additional days; KNO ₃ .
Mustard, spinach— <i>Brassica perviridis</i> .	B,T	20–30	3	7		
Okra— <i>Abelmoschus esculentus</i> .	B,T	20–30	4	14		
Onion— <i>Allium cepa</i>	B,T	20	6	10		
Alternate method	S	20	6	12		
Onion, Welsh— <i>Allium fistulosum</i> .	B,T	20	6	10		
Pak-choi— <i>Brassica chinensis</i> .	B,T	20–30	3	7		
Parsley— <i>Petroselinum crispum</i> .	B,T,TS	20–30	11	28		
Parsnip— <i>Pastinaca sativa</i> .	B,T,TS	20–30	6	28		
Pea— <i>Pisum sativum</i>	B,T,S	20	5	18		
Pepper— <i>Capsicum</i> spp. .	TB,RB,T	20–30	6	14		Light and KNO ₃ .
Pumpkin— <i>Cucurbita maxima</i> , <i>C. moschata</i> , and <i>C. pepo</i> .	B,T,S	20–30	4	7	Keep substratum on dry side; see ¶ (a)(3).	
Radish— <i>Raphanus sativus</i> .	B,T	20	4	6		
Rhubarb— <i>Rheum rhabarbarum</i> .	TB,TS	20–30	7	21	Light	
Rutabaga— <i>Brassica napus</i> var. <i>napobrassica</i> .	B,T	20–30	3	14		
Sage— <i>Salvia officinalis</i> ...	B,T,S	20–30	5	14		
Salsify— <i>Tragopogon porrifolius</i> .	B,T	15	5	10	.....	Prechill at 10° C for 3 days.
Savory, summer— <i>Satureja hortensis</i> .	B,T	20–30	5	21		
Sorel— <i>Rumex acetosa</i> ...	P,TB,TS	20–30	3	14	Light	Test at 15° C.
Soybean— <i>Glycine max</i> ..	B,T,S,TC	20–30; 25	5	18		
Spinach— <i>Spinacia oleracea</i> .	TB,T	15; 10	7	21	Keep substratum on dry side; see ¶ (a)(3).	
Spinach, New Zealand— <i>Tetragonia tetragoniodes</i> .	T	15; 20	5	21	Soak fruits overnight (16 hrs), air dry 7 hrs; plant in very wet towels; do not rewater unless later counts exhibit drying out.	On 21st day scrape fruits and test for 7 additional days.
Alternate method	B,T	15	5	21	Remove pulp from basal end of fruit.	
Squash— <i>Cucurbita moschata</i> , <i>C. maxima</i> , and <i>C. pepo</i> .	B,T,S	20–30	4	7	Keep substratum on dry side; see ¶ (a)(3).	

TABLE 2.—GERMINATION REQUIREMENTS FOR INDICATED KINDS—Continued

Name of seed	Substrata	Temperature (°C)	First count days	Final count days	Additional directions	
					Specific requirements	Fresh and dormant seed
Tomato— <i>Lycopersicon esculentum</i> .	B,P,RR,T	20–30	5	14	.....	Light; KNO ₃ .
Tomato, husk— <i>Physalis pubescens</i> .	P,TB	20–30	7	28	Light; KNO ₃	
Turnip— <i>Brassica rapa</i>	B,T	20–30	3	7		
Watermelon— <i>Citrullus lanatus</i> var. <i>lanatus</i> .	B,T,S	20–30; 25	4	14	Keep substratum on dry side; see ¶ (a)(3).	Test at 30° C.

¹ Hard seeds may be present. (See § 201.57)

² Rhizomatous derivatives of a johnsongrass x sorghum cross or a johnsongrass x sudangrass cross.

33. Section 201.58a is revised to read as follows:

§ 201.58a Indistinguishable seeds.

When the identification of the kind, variety, or type of seed or determination that seed is hybrid is not possible by seed characteristics, identification may be based upon the seedling, growing plant or mature plant characteristics

according to such authentic information as is available.

(a) *Ryegrass*. In determining the pure seed percentage of perennial ryegrass and annual ryegrass, 400 seeds shall be grown on white filter paper and the number of fluorescent seedlings determined under ultraviolet light at the end of the germination period (see § 201.58(b)(10)).

(1) Fluorescence results are to be determined as test fluorescence level (TFL) to two decimal places as follows:

$$\frac{\text{Number of normal fluorescent seedlings}}{\text{Total number of normal seedlings}} \times 100 = \% \text{ TFL}$$

(2) The percentage of perennial ryegrass is calculated as follows:

$$\% \text{ Perennial ryegrass} = \frac{\% \text{ VFL (annual)} - \% \text{ TFL}}{\% \text{ VFL (annual)} - \% \text{ VFL (perennial)}} \times \% \text{ Pure ryegrass}$$

where VFL = Variety fluorescence level.

(3) Using the above formula, the percentage of annual ryegrass is calculated as follows:

$$\% \text{ Annual Ryegrass} = \% \text{ Pure Ryegrass} - \% \text{ Perennial Ryegrass}$$

(4) If the test fluorescence level (TFL) of a perennial ryegrass is equal to or less than the variety fluorescence level (VFL) described for the variety, all pure ryegrass is considered to be perennial ryegrass and the formula is not applied.

(5) If the test fluorescence level (TFL) of an annual ryegrass is equal to or greater than the variety fluorescence level (VFL) described for the variety, all pure ryegrass is considered to be annual ryegrass and the formula is not applied.

(6) A list of variety fluorescence level (VFL) descriptions for perennial ryegrass varieties which are more than 0 percent fluorescent and annual ryegrass varieties which are less than 100 percent fluorescent is maintained and published by the National Grass Variety Review Board of the Association of Official Seed Certifying Agencies (AOSCA). If the variety being tested is not stated or the fluorescence level has not been described, the fluorescence level shall be considered to be 0 percent for perennial ryegrass and 100 percent for annual ryegrass. Both VFL (annual) and VFL (perennial) values must always

be entered in the formula. If a perennial ryegrass variety is being tested, the VFL (annual) value is 100 percent. If an annual ryegrass variety is being tested, the VFL (perennial) value is 0 percent. For blends the fluorescence level shall be interpolated according to the portion of each variety claimed to be present.

(b) *Sweetclover*. In determining admixtures of yellow sweetclover and white sweetclover, at least 400 seeds shall be subjected to the chemical test as follows:

(1) Preparation of test solution: Add 3 grams of cupric sulfate (CuSO₄) to 30 mL of household ammonia (NH₄OH, approximately 4.8 percent) in a stoppered bottle to form tetraamminecopper sulfate [(Cu(NH₃)₄)SO₄] solution used for this test. After mixing, a light blue precipitate of cupric hydroxide (Cu(OH)₂) should form. If no precipitate forms, add additional CuSO₄ until a precipitate appears. Since the strength of household ammonia can vary, formation of a precipitate indicates that a complete reaction has taken place between CuSO₄ and NH₄OH; otherwise fumes from excess ammonium hydroxide may cause eye irritation.

(2) Preparation of seeds: To insure imbibition, scratch, prick, or otherwise scarify the seed coats of the sweetclover

seeds being tested. Soak seeds in water for 2 to 5 hours in a glass container.

(3) Chemical reaction: When seeds have imbibed, remove excess water and add enough test solution to cover the seeds. Seed coats of yellow sweetclover will begin to stain dark brown to black; seed coats of white sweetclover will be olive or yellow-green. Make the separation within 20 minutes, since the seed coats of white sweetclover will eventually turn black also.

(4) Calculation of results: Count the number of seeds which stain dark brown or black and divide by the total number of seeds tested; multiply by the pure seed percentage for *Melilotus* spp.; the result is the percentage of yellow sweetclover in the sample. The percentage of white sweetclover is found by subtracting the percentage of yellow sweetclover from the percentage of *Melilotus* spp. pure seed.

(c) *Wheat*. From the pure seed sample count four replicates of 100 seeds each. Soak the seed in distilled water for 16 hours; then flush with tap water and remove the excess water from the surface of the seeds. Place two layers of filter paper in a container and moisten with a 1 percent phenol (C₆H₅OH) solution. Place the seed, palea side down, on the two layers of filter paper and cover the container. A preliminary observation may be made at 2 hours. At

4 hours, record the number of seeds in each of the following color categories:

- (1) Ivory.
- (2) Fawn.
- (3) Light Brown.
- (4) Brown.
- (5) Brown Black.

(d) *Soybean*. In determining the varietal purity, the peroxidase test may be used. Remove and place the dry seed coat from seeds into individual test tubes or suitable containers. Add 10 drops (0.5–1.0 mL) of 0.5 percent guaiacol ($C_7H_8O_2$) to each test tube. After waiting 10 minutes add one drop (about 0.1 mL) of 0.1 percent hydrogen peroxide (H_2O_2). One minute after adding hydrogen peroxide, record the seed coat as peroxidase positive (high peroxidase activity) indicated by a reddish-brown solution or peroxidase negative (low peroxidase activity) indicated by a colorless solution in the test tube. Various sample sizes may be used for this test. Test results shall include the sample size tested.

(e) *Oat*. In determining the varietal purity, the fluorescence test may be used. Place at least 400 seeds on a black background under a F15T8-BLB or comparable ultraviolet tube(s) in an area where light from other sources is excluded. Seeds are considered fluorescent if the lemma or palea fluoresce or appear light in color. "Partially fluorescent" seeds shall be considered fluorescent. Seeds are considered nonfluorescent if the lemma and palea do not fluoresce and appear dark in color under the ultraviolet light.

34. A new § 201.58d is added to read as follows:

§ 201.58d Fungal endophyte test.

A fungal endophyte test may be used to determine the amount of fungal endophyte (*Acremonium* spp.) in certain grasses.

(a) Method of preparation of aniline blue stain for use in testing grass seed and plant material for the presence of fungal endophyte:

- (1) Prepare a 1 percent aqueous aniline blue solution by dissolving 1 gram aniline blue in 100 mL distilled water.
- (2) Prepare the endophyte staining solution of one part of 1 percent aniline blue solution with 2 parts of 85 percent lactic acid ($C_3H_6O_3$).

(3) Use stain as-is or dilute with water if staining is too dark.

(b) Procedure for determining levels of fungal endophyte in grass seed:

- (1) Take a sub-sample of seed (1 gram is sufficient) from the pure seed portion of the kind under consideration.
- (2) Digest seed at room temperature for 12–16 hours in a 5 percent sodium

hydroxide (NaOH) solution or other temperature/time combination resulting in adequate seed softening.

(3) Rinse thoroughly in running tap water.

(4) De-glume seeds and place on a microscope slide in a drop of endophyte staining solution. Slightly crush the seeds. Use caution to prevent carryover hyphae of fungal endophyte from one seed to another.

(5) Place coverglass on seed and apply gentle pressure.

(6) Examine with compound microscope at 100–400x magnification, scoring a seed as positive if any identifiable hyphae are present.

(7) Various sample sizes may be used for this test. Precision changes with sample size; therefore, the test results must include the sample size tested.

(c) Procedure for determining levels of fungal endophyte in seedlings from seed samples suspected to contain fungal endophyte:

(1) Select seeds at random and germinate.

(2) Examine seedlings from the sample germinated after growing for a minimum of 48 days.

(3) Remove the outermost sheath from the seedling. Tissue should have no obvious discoloration from saprophytes and should have as little chlorophyll as possible.

(4) Isolate a longitudinal section of leaf sheath approximately 3–5 mm in width.

(5) Place the section on a microscope slide with the epidermis side down.

(6) Stain immediately with the endophyte staining solution as prepared in paragraph (a)(2) and (3) of this section. Allow dye to remain at least 15 seconds but no more than one minute.

(7) Blot off the excess dye with tissue paper. Sections should remain on the slide, but may adhere to the tissue paper; if so, remove and place in proper position on the slide.

(8) Place a coverglass on the sections and flood with water.

(9) Proceed with evaluation as described in paragraph (b) (6) and (7) of this section.

35. In § 201.60, paragraphs (a)(1) and (c) are revised to read as follows:

§ 201.60 Purity percentages.

(a)(1) The tolerance for a given percentage of the purity components is the same whether for pure seed, other crop seed, weed seed, or inert matter. Wider tolerances are provided when 33 percent or more of the sample is composed of seed plus empty florets and/or empty spikelets of the following chaffy kinds: Wheatgrasses (*Agropyron* spp.); bentgrasses and redtop (*Agrostis*

spp.); meadow foxtail (*Alopecurus pratensis*); bluestems (*Andropogon* spp.); sweet vernalgrass (*Anthoxanthum odoratum*); tall oatgrass (*Arrhenatherum elatius*); carpetgrass (*Axonopus affinis*); yellow bluestem (*Bothriochloa ischaemum*); grammas (*Bouteloua* spp.); bromes, rescuegrass, and soft chess (*Bromus* spp.); buffalograss (*Buchloe dactyloides*); buffelgrass (*Cenchrus ciliaris*); rhodesgrass (*Chloris gayana*); bermudagrass and giant bermudagrass (*Cynodon* spp.); orchardgrass (*Dactylis glomerata*); veldtgrass (*Ehrharta calycina*); bottlebrush-squirreltail, Canada wildrye, and wheatgrasses (*Elymus* spp.); wheatgrasses (*Elytrigia* spp.); fescues (*Festuca* spp.); galletagrass (*Hilaria jamesii*); basin wildrye (*Leymus cinereus*); ryegrasses (*Lolium* spp.); molassesgrass (*Melinis minutiflora*); Indian ricegrass (*Oryzopsis hymenoides*); guineagrass (*Panicum maximum* var. *maximum*); dallisgrass (*Paspalum dilatatum*); vaseygrass (*Paspalum urvillei*); bluegrasses (*Poa* spp.); Russian wildrye (*Psathyrostachys juncea*); little bluestem (*Schizachyrium scoparium*); and yellow indiagrass (*Sorghastrum nutans*). The wider tolerances do not apply to seed devoid of hulls.

(c) Tolerances calculated by the following formula shall be used for either chaffy or nonchaffy mixtures when the average particle-weight ratio is 1.5:1 to 20:1 and beyond:

$$T = A - 100R[(100A/R)/(B+A/R) - T_1]/[(100B)/(B+A/R) + T_1] + R[(100A/R)/(B+A/R) - T_1]$$

The symbols used in the formula are as follows:

- T = tolerance being calculated.
 A = percent which the weight of the component with the heavier average particle-weight is of the weight of both components.
 B = percent which the weight of the component with the lighter average particle-weight is of the weight of both components.
 H = average particle-weight for the component with the heavier average particle-weight.
 L = average particle-weight for the component with the lighter average particle-weight.
 R = ratio of the average particle-weight for the component with the heavier average particle-weight to the average particle-weight for the component with the lighter average particle-weight. $R = H/L$.
 T_1 = regular tolerance for the kind of seed (chaffy or nonchaffy) and for $(100B)/(B+A/R)$.

TABLE 5—Continued

Crop	Foundation			Registered						Certified	
	Land	Isolation	Field	Seed	Land	Isolation	Field	Seed	Land	Isolation	Field Seed
Cross-pollinated	575	4 18 20 900 (59 274.32m)	1,000	0.1	857 1	4 18 20 300 (59 91.44m)	100	1.0	857 1	4 18 20 58 165 (59 50.29m)	50 47 50 2.0
Strains at least 80 percent apomictic and highly self-fertile species	575	4 18 20 60 (59 18.29m)	1,000	0.1	857 1	4 18 20 30 (59 9.14m)	100	1.0	857 1	4 18 20 58 15 (59 4.57m)	50 16 2.0
Lespedeza	15	4 10 (59 3.05m)	1,000	0.1	13	4 10 (59 3.05m)	400	0.25	12	4 10 (59 3.05m)	1001.0
Millet:											
Cross-pollinated	81	40 1,320 (59 402.34m)	27 20,000	0.005	81	40 1,320 (59 402.34m)	27 10,000	0.01	81	40 660 (59 201.71m)	27 5,000.02
Self-pollinated	81	23 0	3,000	0.05	81	23 0	2,000	0.1	81	23 0	1,000.2
Mustard	4	1,320 (59 402.34m)	2,000	0.05					2	24 660 (59 201.17m)	5000.25
Oat	71	23 0	3,000	0.2	71	23 0	2,000	0.3	71	23 0	1,000.5
Okra	71	1,320 (59 251.46m)	27 0	0.0	71	1,320 (59 402.34m)	27 2,500	0.5	71	825 (59 402.34m)	27 1,2501.0
Onion	71	5,280 (59 1,609.38m)	22 200	0.0	71	2,640 (59 804.66m)	22 200	22 0.5	71	1,320 (59 402.34m)	22 200 221.0
Pea, field	71	23 0	2,000	0.05	71	23 0	1,000	0.1	71	23 0	5000.2
Peanut	71	23 0	1,000	0.1	71	23 0	500	0.2	71	23 0	2000.5
Pepper	71	25 200 (59 60.96m)	0	0.0	71	25 100 (59 30.48m)	300	0.5	71	25 30 (59 9.14m)	1501.0
Rape:											
Cross-pollinated	4	24 1,320 (59 402.34m)	2,000	0.05					2	24 330 (59 100.59m)	5000.25
Self-pollinated	4	24 660 (59 201.17m)	2,000	0.05					2	24 330 (59 100.59m)	5000.25
Rice	71	39 10 (59 3.05m)	10,000	0.05	71	39 10 (59 3.05m)	5,000	0.1	71	39 10 (59 3.05m)	1,000.2
Rye	71	18 660 (59 201.17m)	3,000	0.05	71	18 660 (59 201.17m)	2,000	0.1	71	18 660 (59 201.17m)	1,000.2
Safflower	72	1,320 (59 402.34m)	10,000	0.01	72	1,320 (59 402.34m)	2,000	0.05	72	1,320 (59 402.34m)	1,000.1
Sainfoin	15	5 44 600 (59 182.88m)	1,000	0.1	13	5 44 300 (59 91.44m)	400	0.25	12	8 44 165 (59 50.29m)	1001.0
Sorghum:											
Non-hybrid	71	990 (59 201.76m)	27 50,000	0.005	71	990 (59 301.76m)	27 35,000	0.01	71	29 660 (59 201.17m)	27 20,000.05
Hybrid seedstock ...	71	990 (59 301.76m)	27 50,000	0.005							
Commercial hybrid								71	21 29 31 660 (59 201.17m)	27 20,000.1	
Soybean	33 1	23 0	1,000	0.1	33 1	23 0	500	0.2	33 1	23 0	2000.5
Sunflower:											
Nonhybrid	1	41 45 2,640 (59 804.66m)	200	0.02	1	41 45 2,640 (59 804.66m)	200	0.02	1	41 45 2,640	200 34 0.1
Hybrid	1	41 45 2,640 (59 804.66m)	35 250	56 0.02					1	41 45 2,640 (59 804.66m)	35 250 34 56
Tomato	71	25 200 (59 60.96m)	0	0	71	25 100 (59 30.48m)	300	0.5	71	25 30 (59 9.14m)	1501.0
Tobacco:											
Nonhybrid	36 0	37 150 (59 45.72m)	0	0.01	36 0	37 150 (59 45.72m)	0	0.01	36 0	37 150 (59 45.72m)	00.01
Hybrid									36 0	38 150 (59 45.72m)	00.01
Trefoil, birdsfoot .	15	5,44 600 (59 182.88m)	1,000	0.1	13	5,44 300 (59 91.44m)	400	0.25	12	6,44 165 (59 50.29m)	1001.0
Triticale	71	23 0	3,000	0.05	71	23 0	2,000	0.1	71	23 0	10,000.2
Vetch	1.75	17,44 10 (59 3.05m)	1,000	0.1	1.73	17,44 10 (59 3.05m)	400	0.25	1.72	17,44 10 (59 3.05m)	1001.0

TABLE 5—Continued

Crop	Foundation				Registered				Certified		
	Land	Isolation	Field	Seed	Land	Isolation	Field	Seed	Land	Isolation	Field Seed
Vetch, milk	15	5,44600 (59 182.88m)	2,000	0.05	13	5,44300 (59 91.44m)	1,000	0.1	12	44165 (59 50.29m)	2000.5
Watermelon	71	262,640 (59 804.66m)	280	0	71	262,640 (59 402.34m)	280	-0.5	71	261,320	28 5001.0
Wheat:											
Nonhybrid	71	230	3,000	0.05	71	230	2,000	0.1	71	230	10,000.2
Hybrid	301	21,32660 (59 201.17m)	3,000	0.05	301	21,32660 (59 201.17m)	2,000	0.1	301	21,32330 (59 100.59m)	10,000.2
Hybrid (Chemically assisted)									510	52,53330 (59 100.58m)	54 1,000 55 0.2

¹ The land must be free of volunteer plants of the crop kind during the year immediately prior to establishment and no manure or other contaminating material shall be applied the year previous to seeding or during the establishment and productive life of the stand.

² At least 2 years must elapse between destruction of indistinguishable varieties or varieties of dissimilar adaptation and establishment of the stand for the production of the Certified class of seed.

³ Isolation distance for certified seed production shall be at least 500 feet (152.07m) from varieties of dissimilar adaptation.

⁴ Isolation between classes of the same variety may be reduced to 25 percent of the distance otherwise required.

⁵ This distance applies when fields are 5 acres (2ha) or larger in area. For smaller fields, the distances are 900 feet (274.32m) and 450 feet (137.16m) for the Foundation and Registered classes, respectively.

⁶ Fields of less than 5 acres (2ha) require 330 feet (100.59m).

⁷ Requirement is waived if the previous crop was grown from certified seed of the same variety.

⁸ Requirement is waived if the previous crop was of the same variety and of a certified class equal or superior to that of the crop seeded.

⁹ Reseeding varieties of crimson clover may be allowed to volunteer back year after year on the same ground. If a new variety is being planted where another variety once grew, the field history requirements apply.

¹⁰ No isolation is required for the production of hand-pollinated seed.

¹¹ When the contaminant is the same color and texture, the isolation distance may be modified by (1) adequate natural barriers or (2) differential maturity dates, provided there are no receptive silks in the seed parent at the time the contaminant is shedding pollen. In addition, dent sterile popcorn requires no isolation from dent corn.

¹² Where the contaminating source is corn of the same color and texture as that of the field inspected or white endosperm-corn optically sorted, the isolation distance is 410 feet (124.97m) and may be modified by the planting of pollen parent border rows according to the following table:

Minimum distance from contaminant	Minimum No. of border rows required	
	Field size, up to 20 acres (8ha)	Field size, 20 acres or more (8ha)
410 (124.97m)	0	0
370 (112.78m)	2 (0.8ha)	1 (0.4ha)
330 (100.59m)	4 (1.6ha)	2 (0.8ha)
290 (88.39m)	6 (2.4ha)	3 (1.2ha)
245 (74.68m)	8 (3.2ha)	4 (1.6ha)
205 (62.48m)	10 (4.0ha)	5 (2.0ha)
165 (50.29m)	12 (4.8ha)	6 (2.4ha)
125 (38.10m)	14 (5.6ha)	7 (2.8ha)
85 (25.91m)	16 (6.4ha)	8 (3.2ha)
0	Not Permitted	10 (4.0ha)

¹³ Refers to off-type plants in the pollen parent that have shed pollen or to the off-type plants in the seed parent at the time of the last inspection.

¹⁴ The required minimum isolation distance for sweet corn is 660 feet (201.17m) from the contaminating source, plus four border rows when the field to be inspected is 10 acres (4.0ha) or less in size. This distance may be decreased by 15 feet (4.57m) for each increment of 4 acres (1.6ha) in the size of the field to a maximum of 40 acres (16ha) and further decreased 40 feet (12.19m) for each additional border row to a maximum of 16 rows. These border rows are for pollen-shedding purposes only.

¹⁵ Refers to off-type ears. Ears with off-colored or different textured kernels are limited to 0.5 percent, or a total of 25 off-colored or different textured kernels per 1,000 ears.

¹⁶ The Merion variety of Kentucky bluegrass is allowed 3 percent.

¹⁷ All cross-pollinating varieties must be 400 feet (121.92m) from any contaminating source.

¹⁸ Isolation between diploids and tetraploids shall be at least 15 feet (4.57m).

¹⁹ Minimum isolation shall be at least 100 feet (30.48m) if the cotton plants in the contaminating source differ by easily observable morphological characteristics from the field to be inspected.

²⁰ Isolation distance between upland and Egyptian types shall be at least 1,320 feet (402.34m), 1,320 feet (402.34m), and 660 feet (182.88m) for Foundation, Registered, and Certified classes, respectively.

²¹ These distances apply when there is no border removal. Border removal applies only to fields of 5 acres (2ha) or more. Removal of a 9-foot (2.74m) border (after flowering) decreases the required distance for Foundation, Registered, and Certified seed classes to 600 feet (182.88m), 225 feet (68.58m), and 100 feet (30.48m), respectively, for cross-pollinated species, and to 30 feet (9.14m), 15 feet (4.57m), and 15 feet (4.57m), respectively, for apomictic and self-pollinated species. Removal of a 15 foot (4.57m) border (after flowering) allows a further decrease to 450 feet (136.16m), 150 feet (45.72m), and 75 feet (22.86m), respectively, for cross-pollinated species.

²² Isolation distances between 2 fields of the same kind may be reduced to a distance adequate to prevent mechanical mixture, if the sum of percentages of plants in bloom in both fields does not exceed 5 percent at a time when more than 1 percent of the plants in either field are in bloom.

²³ Refers to bulbs.

²⁴ Distance adequate to prevent mechanical mixture is necessary.

²⁵ Required isolation between classes of the same variety is 10 feet (3.05m).

²⁶ The minimum distance may be reduced by 50 percent if different classes of the same variety are involved.

²⁷ The minimum distance may be reduced by 50 percent if the field is adequately protected by natural or artificial barriers.

²⁸ These ratios are for definite other varieties. The ratios for doubtful other varieties are:

	Foundation	Registered	Certified
Millet	1:10,000	1:5,000	1:2,500
Sorghum:			
Nonhybrid	1:20,000	1:10,000	1:1,000
Hybrid	1:20,000	Not Applicable	1:1,000
Okra	None	1:750	1:500

²⁹ Whiteheart fruits may not exceed 1 per 100, 40, and 20 for Foundation, Registered, and Certified classes, respectively. Citron or hard rind is not permitted in Foundation or Registered classes and may not exceed 1 per 1,000 fruits in the Certified class.

³⁰ This distance applies if the contaminating source does not genetically differ in height from the pollinator parent or has a different chromosome number. If the contaminating source does (genetically) differ and has the same chromosome number the distance shall be 990 feet (301.76m). The minimum isolation from grass sorghum or broomcorn with the same chromosome number shall be 1,320 feet (402.34m).

³¹ Requirement is waived for the production of pollinator lines if the previous crop was grown from a certified class of seed of the same variety. Sterile lines and crossing blocks must be on land free of contaminating plants.

³¹ If the contaminating source is similar to the hybrid in all important characteristics, the isolation may be reduced by 66 feet (20.12m) for each pair of border rows of the pollinator parent down to a minimum of 330 feet (100.59m). These rows must be located directly opposite or diagonally to the contaminating source. The pollinator border rows must be shedding pollen during the entire time 5 percent or more of the seed parent flowers are receptive.

³² An unplanted strip at least 2 feet (0.61m) in width shall separate male sterile plants and pollinator plants in inter-planted blocks.

³³ Unless the preceding crop was another kind or unless the preceding soybean crop was planted with a class of certified seed of the same variety, or unless the preceding soybean crop and the variety being planted have an identifiable character difference, in which case, no time need elapse.

³⁴ May include not more than 0.04 percent purple or white seeds.

³⁵ Standards apply equally to seed parents and pollen parents which may include up to 1,000 plants each of the wild-type branching, purple, or white-seeded plants.

³⁶ A new plant bed must be used each year unless the bed is properly treated with a soil sterilant prior to seeding.

³⁷ This distance is applied between varieties of the same type and may be waived if four border rows of each variety are allowed to bloom and set seed between the two varieties but are not harvested for seed. Isolation between varieties of different types shall be 1,320 feet (402.34m) except if protected by bagging or by topping all plants in the contaminating source before bloom.

³⁸ When male sterile and male fertile plants of the same type are planted adjacent in a field, this requirement may be waived; provided, four border rows of male sterile plants are allowed to bloom and set seeds. The seed from these border rows shall not be harvested as part of the certified lot of seed produced by the male sterile plants. When plants are of different types, the distance shall be 1,320 feet (402.34m) except if protected by bagging or by topping all plants in the contaminating source before bloom.

³⁹ Isolation between varieties or non-certified fields of the same variety shall be 100 feet (30.48m) if aerial seeded and 50 feet (15.24m) if ground broadcast, and 10 feet (3.05m) if ground drilled.

⁴⁰ Isolation between millets of different genera shall be 6 feet (1.83m).

⁴¹ Does not apply to *Helianthus similis*, *H. ludens*, or *H. agrestis*.

⁴² The ratio of male sterile (A) strains and pollen (B or C) strains shall not exceed 2:1.

⁴³ Parent lines (A and B) in a crossing block, or seed and pollen lines in a hybrid seed production field, shall be separated by at least 6 feet (1.83m) and shall be managed and harvested in a manner to prevent mixing.

⁴⁴ Distance between fields of certified classes of the same variety may be reduced to 10 feet (3.05m) regardless of the class or size of the fields.

⁴⁵ An isolation distance of 5,280 feet (1,609.36m) is required between oil and non-oil sunflower types and between either type and other volunteers or wild types.

⁴⁶ Detasseling, cutting, or pulling of the cytoplasmic male-sterile seed parent is permitted.

⁴⁷ All varieties of perennial ryegrass seed are allowed 3.0 percent.

⁴⁸ This distance applies for fields over 5 acres (2ha). For alfalfa fields of 5 acres (2ha) or less that produce the Foundation and Registered seed classes, the minimum distance from a different variety or a field of the same variety that does not meet the varietal purity requirements for certification shall be 900 feet (274.32m) and 450 feet (137.16m), respectively.

⁴⁹ There must be at least 10 feet (3.05m) or a distance adequate to prevent mechanical mixture between a field of another variety (or noncertified area within the same field) and the area being certified. The 165 feet (50.29m) isolation requirement is waived if the area of the "isolation zone" is less than 10 percent of the field eligible for the Certified class. The "isolation zone" is that area calculated by multiplying the length of the common border(s) with other varieties of alfalfa by the average width of the field (being certified) falling within the 165 feet (50.29m) isolation. Areas within the isolation zone nearest the contamination source shall not be certified.

⁵⁰ Seed of *Critana thickspike* wheatgrass (*Elytrigia dasystachya*) may contain up to 30 percent slender wheatgrass (*Elymus trachycaulus*) types.

⁵¹ Crossing blocks must be planted on land free of volunteer contaminating plants.

⁵² This distance applies to the seed parent when the contaminating source is wheat of another market class. If the contaminating source is the same market class as the seed parent, the distance may be modified by the planting of pollen parent border according to the following table:

Minimum distance from contaminant		Pollen (parent border)	
		Feet	Meters
Feet	Meters		
330	100.59	0	0
275	83.82	15	4.57
215	65.53	25	7.62
160	48.77	35	10.67
100	30.48	50	15.25

⁵³ Interplanted blocks of seed parent and pollinator shall be separated by an unplanted strip a minimum of one foot (0.31m) in width and be clearly identifiable.

⁵⁴ If Foundation or Registered the ratio shall be 1:3000 (Foundation) and 1:2000 (Registered).

⁵⁵ Does not include seed of the female parent.

⁵⁶ Pre-Control Test Standards.

If field inspection shows one or more of the following, the applicant may request that seed certification be based on the results of a pre-certification grow-test approved by the certification agency:

- a. inadequate isolation;
- b. too few male parent plants shedding pollen when female plants are receptive;
- c. excess off-types not to include wild types.

In such case, at least 2,000 plants must be observed and meet the following standards before seed can be certified from fields with problems listed above.

Factor	Maximum permitted	
	Hybrid (percent)	Inbred (percent)
Sterile Plants	5.0	5.0
Sterile or Fertile Plants	0.5	0.5
Morphological Variants	0.2	0.2
Wild types	5.0	5.0
Total (including above types)		

For non-oil types, seed which contains not more than 15 percent sterile plants may be certified. If it contains 85 percent-95 percent hybrid plants, the percentage of hybrid shall be shown on the certification label.

⁵⁷ Application to establish the pedigree must be made within one year of seeding. The crop will remain under supervision of the certifying agency as long as the field is eligible for certification.

⁵⁸ These distances apply when there is no border removal. Varieties that are 95 percent or more apomictic, as defined by the originating breeder, shall have the isolation distance reduced to a mechanical separation only. Varieties less than 95 percent apomictic and all other cross pollinating species that have an "isolation zone" of less than 10 percent of the entire field, no isolation is required. (Isolation zone is calculated by multiplying the length of the common border with other varieties of grass by the average width of the certified field falling within the isolation distance required.)

⁵⁹ Indicates metric equivalent in meters.

Dated: May 6, 1994.

Lon Hatamiya,

Administrator.

[FR Doc. 94-11492 Filed 5-16-94; 8:45 am]

BILLING CODE 3410-10-D

Federal Register

Tuesday
May 17, 1994

Part III

Department of Education

34 CFR Part 682

Federal Family Education Loan Program;
Final Rule

DEPARTMENT OF EDUCATION

34 CFR Part 682

RIN 1840-AA96

Federal Family Education Loan Program

AGENCY: Department of Education.

ACTION: Final regulations.

SUMMARY: This document contains corrections and other technical changes to the final regulations for the Federal Family Education Loan Program which were published in the *Federal Register* on December 18, 1992 (57 FR 60280). The regulations govern the Federal Stafford Loan Program, the Federal Supplemental Loans for Students (Federal SLS) Program, the Federal PLUS Program and the Federal Consolidation Loan Program, collectively referred to as the Federal Family Education Loan Program.

EFFECTIVE DATE: These regulations take effect either 45 days after publication in the *Federal Register* or later if the Congress takes certain adjournments, with the exception of § 682.209. Section 682.209 will become effective after the information collection requirements contained in this section have been submitted by the Department of Education and approved by the Office of Management and Budget under the Paperwork Reduction Act of 1980. A document announcing the effective date will be published later in the *Federal Register*.

FOR FURTHER INFORMATION CONTACT: Pamela Moran or Patricia Beavan, Policy Section, Loans Branch, Policy Development Division, Policy, Training, and Analysis Service, Department of Education, 400 Maryland Avenue SW., (room 4310, ROB-3) Washington, DC 20202. Telephone 202-732-8242. Individuals who use a telecommunication device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8 a.m. and 8 p.m., Eastern time, Monday through Friday.

SUPPLEMENTARY INFORMATION: The final regulations make corrections to the final regulations published on December 18, 1992, which contained several self-implementing provisions of the Higher Education Amendments of 1992 (1992 Amendments) (enacted July 23, 1992) (Pub. L. 102-325). The regulations also include two changes made to those self-implementing provisions by the Higher Education Technical Amendments of 1993 (Technical Amendments of 1993) (Pub. L. 102-208) (enacted December 20, 1993).

Waiver of Proposed Rulemaking

It is the practice of the Secretary to offer interested parties the opportunity to comment on proposed regulations. However, with the exception of two changes made to reflect self-implementing provisions of the Technical Amendments of 1993, all other provisions in this regulation reflect corrections to the Federal Family Education Loan Program (FFEL) regulations published on December 18, 1992. The FFEL regulations published on December 18, 1992 were the subject of extensive public comment prior to the publication. The Secretary has also consulted with and received extensive written comments from members of the higher education community in the development of the corrections to the December 18, 1992 regulations and believes that public comment on these technical corrections for publication of regulations does not warrant the solicitation of further public comment. Moreover, the Secretary believes that it is important to have these technical corrections reflected in the Department's regulations as soon as possible. Therefore, the Secretary finds that such a solicitation would be unnecessary and contrary to the public interest under 5 U.S.C. 553(b)(B).

List of Subjects in 34 CFR Part 682

Administrative practice and procedures, Colleges and universities, Education, Loan programs—education, Reporting and recordkeeping requirements, Student aid, Vocational education.

Dated: May 9, 1994.

Richard W. Riley,
Secretary of Education.

The Secretary amends part 682 of title 34 of the Code of Federal Regulations as follows:

PART 682—FEDERAL FAMILY EDUCATION LOAN (FFEL) PROGRAM

1. The authority citation for part 682 continues to read as follows:

Authority: 20 U.S.C. 1071 to 1087, unless otherwise noted.

§ 682.100 [Amended]

2. In § 682.100, paragraph (a)(3), in the first sentence, add the word "undergraduate" before the word "students"; in the second sentence, add the parenthetical phrase "(then known as Auxiliary Loans to Assist Students (ALAS))", after the word "PLUS"; in paragraph (a)(4), remove "PLUS" after "SLS", and add, in its place, "ALAS"; remove "part C", and add, in its place, "part A", after the word "Act", add the

phrase "Higher Education Assistance Loans (HEAL) authorized by subpart I of part A of Title VII of the Health Services Act", remove "borrowers whose loans were made after October 17, 1986", and add, in its place, "loans, or married couples who have a combined indebtedness of at least \$7,500 under these programs".

§ 682.101 [Amended]

3. In § 682.101, paragraph (c), in the second sentence, add the word "undergraduate" before the word "students"; in the third sentence, remove "Students borrowers", and add, in its place, "Borrowers", add "HEAL, ALAS," after the word "HPSL", remove "or" after "Plus loans", and add a comma in its place, remove the phrase "borrowed after October 16, 1986", and add, in its place, "or married couples who have a combined indebtedness of at least \$7,500 under these programs".

§ 682.102 [Amended]

4. In § 682.102, in paragraph (d), after the second sentence, add a new sentence to read "In the case of a married couple seeking a Consolidation loan, only the holders for one of the applicants must be contacted for consolidation."; in paragraph (e)(3), in the second sentence, add "but who has not yet entered repayment on the Stafford loan," after the phrase "Stafford loan borrower"; in paragraph (e)(4), in the first sentence, remove "immediately upon disbursement of the loan", and add, in its place, "on the day the loan is disbursed"; in paragraph (e)(5), after "Generally, the", add, "repayment period for a Consolidation loan begins on the day the loan is disbursed. The".

§ 682.200 [Amended]

5. In § 682.200 paragraph, the definition of "Co-maker" is revised; in the definition of "Default", add "or Consolidation" after "PLUS"; in the definition of "Estimated financial assistance", in paragraph (1)(v), add "to the extent funding is available," after "campus-based aid," in paragraph (2), "(i)" is added after "include", paragraphs (2)(i), (2)(ii), and (2)(iii) are redesignated as paragraphs (2)(i)(A), (2)(i)(B), and (2)(i)(C) respectively, paragraph (2)(iv) is redesignated as paragraph (2)(ii), in redesignated paragraph (2)(i)(A), add the word "Nonsubsidized" before the word "Stafford", in redesignated paragraph (2)(i)(B), add the word "or" after the semicolon; in the definition of "Half-time student", in the first sentence, remove "in a participating school", and add, in its place, "in an eligible institution"; in the definition of

"Origination fee", after the second sentence, add a new sentence to read "The lender must pass this fee on to the SLS or PLUS borrower."; in the definition of "Period of Enrollment", in the second sentence, remove the word "normally", and add, in its place, "generally", before the period, add the parenthetical phrase "(e.g., semester, trimester, quarter, length of the student's program or academic year)"; in the definition of "Repayment period", in paragraph (1), before the word "date", remove the word "that", and add, in its place, the word "the", after the word "date", add "the first payment of principal is due from the borrower", paragraph (2)(i) is revised, in paragraph (2)(ii), after the word "period", add the phrase, "for payment of principal", remove the word "ending", and add, in its place, the word "ends", at the end of the paragraph, add a new sentence to read, "Interest accrues and is due and payable from the date of the first disbursement of the loan."; in the definition of "Stafford Loan Program", in the second sentence, remove the words "An unsubsidized", and add, in their place, the words "A nonsubsidized" to read as follows:

§ 682.200 Definitions.

* * * * *

(b) * * *
Co-maker. One of two parents who are joint borrowers on a PLUS loan, each of whom is eligible to borrow, or one of two individuals who are joint borrowers on a Consolidation loan. All co-makers on a loan are jointly and severally liable for repayment of the loan.

* * * * *

Repayment period.

(1) * * *
 (2)(i) For PLUS loans, the repayment period for payment of principal begins on the date of the last disbursement of the loan and ends no later than 10 years from that date, exclusive of any period of deferment or forbearance. Interest on the loan accrues and is due and payable from the date of the first disbursement of the loan.

* * * * *

§ 682.201 [Amended]

6. In § 682.201, in paragraph (a), after "if the student", add "who is enrolled or accepted for enrollment on at least a half-time basis at a participating school"; in paragraph (a)(2)(i), after "need for a", add the word "subsidized"; in paragraph (b)(1), after the word "dependent", add "undergraduate"; after the word "student", add "who is enrolled or accepted for enrollment on at least a

half-time basis at a participating school and", before the semicolon, add "and the requirement of paragraph (a)(6) of this section"; in paragraph (b)(6), remove the cross reference to paragraphs "(a)(5) and (a)(6)", and add, in its place "(a)(4) and (a)(5)"; in paragraph (c)(1)(i), remove "under this part" and add, in its place "under § 682.100"; paragraph (c)(1)(ii) is revised, new paragraphs (c)(1)(iii) through (vi) are added, paragraph (c)(2)(iii) is revised, and a new paragraph (c)(3) is added to read as follows:

§ 682.201 Eligible borrowers.

* * * * *

(c) * * *
 (1) * * *
 (ii) Has ceased at least half-time enrollment at a school;
 (iii) Is, on the loans being consolidated—
 (A) In a grace period preceding repayment;
 (B) In repayment status; or
 (C) In a default status and has made satisfactory repayment arrangements on the loan;
 (iv) Certifies that no other application for a Consolidation loan is pending;
 (v) Agrees to notify the holder of any change in address; and
 (vi) Certifies that the lender holds an outstanding loan of the borrower which is being consolidated or that the borrower has unsuccessfully sought a loan from the holder of the outstanding loans.

(2) * * *
 (iii) Meets the requirements of paragraph (c)(1) of this section, except that their combined indebtedness may not be less than \$7,500 on loans eligible for consolidation under § 682.100 and only one borrower must have met the requirements of paragraphs (c)(1)(iv), (v), and (vi) of this section.

(3) A borrower's eligibility to receive a Consolidation loan terminates upon receipt of a Consolidation loan except—

(i) With respect to additional student loans received after the date the Consolidation loan is made; or
 (ii) Loans received prior to the date the Consolidation loan was made may be added to the Consolidation loan during the 180-day period after the making of the Consolidation loan.

§ 682.202 [Amended]

7. In § 682.202, paragraph (a)(1)(i)(C), before the semi-colon, add "but before July 1, 1988"; in paragraph (a)(1)(i)(D), after "July 1, 1988", add "and for which the first disbursement is made before October 1, 1992"; in paragraph (a)(1)(ii), after "the rate", "charged on"

is removed and add, in its place "applicable to"; in paragraph (a)(1)(iii), before "the applicable interest rate", add "for a Stafford loan for which the first disbursement is made before October 1, 1992"; in paragraph (a)(1)(iv), before "the applicable" add "for a Stafford loan for which the first disbursement is made before October 1, 1992"; in paragraph (a)(1)(v), the cross-reference "(a)(1)(i)(C)" is removed, and "(a)(1)(i)(F)" is added in its place; in paragraph (a)(1)(vii), before the word "interest", add the word "applicable"; in paragraph (a)(1)(vii)(A), the cross-reference "(a)(1)(iv)" is removed, and "(a)(1)(viii)" is added, in its place; in paragraph (a)(1)(ix), "December 31" is removed, and "the date the lender credits the adjustment" is added in its place; paragraph (b)(4) is revised; in paragraph (b)(5), "SLS, PLUS, or Consolidation" is added after "Stafford", in paragraph (c)(5), "the portion of" is removed, "any portion" is removed, and "each disbursement" is added in its place; paragraph (c)(5)(i) is removed, paragraph (c)(5)(ii) is redesignated as paragraph (c)(5)(i), at the end of redesignated paragraph (c)(5)(i) the word "or" is removed, paragraph (c)(5)(iii) is redesignated as paragraph (c)(5)(ii), at the end of redesignated paragraph (c)(5)(ii) the period is removed, and "or" is added in its place; and new paragraphs (c)(5)(iii) and (h) are added to read as follows:

§ 682.202 Permissible charges by lenders to borrowers.

* * * * *

(b) * * *
 (4) Under the SLS and PLUS programs, the lender shall require the borrower to pay on a monthly, or no more frequently than quarterly, or with the borrower's written consent, capitalize on a quarterly basis interest that has accrued during all authorized periods of deferment.

* * * * *

(c) * * *
 (5) * * *
 (iii) Not released from the restricted account maintained by the school for loan proceeds disbursed by electronic funds transfer in accordance with § 682.207(b)(1)(ii)(B).

* * * * *

(h) *Special allowance.* Under § 682.412(c), a lender may charge a borrower the amount of special allowance paid the Secretary on behalf of the borrower.

§ 682.205 [Amended]

8. In § 682.205, in paragraph (c), remove "60" and add "30", in its place;

in paragraph (d) introductory text, remove "capitalizing —", and add, in its place, "principal and interest, interest only and capitalized interest.", and paragraphs (d)(1) and (d)(2) are removed.

9. In § 682.206, paragraph (e)(1), after "FISL", add ", SLS"; and a new paragraph (e)(3) is added to read as follows:

§ 682.206 Due diligence in making a loan.

(e) * * *

(3) A Federal Consolidation loan may be made to two eligible spouses provided both borrowers agree to be jointly and severally liable for repayment of the loan as co-makers.

§ 682.207 [Amended]

10. In § 682.207, in paragraph (d)(2)(i)(A), remove the word "charges" and add, in its place, the word "costs".

§ 682.209 [Amended]

11. In § 682.209, in paragraph (a)(1), remove "PLUS loan disbursed in one installment or a"; in paragraph (a)(2)(i), in the first sentence, remove "disbursed in more than one installment", remove the word "first" before the word "disbursement" and add, in its place the word "last", at the end of the second sentence, add a new sentence to read, "Interest accrues and is due and payable from the date of the first disbursement of the loan."; in paragraph (a)(2)(ii), at the end of the first sentence, add a new sentence to read "Interest accrues and is due and payable from the date of the first disbursement of the loan."; in paragraph (a)(3)(ii)(C), remove the word "or", in paragraph (a)(3)(ii)(D), remove the period, and add, in its place "; or", and add a new paragraph (a)(3)(ii)(E); in paragraph (b)(1), in the second sentence, remove "Except as provided in paragraph (b)(2) of this section, the" and add, in its place, "The", before the word "first", add the word "amount", after "outstanding principal" remove the comma and add, in its place, a period, and remove the remainder of the sentence; in paragraph (b)(2), in the first sentence, after the word "installments", add "by advancing the next payment due date,"; in paragraph (c)(1)(i), remove "paragraphs (c)(1) (ii) and (iii)" and add, in its place "paragraph (c)(1)(ii)"; in paragraph (h)(4)(ii), after the word "unless", add ", with respect to any loan being consolidated," to read as follows:

§ 682.209 Repayment of a loan.

(a) * * *

(3) * * *

(iii) * * *

(E) An additional 30 days beyond the periods specified in paragraphs (a)(3)(ii)(A)–(a)(3)(ii)(D) of this section in order for the lender to comply with the required deadlines contained in § 682.205(c)(1).

§ 682.210 [Amended]

12. In § 682.210, in paragraph (a)(3)(ii), after the word "loan", add "for which the application was received by an eligible lender on or after January 1, 1993"; in paragraph (a)(8), remove the phrase "as to that loan"; in paragraph (b)(6) introductory text, after the word "when", remove "the" and add, in its place, "a"; in paragraph (c)(3), before "SLS", remove "an" and add, in its place "a Stafford", after the word "application", add "or other form certified by the school or for multiple holders of a borrower's loans, shared data from the Student Status Confirmation Report," after the word "outstanding", add "Stafford", and remove "that is held by the lender".

§ 682.211 [Amended]

13. In § 682.211, paragraph (d), in the second sentence, remove the words "repayment obligation" and add, in their place, the words "agreement to repay the debt"; in paragraph (g), remove "12-month intervals" and add, in its place "intervals not to exceed 12 months."

§ 682.300 [Amended]

14. In § 682.300, paragraph (a), in the first sentence, after the word "loan", add "and, except for that portion of the loan that repaid a HEAL loan, on a Consolidation loan"; in paragraph (b)(2)(ii), remove the phrase "that represents a portion of the loan"; in paragraph (b)(2)(ii)(A), remove the word "negotiated" and add, in its place the word "cashed".

§ 682.302 [Amended]

15. In § 682.302, in paragraph (d)(1)(vi)(A), remove the word "negotiated" and add, in its place, the word "cashed"; in paragraph (d)(1)(vii), after "returns a claim", add "submitted by the deadline specified in (d)(1)(v) of this section".

§ 682.401 [Amended]

16. In § 682.401, in paragraph (b)(5)(ii), remove "432(h)(3)" and add, in its place, "432(h)(2)"; in paragraph (b)(7), in the first sentence, remove "§ 682.404(i)(2)" and add, in its place, "§ 682.404(h)(2)"; in paragraph (b)(8), in the first sentence, remove

"§ 682.404(i)(2)" and add, in its place, "§ 682.404(h)(2)"; in paragraph (b)(9)(vi), remove "all or part of"; in paragraph (b)(9)(vi)(A), remove ", or the portion", remove "a portion of a loan disbursed in more than one installment" and add, in its place, the phrase "each disbursement of a loan"; paragraphs (b)(14) through (b)(22) are redesignated as paragraphs (b)(15) through (b)(23), respectively; a new paragraph (b)(14) is added; in redesignated paragraph (b)(16)(i) after "(i)", remove the word "The" and add in its place "Except in the case of a loan assignment that does not result in a change in the identity of the party to whom payments must be made, the" to read as follows:

§ 682.401 Basic program agreement.

(b) * * *

(14) Guarantee agency verification of default data. A guarantee agency shall respond to an institution's written request for verification of its default rate data for purposes of an appeal pursuant to 34 CFR 668.15(g)(1)(i) within 15 working days of the date the agency receives the institution's written request pursuant to 34 CFR 668.15(g)(7), and simultaneously provide a copy of that response to the Secretary's designated Department official.

§ 682.402 [Amended]

17. In § 682.402, paragraph (a)(2), after the word "co-makers", add the phrase "or a Consolidation loan was obtained jointly by married borrowers"; in paragraph (g)(3)(ii) remove the cross-reference to "(h)(2)" and add, in its place, "(g)(2)"; in paragraph (k), remove the cross-reference to "11 U.S.C. 523(a)(8)(B)" and add, in its place, "11 U.S.C. 523(a)(8)(A)"; in paragraph (k)(2), after the word "deferment", add, "as provided in § 682.210(a)(5)".

§ 682.404 [Amended]

18. In § 682.404, in paragraph (a)(5), after "section," add "upon request of the school,"; in paragraph (h), after the word "particular", and add the word "participating".

19. In § 682.406, paragraph (a)(3) is revised to read as follows:

§ 682.406 Conditions of reinsurance coverage.

(a) * * *

(3) The lender provided—

(i) An accurate collection history to the guaranty agency with the default claim filed on the loan sufficient to support guarantor review for claim payment showing that the lender exercised due diligence in collecting the

loan through collection efforts meeting the requirements of § 682.411, including collection efforts against each endorser; and

(ii) A payment history that supports the claim payment amount.

§ 682.410 [Amended]

20. In § 682.410, in paragraph (b)(6)(ii)(A), in the first sentence, remove from “, or, in the case” to the end of the sentence, in the second sentence, after the word “days”, add “during the period specified in paragraph (5)(iv)(B) of this section,”; in paragraph (b)(6)(ii)(C), in the first sentence, after “paragraphs (b)(6)(iii) or (iv) of this section”, add “or, in the case of a borrower whom the agency locates through the use of skip-tracing under paragraph (b)(6)(xii) of this section,”; after “paragraphs (b)(6)(iii)-(vii) of this section”, add “if the written notice described in paragraph (b)(5)(ii) of this section has been sent,”; remove “60 day” and add, in its place, “60 days”, before the period, add “or receipt of confirmation of the borrower’s address, as applicable”; in paragraph (b)(6)(iii)(A) before the semicolon, add “, unless the notice was previously sent pursuant to paragraph (b)(5)(ii) of this section”.

§ 682.411 [Amended]

21. In § 682.411, paragraph (a), remove the cross reference “(c)-(l)”, and add, in its place, “(c)-(m)”; in paragraph (b), after the heading, add “(1)”, at the end of the second sentence, before the period, add “, except as provided in § 682.209(a)(3)(ii)(E)”; a new paragraph (b)(2) is added; paragraph (d)(5) is removed; in paragraph (f), remove the cross-reference to “(f)(1)”, and add, in its place, “(l)(1)”; in paragraph (g)(3), after “(k)”, add “(1) through (k)(3) and (k)(5)”; in paragraph (g)(4), remove the cross-reference to “(l)(1) (A) or (B)” and add, in its place, “(l)(1) (i) or (ii)”; in paragraph (i)(2)(ii), at the end of the paragraph, remove the word “or”; paragraph “(i)(2)(iii)” is redesignated as paragraph “(i)(2)(iv)”, and a new paragraph “(i)(2)(iii)” is added; in paragraph (k)(3), after “(g)”, add “(1)”, after the word “address”, add “or telephone number”; in paragraph (l)(2), remove the word “address” and add, in its place, “telephone number” to read as follows:

§ 682.411 Due diligence by lenders in the collection of guaranty agency loans.

(2) At no point during the periods specified in paragraphs (c) and (d) of

this section may the lender permit the occurrence of a gap in collection activity, as defined in paragraph (i) of this section, of more than 45 days (60 days in the case of a transfer).

(i) * * *

(2) * * *

(iii) The day on which the lender receives written communication from the borrower relating to his or her account; or

§ 682.413 [Amended]

22. In § 682.413, in paragraph (c)(6), remove “that violate § 682.206(f)(1)”, and add, in its place, “for which the certification required under § 682.206(f)(1) is not available”.

§ 682.604 [Amended]

23. In § 682.604, in paragraph (c)(3)(i), after the word “student”, add “or parent”; in paragraph (d)(3), after the word “made”, add “, or a registered student withdraws or is expelled prior to the first day of classes of the period of enrollment for which the loan is made”; in paragraph (d)(4), after the word “If”, remove “a registered student withdraws or is expelled prior to the first day of classes of the period of enrollment for which the loan is made or fails to attend school during that period, or if”, after “reason to document that” remove the word “the” and add, in its place, “a registered”, after “attended school during”, remove the words “that period”, and add, in their place, “the period of enrollment for which the loan is made”, after the word “school”, add “, must determine the student’s withdrawal date as required under § 682.605(b)(1)(ii), and by the deadline described under § 682.605(b)(1)(A) and (B)”; in paragraph (e)(2), after the word “disbursement”, add “made by the lender under § 682.207(d)”; paragraphs (e)(2)(i), (e)(2)(ii), and (e)(2)(iii) are redesignated as paragraphs (e)(2)(ii), (e)(2)(iii), and “(e)(2)(iv) respectively, a new paragraph (e)(2)(i) is added; at the end of redesignated paragraph (e)(2)(ii) remove the word “or”; at the end of redesignated paragraph (e)(2)(iii) remove the period and add, in its place, “; or”; in paragraph (e)(4), in the first sentence, after the word “If” remove “a disbursement is received by the school within 60 days after the earlier of the dates described in paragraph (e)(1) of this section, if”, remove the word “charges” and add, in its place, “costs”; in paragraph (e)(4)(i), after the words “Return the”, add “balance of the”; in paragraph (e)(4)(i)(B), remove the word “correct” and add, in its place,

“corrected”; in paragraph (e)(4)(ii), remove the word “charges”, and add, in its place “costs” to read as follows:

§ 682.604 Processing the borrower’s loan proceeds and counseling borrowers.

(e) * * *

(2) * * *

(i) Deliver the proceeds of a late disbursement to a student borrower whose loan application was certified after the borrower ceased enrollment on at least a half-time basis;

24. In § 682.801, paragraph (d), after the semicolon, remove “and”; and add a new paragraph “(f)”, to read as follows:

§ 682.801 Provisions required in Plan.

(f) The Authority shall not purchase student loans at a premium amounting to more than one percent of the unpaid principal amount borrowed plus interest accrued to the date of acquisition.

Appendix B—[Amended]

25. In Appendix B, introductory text remove the word “model” and add, in its place, “required”.

Appendix D—[Amended]

26. In Appendix D, under the heading “Introduction”, in the second paragraph, in the sixth sentence, remove the cross-references to “682.406(a)(2), (a)(4), and 682.413(b)(1)” and add, in their place, “682.406(a)(3), (a)(5), and 682.413(b)”; in the third paragraph, in the first sentence, remove “45-day”, and add, in its place, “90-day”; remove the cross-reference to “§ 682.406(a)(4)” and add, in its place, “§ 682.406(a)(3) and (a)(5)”; in the fourth sentence, remove the cross-reference to “682.406(a)(5)” and add, in its place, “682.406(a)(7)”; in the fifth sentence, remove the cross-reference to “682.406(a)(6)” and add, in its place, “682.406(a)(7)”; in I. WAIVER POLICY, A. Definitions, in the definition of “Gap”, under the Note, in the second sentence, remove “For” and add, in its place, “This definition applies to”; remove the comma after “1986”, and add, in its place, a period and “For such loans,”; in B. General, in paragraph 5., in the second sentence, remove the sentence beginning “In that case” to the end of the paragraph, and add, in its place, “Guarantors must review the due diligence for the 180-day period prior to the default date ensuring the due date of the first payment not later made is the correct payment due date for the borrower.”; in E. Cures for Timely Filing Violations and Certain Due Diligence Violations, in paragraph

2. Death, Disability, and Bankruptcy claims., in the second paragraph, in the third sentence, remove "treat the loan as in default" and add, in its place, "return the borrower to the appropriate status that existed prior to the filing of the bankruptcy claim"; in II. DUE DATE OF FIRST PAYMENT, in the first paragraph, in the first sentence, remove the citation to "Section 682.411(b)", and add, in its place, "Section 682.411(b)(1)"; at the end of the first paragraph, add the parenthetical phrase "(Unless the lender establishes the first day of repayment under

§ 682.209(a)(3)(ii)(E).)"; in the second paragraph, in the fifth sentence, add after "notice.", the parenthetical phrase "(Unless the lender establishes the first day of repayment under § 682.209(a)(3)(ii)(E).)"; in the second paragraph, in the last sentence, remove "20" and add, in its place, "30"; after the last paragraph, add a new paragraph to read, "Please Note: References to the "65th day after receipt of the notice" and "66th day" in the preceding paragraphs should be amended to read "95th day" and "96th day" respectively for lenders subject to

§ 682.209(a)(3)(ii)(E)."; in "III. QUESTIONS AND ANSWERS", at the end of the first paragraph, add a note to read, "Note: The answer to questions 1 and 4 are applicable only to loans subject to § 682.411 of the FFEL and PLUS program regulations published on November 10, 1986."; in the second paragraph, before "Q", add "1."; in the fourth paragraph, before "Q", add "2."; in the sixth paragraph, before "Q", add "3."; in the eighth paragraph, before "Q", add "4."

[FR Doc. 94-11656 Filed 5-16-94; 8:45 am]
BILLING CODE 4000-01-P