

4

Export Program
Manual

Special Procedures

Commodity • Seed

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Sampling Seed

Equipment Needed to Sample Seed

To collect the seed samples, make sure you have the equipment listed in [Figure 4-5-1](#) below.

- ◆ Cartridge type **dust mask** (to avoid breathing pesticide if the seed is treated)
- ◆ **Cloth** (something the length of the trier to empty subsamples onto)
- ◆ **Container** (**must** hold at least a quart of seed)
- ◆ **Knife**
- ◆ Marking **pen**
- ◆ Protective **gloves** (to prevent skin exposure when sampling dusted seed)
- ◆ **Tape** (to close opened containers)
- ◆ **Trier**

FIGURE 4-5-1: A List of Equipment Needed to Sample Seed

Collecting the Sample

Follow these steps to sample the seed:

Step 1: Determine how large a sample to collect.

Refer to [Table 4-5-1](#) below as a guide.

TABLE 4-5-1: Amount of Seed to Collect from Each Lot¹

If the seed is in:	And the seed is classified as:	Then:
Bags or bulk	Agricultural (Refer to Table 4-5-2 on page-4-5-3)	1. COLLECT 1 quart of seed 2. CONTINUE to Step 2
	Vegetable (Refer to Table 4-5-3 on page-4-5-9)	1. COLLECT 1 pint of seed ² 2. CONTINUE to Step 2
	Other (Not listed in Table 4-5-2 or Table 4-5-3)	1. COLLECT 1 pint of seed ² 2. CONTINUE to Step 2
Small packets or hermetically sealed containers (5 pounds or less)	—————→	1. COLLECT 1/4 pint of seed ³ 2. CONTINUE to Step 2

- 1 If two or more different agricultural or vegetable seeds are mixed in a bag or in bulk, treat as one lot for sampling purposes.
- 2 If the lot consists of 5 pounds or less, collect 1/4 pint of seed.
- 3 When the lot of seed to be sampled is comprised of seed in small containers or individual packets that cannot practically be sampled, submit enough of the entire unopened containers or packets to supply a sample that meets the minimum size requirements of the classification of that type of seed.

If the lot of seed itself is less than 1/4 pint, randomly inspect a minimum of 2 % of the entire lot.

TABLE 4-5-2: Agricultural Seed

Common Name	Botanical Name
Agrotricum	x <i>Agrotriticum</i> Ciferri and Giacom
Alfalfa	<i>Medicago sativa</i> L.
Alfilaria	<i>Erodium cicutarium</i> (L.) L'Her.
Alyceclover	<i>Alysicarpus vaginalis</i> (L.) DC.
Bahiagrass	<i>Paspalum notatum</i> Fluegge
Barley	<i>Hordeum vulgare</i> L.
Barrelclover	<i>Medicago truncatula</i> Gaertn.
Bean, adzuki	<i>Vigna angularis</i> (Willd.) Ohwi and Ohashi
Bean, field	<i>Phaseolus vulgaris</i> L.
Bean, mung	<i>Vigna radiata</i> (L.) Wilczek
Beet, field	<i>Beta vulgaris</i> L. subsp. <i>vulgaris</i>
Beet, sugar	<i>Beta vulgaris</i> L. subsp. <i>vulgaris</i>
Beggarweed, Florida	<i>Desmodium tortuosum</i> (Sw.) DC.
Bentgrass, colonial	<i>Agrostis capillaris</i> L.
Bentgrass, creeping	<i>Agrostis stolonifera</i> L. var. <i>palustris</i> (Huds.) Farw.
Bentgrass, velvet	<i>Agrostis canina</i> L.
Bermudagrass	<i>Cynodon dactylon</i> (L.) Pers. var. <i>dactylon</i>
Bermudagrass, giant	<i>Cynodon dactylon</i> (L.) Pers. var. <i>aridus</i> Harlan and de Wet
Bluegrass, annual	<i>Poa annua</i> L.
Bluegrass, bulbous	<i>Poa bulbosa</i> L.
Bluegrass, Canada	<i>Poa compressa</i> L.
Bluegrass, glaucantha	<i>Poa glauca</i> Vahl
Bluegrass, Kentucky	<i>Poa pratensis</i> L.
Bluegrass, Nevada	<i>Poa secunda</i> J.S. Presl
Bluegrass, rough	<i>Poa trivialis</i> L.
Bluegrass, Texas	<i>Poa arachnifera</i> Torr.
Bluegrass, wood	<i>Poa nemoralis</i> L.
Bluejoint	<i>Calamagrostis canadensis</i> (Michx.) P. Beauv.
Bluestem, big	<i>Andropogon gerardii</i> Vitm. var. <i>gerardii</i>
Bluestem, little	<i>Schizachyrium scoparium</i> (Michx.) Nash
Bluestem, sand	<i>Andropogon hallii</i> Hack.
Bluestem, yellow	<i>Bothriochloa ischaemum</i> (L.) Keng
Bottlebrush-squirreltail	<i>Elymus elymoides</i> (Raf.) Swezey
Brome, field	<i>Bromus arvensis</i> L.
Brome, meadow	<i>Bromus biebersteinii</i> Roem. and Schult.
Brome, mountain	<i>Bromus marginatus</i> Steud.
Brome, smooth	<i>Bromus inermis</i> Leyss.
Broomcorn	<i>Sorghum bicolor</i> (L.) Moench
Buckwheat	<i>Fagopyrum esculentum</i> Moench

TABLE 4-5-2: Agricultural Seed (continued)

Common Name	Botanical Name
Buffalograss	<i>Buchloe dactyloides</i> (Nutt.) Engelm.
Buffelgrass	<i>Cenchrus ciliaris</i> L.
Burclover, California	<i>Medicago polymorpha</i> L.
Burclover, spotted	<i>Medicago arabica</i> (L.) Huds.
Burnet, little	<i>Sanguisorba minor</i> Scop.
Buttonclover	<i>Medicago orbicularis</i> (L.) Bartal.
Canarygrass	<i>Phalaris canariensis</i> L.
Canarygrass, reed	<i>Phalaris arundinacea</i> L.
Carpetgrass	<i>Axonopus fissifolius</i> (Raddi) Kuhlm.
Castorbean	<i>Ricinus communis</i> L.
Chess, soft	<i>Bromus hordeaceus</i> L.
Chickpea	<i>Cicer arietinum</i> L.
Clover, alsike	<i>Trifolium hybridum</i> L.
Clover, arrowleaf	<i>Trifolium vesiculosum</i> Savi
Clover, berseem	<i>Trifolium alexandrinum</i> L.
Clover, cluster	<i>Trifolium glomeratum</i> L.
Clover, crimson	<i>Trifolium incarnatum</i> L.
Clover, Kenya	<i>Trifolium semipilosum</i> Fresen.
Clover, ladino	<i>Trifolium repens</i> L.
Clover, lappa	<i>Trifolium lappaceum</i> L.
Clover, large hop	<i>Trifolium campestre</i> Schreb.
Clover, Persian	<i>Trifolium resupinatum</i> L.
Clover, red	<i>Trifolium pratense</i> L.
Clover, red, mammoth	<i>Trifolium pratense</i> L.
Clover, red, medium	<i>Trifolium pratense</i> L.
Clover, rose	<i>Trifolium hirtum</i> All.
Clover, small hop or suckling	<i>Trifolium dubium</i> Sibth.
Clover, strawberry	<i>Trifolium fragiferum</i> L.
Clover, sub or subterranean	<i>Trifolium subterraneum</i> L.
Clover, white	<i>Trifolium repens</i> L. (also see Clover, ladino)
Clover (also see Alyceclover, Burclover, Buttonclover, Sourclover, Sweetclover)	
Corn, field	<i>Zea mays</i> L.
Corn, pop	<i>Zea mays</i> L.
Cotton	<i>Gossypium</i> spp.
Cowpea	<i>Vigna unguiculata</i> (L.) Walp. subsp. <i>unguiculata</i>
Crambe	<i>Crambe abyssinica</i> R.E. Fries
Crested dogtail	<i>Cynosurus cristatus</i> L.
Crotalaria, lance	<i>Crotalaria lanceolata</i> E. Mey.

TABLE 4-5-2: Agricultural Seed (continued)

Common Name	Botanical Name
Crotalaria, showy	<i>Crotalaria spectabilis</i> Roth
Crotalaria, slenderleaf	<i>Crotalaria brevidens</i> Benth. var. <i>intermedia</i> (Kotschy) Polh.
Crotalaria, striped or smooth	<i>Crotalaria pallida</i> Ait.
Crotalaria, sunn	<i>Crotalaria juncea</i> L.
Crownvetch	<i>Coronilla varia</i> L.
Dallisgrass	<i>Paspalum dilatatum</i> Poir.
Dichondra	<i>Dichondra repens</i> Forst. and Forst. f.
Dropseed, sand	<i>Sporobolus cryptandrus</i> (Torr.) A. Gray
Emmer	<i>Triticum dicoccon</i> Schrank
Fescue, chewings	<i>Festuca rubra</i> L. subsp. <i>commutata</i> Gaud.
Fescue, hair	<i>Festuca tenuifolia</i> Sibth.
Fescue, hard	<i>Festuca brevipila</i> Tracey
Fescue, meadow	<i>Festuca pratensis</i> Huds.
Fescue, red	<i>Festuca rubra</i> L. subsp. <i>rubra</i>
Fescue, sheep	<i>Festuca ovina</i> L. var. <i>ovina</i>
Fescue, tall	<i>Festuca arundinacea</i> Schreb.
Flax	<i>Linum usitatissimum</i> L.
Galletagrass	<i>Hilaria jamesii</i> (Torr.) Benth.
Grama, blue	<i>Bouteloua gracilis</i> (Kunth) Steud.
Grama, side-oats	<i>Bouteloua curtipendula</i> (Michx.) Torr.
Guar	<i>Cyamopsis tetragonoloba</i> (L.) Taub.
Guineagrass	<i>Panicum maximum</i> Jacq. var. <i>maximum</i>
Hardinggrass	<i>Phalaris stenoptera</i> Hack.
Hemp	<i>Cannabis sativa</i> L.
Indiangrass, yellow	<i>Sorghastrum nutans</i> (L.) Nash
Indigo, hairy	<i>Indigofera hirsuta</i> L.
Japanese lawnglass	<i>Zoysia japonica</i> Steud.
Johnsongrass	<i>Sorghum halepense</i> (L.) Pers.
Kenaf	<i>Hibiscus cannabinus</i> L.
Kochia, forage	<i>Kochia prostrata</i> (L.) Schrad.
Kudzu	<i>Pueraria montana</i> (Lour.) Merr. var. <i>lobata</i> (Willd.) Maesen and S. Almeida
Lentil	<i>Lens culinaris</i> Medik.
Lespedeza, Korean	<i>Kummerowia stipulacea</i> (Maxim.) Makino
Lespedeza, sericea or Chinese	<i>Lespedeza cuneata</i> (Dum.-Cours.) G. Don
Lespedeza, Siberian	<i>Lespedeza juncea</i> (L. f.) Pers.
Lespedeza, striate	<i>Kummerowia striata</i> (Thunb.) Schindler
Lovegrass, sand	<i>Eragrostis trichodes</i> (Nutt.) Wood
Lovegrass, weeping	<i>Eragrostis curvula</i> (Schrad.) Nees

TABLE 4-5-2: Agricultural Seed (continued)

Common Name	Botanical Name
Lupine, blue	<i>Lupinus angustifolius</i> L.
Lupine, white	<i>Lupinus albus</i> L.
Lupine, yellow	<i>Lupinus luteus</i> L.
Manilagrass	<i>Zoysia matrella</i> (L.) Merr.
Meadow foxtail	<i>Alopecurus pratensis</i> L.
Medic, black	<i>Medicago lupulina</i> L.
Milkvetch or cicer milkvetch	<i>Astragalus cicer</i> L.
Millet, browntop	<i>Brachiaria ramosa</i> (L.) Stapf
Millet, foxtail	<i>Setaria italica</i> (L.) Beauv.
Millet, Japanese	<i>Echinochloa frumentacea</i> Link
Millet, pearl	<i>Pennisetum glaucum</i> (L.) R. Br.
Millet, proso	<i>Panicum miliaceum</i> L.
Molassesgrass	<i>Melinis minutiflora</i> Beauv.
Mustard, black	<i>Brassica nigra</i> (L.) Koch
Mustard, India	<i>Brassica juncea</i> (L.) Czernj. and Coss.
Mustard, white	<i>Sinapis alba</i> L.
Napiergrass	<i>Pennisetum purpureum</i> Schumach.
Needlegrass, green	<i>Stipa viridula</i> Trin.
Oat	<i>Avena byzantina</i> C. Koch, <i>A. sativa</i> L., <i>A. nuda</i> L.
Oatgrass, tall	<i>Arrhenatherum elatius</i> (L.) J.S. Presl and K.B. Presl
Orchardgrass	<i>Dactylis glomerata</i> L.
Panicgrass, blue	<i>Panicum antidotale</i> Retz.
Panicgrass, green	<i>Panicum maximum</i> Jacq. var. <i>trichoglume</i> Robyns
Pea, field	<i>Pisum sativum</i> L.
Peanut	<i>Arachis hypogaea</i> L.
Poa trivialis (see Bluegrass, rough)	
Rape, annual	<i>Brassica napus</i> L. var. <i>annua</i> Koch
Rape, bird	<i>Brassica rapa</i> L. subsp. <i>rapa</i>
Rape, turnip	<i>Brassica rapa</i> L. subsp. <i>silvestris</i> (Lam.) Janchen
Rape, winter	<i>Brassica napus</i> L. var. <i>biennis</i> (Schubl. and Mart.) Reichb.
Redtop	<i>Agrostis gigantea</i> Roth
Rescuegrass	<i>Bromus catharticus</i> Vahl
Rhodesgrass	<i>Chloris gayana</i> Kunth
Rice	<i>Oryza sativa</i> L.
Ricegrass, Indian	<i>Oryzopsis hymenoides</i> (Roem. and Schult.) Ricker
Roughpea	<i>Lathyrus hirsutus</i> L.
Rye	<i>Secale cereale</i> L.
Rye, mountain	<i>Secale strictum</i> (K.B. Presl) K.B. Presl subsp. <i>strictum</i>

TABLE 4-5-2: Agricultural Seed (continued)

Common Name	Botanical Name
Ryegrass, annual or Italian	<i>Lolium multiflorum</i> Lam.
Ryegrass, intermediate	<i>Lolium</i> × <i>hybridum</i> Hausskn.
Ryegrass, perennial	<i>Lolium perenne</i> L.
Ryegrass, Wimmera	<i>Lolium rigidum</i> Gaud.
Safflower	<i>Carthamus tinctorius</i> L.
Sagewort, Louisiana	<i>Artemisia ludoviciana</i> Nutt.
Sainfoin	<i>Onobrychis viciifolia</i> Scop.
Saltbush, fourwing	<i>Atriplex canescens</i> (Pursh) Nutt.
Sesame	<i>Sesamum indicum</i> L.
Sesbania	<i>Sesbania exaltata</i> (Raf.) A.W. Hill
Smilo	<i>Piptatherum miliaceum</i> (L.) Coss.
Sorghum	<i>Sorghum bicolor</i> (L.) Moench
Sorghum alnum	<i>Sorghum</i> × <i>alnum</i> L. Parodi
Sorghum-sudangrass	<i>Sorghum</i> × <i>drummondii</i> (Steud.) Millsp. and Chase
Sorghum	Rhizomatous derivatives of a johnsongrass×sorghum cross or a johnsongrass×sudangrass cross
Southernpea (See Cowpea)	
Sourclover	<i>Melilotus indicus</i> (L.) All.
Soybean	<i>Glycine max</i> (L.) Merr.
Spelt	<i>Triticum spelta</i> L.
Sudangrass	<i>Sorghum</i> × <i>drummondii</i> (Steud.) Millsp. and Chase
Sunflower	<i>Helianthus annuus</i> L.
Sweetclover, white	<i>Melilotus albus</i> Medik.
Sweetclover, yellow	<i>Melilotus officinalis</i> Lam.
Sweet vernalgrass	<i>Anthoxanthum odoratum</i> L.
Sweetvetch, northern	<i>Hedysarum boreale</i> Nutt.
Switchgrass	<i>Panicum virgatum</i> L.
Timothy	<i>Phleum pratense</i> L.
Timothy, turf	<i>Phleum bertolonii</i> DC.
Tobacco	<i>Nicotiana tabacum</i> L.
Trefoil, big	<i>Lotus uliginosus</i> Schk.
Trefoil, birdsfoot	<i>Lotus corniculatus</i> L.
Triticale	× <i>Triticosecale</i> Wittm. (<i>Secale</i> × <i>Triticum</i>)
Vaseygrass	<i>Paspalum urvillei</i> Steud.
Veldtgrass	<i>Ehrharta calycina</i> J.E. Smith
Velvetbean	<i>Mucuna pruriens</i> (L.) DC. var. <i>utilis</i> (Wight) Burck
Velvetgrass	<i>Holcus lanatus</i> L.
Vetch, common	<i>Vicia sativa</i> L. subsp. <i>sativa</i>
Vetch, hairy	<i>Vicia villosa</i> Roth subsp. <i>villosa</i>
Vetch, Hungarian	<i>Vicia pannonica</i> Crantz

TABLE 4-5-2: Agricultural Seed (continued)

Common Name	Botanical Name
Vetch, monantha	<i>Vicia articulata</i> Hornem.
Vetch, narrowleaf or blackpod	<i>Vicia sativa</i> L. subsp. <i>nigra</i> (L.) Ehrh.
Vetch, purple	<i>Vicia benghalensis</i> L.
Vetch, woollypod or winter	<i>Vicia villosa</i> Roth subsp. <i>varia</i> (Host) Corb.
Wheat, common	<i>Triticum aestivum</i> L.
Wheat, club	<i>Triticum compactum</i> Host
Wheat, durum	<i>Triticum durum</i> Desf.
Wheat, Polish	<i>Triticum polonicum</i> L.
Wheat, poulard	<i>Triticum turgidum</i> L.
Wheat×Agroticum	<i>Triticum</i> × <i>Agrotriticum</i>
Wheatgrass, beardless	<i>Pseudoroegneria spicata</i> (Pursh) A. Love
Wheatgrass, crested or fairway crested	<i>Agropyron cristatum</i> (L.) Gaertn.
Wheatgrass, crested or standard crested	<i>Agropyron desertorum</i> (Link) Schult.
Wheatgrass, intermediate	<i>Elytrigia intermedia</i> (Host) Nevski subsp. <i>intermedia</i>
Wheatgrass, pubescent	<i>Elytrigia intermedia</i> (Host) Nevski subsp. <i>intermedia</i>
Wheatgrass, Siberian	<i>Agropyron fragile</i> (Roth) Candargy subsp. <i>sibiricum</i> (Willd.) Meld.
Wheatgrass, slender	<i>Elymus trachycaulus</i> (Link) Shinn.
Wheatgrass, streambank	<i>Elymus lanceolatus</i> (Scribn. and J.G. Smith) Gould subsp. <i>lanceolatus</i>
Wheatgrass, tall	<i>Elytrigia elongata</i> (Host) Nevski
Wheatgrass, western	<i>Pascopyrum smithii</i> (Rydb.) A. Love
Wildrye, basin	<i>Leymus cinereus</i> (Scribn. and Merr.) A. Love
Wildrye, Canada	<i>Elymus canadensis</i> L.
Wildrye, Russian	<i>Psathyrostachys juncea</i> (Fisch.) Nevski
Zoysia japonica (see Japanese lawngrass)	
Zoysia matrella (see Manilagrass)	

TABLE 4-5-3: Vegetable Seed

Common Name	Botanical Name
Artichoke	<i>Cynara cardunculus</i> L. subsp. <i>cardunculus</i>
Asparagus	<i>Asparagus officinalis</i> Baker
Asparagusbean or yard-long bean	<i>Vigna unguiculata</i> (L.) Walp. subsp. <i>sesquipedalis</i> (L.) Verdc.
Bean, garden	<i>Phaseolus vulgaris</i> L.
Bean, lima	<i>Phaseolus lunatus</i> L.
Bean, runner or scarlet runner	<i>Phaseolus coccineus</i> L.
Beet	<i>Beta vulgaris</i> L. subsp. <i>vulgaris</i>
Broadbean	<i>Vicia faba</i> L.
Broccoli	<i>Brassica oleracea</i> L. var. <i>botrytis</i> L.
Brussels sprouts	<i>Brassica oleracea</i> L. var. <i>gemmifera</i> DC.
Burdock, great	<i>Arctium lappa</i> L.
Cabbage	<i>Brassica oleracea</i> L. var. <i>capitata</i> L.
Cabbage, Chinese	<i>Brassica rapa</i> L. subsp. <i>pekinensis</i> (Lour.) Hanelt
Cabbage, tronchuda	<i>Brassica oleracea</i> L. var. <i>costata</i> DC.
Cantaloupe (see Melon)	
Cardoon	<i>Cynara cardunculus</i> L. subsp. <i>cardunculus</i>
Carrot	<i>Daucus carota</i> L. subsp. <i>sativus</i> (Hoffm.) Arcang.
Cauliflower	<i>Brassica oleracea</i> L. var. <i>botrytis</i> L.
Celeriac	<i>Apium graveolens</i> L. var. <i>rapaceum</i> (Mill.) Gaud.
Celery	<i>Apium graveolens</i> L. var. <i>dulce</i> (Mill.) Pers.
Chard, Swiss	<i>Beta vulgaris</i> L. subsp. <i>cicla</i> (L.) Koch
Chicory	<i>Cichorium intybus</i> L.
Chives	<i>Allium schoenoprasum</i> L.
Citron	<i>Citrullus lanatus</i> (Thunb.) Matsum. and Nakai var. <i>citroides</i> (Bailey) Mansf.
Collards	<i>Brassica oleracea</i> L. var. <i>acephala</i> DC.
Corn, sweet	<i>Zea mays</i> L.
Cornsalad	<i>Valerianella locusta</i> (L.) Laterrade
Cowpea	<i>Vigna unguiculata</i> (L.) Walp. subsp. <i>unguiculata</i>
Cress, garden	<i>Lepidium sativum</i> L.
Cress, upland	<i>Barbarea verna</i> (Mill.) Asch.
Cress, water	<i>Rorippa nasturtium-aquaticum</i> (L.) Hayek
Cucumber	<i>Cucumis sativus</i> L.
Dandelion	<i>Taraxacum officinale</i> Wigg.
Dill	<i>Anethum graveolens</i> L.
Eggplant	<i>Solanum melongena</i> L.
Endive	<i>Cichorium endivia</i> L.
Gherkin, West India	<i>Cucumis anguria</i> L.
Kale	<i>Brassica oleracea</i> L. var. <i>acephala</i> DC.

TABLE 4-5-3: Vegetable Seed (continued)

Common Name	Botanical Name
Kale, Chinese	<i>Brassica oleracea</i> L. var. <i>alboglabra</i> (Bailey) Musil
Kale, Siberian	<i>Brassica napus</i> L. var. <i>pabularia</i> (DC.) Reichb.
Kohlrabi	<i>Brassica oleracea</i> L. var. <i>gongylodes</i> L.
Leek	<i>Allium porrum</i> L.
Lettuce	<i>Lactuca sativa</i> L.
Melon	<i>Cucumis melo</i> L.
Muskmelon (see Melon)	
Mustard, India	<i>Brassica juncea</i> (L.) Czernj. and Coss.
Mustard, spinach	<i>Brassica perviridis</i> (Bailey) Bailey
Okra	<i>Abelmoschus esculentus</i> (L.) Moench
Onion	<i>Allium cepa</i> L.
Onion, Welsh	<i>Allium fistulosum</i> L.
Pak-choi	<i>Brassica rapa</i> L. subsp. <i>chinensis</i> (L.) Hanelt
Parsley	<i>Petroselinum crispum</i> (Mill.) A.W. Hill
Parsnip	<i>Pastinaca sativa</i> L.
Pea	<i>Pisum sativum</i> L.
Pepper	<i>Capsicum</i> spp.
Pe-tsai (see Chinese cabbage)	
Pumpkin	<i>Cucurbita pepo</i> L., <i>C. moschata</i> (Duchesne) Poiret, and <i>C. maxima</i> Duchesne
Radish	<i>Raphanus sativus</i> L.
Rhubarb	<i>Rheum rhabarbarum</i> L.
Rutabaga	<i>Brassica napus</i> L. var. <i>napobrassica</i> (L.) Reichb.
Sage	<i>Salvia officinalis</i> L.
Salsify	<i>Tragopogon porrifolius</i> L.
Savory, summer	<i>Satureja hortensis</i> L.
Sorrel	<i>Rumex acetosa</i> L.
Southernpea (see Cowpea)	
Soybean	<i>Glycine max</i> (L.) Merr.
Spinach	<i>Spinacia oleracea</i> L.
Spinach, New Zealand	<i>Tetragonia tetragonioides</i> (Pall.) Ktze.
Squash	<i>Cucurbita pepo</i> L., <i>C. moschata</i> (Duchesne) Poiret, and <i>C. maxima</i> Duchesne
Tomato	<i>Lycopersicon esculentum</i> Mill.
Tomato, husk	<i>Physalis pubescens</i> L.
Turnip	<i>Brassica rapa</i> L. subsp. <i>rapa</i>
Watermelon	<i>Citrullus lanatus</i> (Thunb.) Matsum. and Nakai var. <i>lanatus</i>

Step 2: Compute how many subsamples to draw.

Once you know how much seed to collect for your sample, you **must** then calculate how many subsamples to draw to ensure a representative sample.

Consequences of failure to take a good sample: To ensure that seed is free from pest risk, examine a representative sample of the shipment. The examination results can be **no** more accurate than the sample—therefore, the effort you make in sampling will decide the effectiveness of the examination.



Important

When sampling seed, return the excess seed to its original container after you have completed your sampling. **Never** mix seed from different lots before returning your samples. Be careful **not** to spill seed.

To compute how many subsamples to draw, you need to determine how the seed is packaged:

TABLE 4-5-4: Computing Number of Subsamples Based on Seed Packaging

If the seed is in:	Then use Substep:
Bags or other non hermetically sealed containers	2.A for your computation
Bulk	2.B for your computation

2.A (seed in bags or other non hermetically sealed packages):

If the seed is packaged in bags, use [Table 4-5-5](#) below to compute how many subsamples to draw. If the number of subsamples you draw **does not** provide enough seed for an adequate sample, draw the additional seed you need.

TABLE 4-5-5: Determining How Many Subsamples to Draw from Seed in Bags

If the number of bags or packages in the shipment is:	Then draw this many subsamples to make your sample:	If the number of bags or packages in the shipment is:	Then draw this many subsamples to make your sample:
1 to 6	5	125 to 134	18
7 to 14	6	135 to 144	19
15 to 24	7	145 to 154	20
25 to 34	8	155 to 164	21
35 to 44	9	165 to 174	22
45 to 54	10	175 to 184	23
55 to 64	11	185 to 194	24
65 to 74	12	195 to 204	25
75 to 84	13	205 to 214	26
85 to 94	14	215 to 224	27
95 to 104	15	225 to 234	28
105 to 114	16	235 to 244	29
115 to 124	17	245 or more	30

Do not sample more than 30 bags per lot. If there are fewer than 5 bags in the lot, you **must** still draw 5 subsamples. You **must** also draw enough seed to fill your sample (1/4 pint, 1 pint, or 1 quart).

Go to **“Step 3: Sample with a trier.”** on **page-4-5-12.**

2.B (bulk seed): If the seed is being shipped in bulk (unpackaged or loose), use this calculation and the preceding table to compute how many subsamples to draw.

- i. Determine the weight of the lot.
- ii. Divide the weight of the lot by 100.
- iii. Take the result obtained by your division (consider this figure as the “equivalent number of bags”) and go back to the previous Substep (**2.A**) to determine how many subsamples to draw. Refer to the example below.

EXAMPLE

How many subsamples would you draw from a 2,000 pound bulk shipment of oats?

Treat the shipment as a single lot:

1. The weight of the lot is 2,000 pounds.
2. $2,000 \div 100 = 20$ (the equivalent number of bags).
3. Twenty falls between 15 and 24 on the matrix—which directs you to draw 7 subsamples.

- iv. Go to **“Step 3: Sample with a trier.”** on **page-4-5-12.**

Step 3: Sample with a trier.

Knowing how much seed needs to be collected to make a sufficient sample and how many subsamples to draw—now you’re ready to sample (for seeds in bags or bulk).

3.A: Check the label or invoice to learn if the seed was treated. If the seed is brightly colored (blue, orange, or pink are common), assume it was treated regardless of what the label says.



If you know or believe the seed is treated, take these precautions:

- ◆ Avoid wiping your mouth or nose with your hands
- ◆ Use plastic gloves and a dust mask
- ◆ Wear eye protection
- ◆ Wear protective coveralls

3.B: Determine if the seed is coated, pelleted, or preplanted (anything that would make it impracticable to inspect the seed or tell what it is). **Do not** certify *pelletized* or *embedded* seeds unless you can inspect the seeds before treatment and still meet the required time limits (an option would be to inspect the non-pelleted portion of the same lot of seed and issue an export certificate based on those results). This would **not** include seed that is merely dusted or coated with ingredients such as rhizobia, dyes, or pesticides. *You can inspect treated seeds because the seeds are visible through the chemical substance.*

3.C: Draw your subsamples randomly. If sampling a bulk shipment, draw your subsamples at equal intervals throughout the shipment.

3.D: If you're sampling a single bag, **do not** make more than a single hole with the trier; merely move the trier in different directions to collect the seed.

3.E: Insert the trier (with the holes down and closed) into the seed. It is better to enter the bag near its top to prevent spillage. If the seed is too large, **does not** flow freely, or the trier **cannot** penetrate the container, sample by hand.

3.F: Rotate the inner sleeve of the trier to open the holes.

3.G: Lightly move the trier back and forth to get the seed into the trier.

3.H: Rotate the inner sleeve of the trier to close the holes.

3.I: Remove the trier from the bag or bulk seed.

3.J: Close the holes in the bag made by the trier. If a burlap or cloth bag, close the hole by moving the tip of the trier over the weave. If a paper bag, close the hole with a pressure-sensitive label or masking tape.

3.K: Combine the seed in a plastic bag or other container large enough to hold all the subsamples.

3.L: Mix the seed thoroughly to blend the subsamples. Collect enough seed to have a sufficient amount to analyze (computed in **"Step 1: Determine how large a sample to collect."** on **page-4-5-2**).

3.M: If the seed is treated, wipe off the trier and then wash your hands, face, and arms with soap and water.

After collecting the sample, go to ***Inspecting the Sample*** below.

Inspecting the Sample

If the foreign country has no specific seed testing requirements, visually inspect the sample you have collected. Look for live pests, pathogens, plant debris, soil, weed seeds, etc.

When inspecting small lots of seed, pour seeds from packets onto white or dark colored paper (contrasting the color/type of seed). This technique is a common way to spot contaminants. Inspect one packet at a time so others aren't contaminated and proper amounts are returned to packets.

Use [Table 4-5-6](#) below to determine the correct action to take. If the foreign country has specific seed testing requirements, go to [Submitting the Sample](#) on [page 4-5-14](#).

TABLE 4-5-6: Inspecting the Sample

If you find:	And:	Then:
No evidence of live pests, pathogens, plant debris, soil, weed seeds, etc.	—————→	ISSUE PPQ Form 577 or 579 ¹
Evidence of live pests, pathogens, plant debris, soil, weed seeds, etc. ²	A method of cleaning or treating the seed is available and acceptable to the exporter and the foreign country	1. OFFER the exporter the option to recondition the seed 2. RE-INSPECT the sample
	No method of cleaning or treating the seed is available or acceptable to the exporter and the foreign country	1. REFUSE to issue PPQ Form 577 or 579 2. EXIT this manual

- 1 Refer to *Completing PPQ Forms 577 and 579* on [page 3-8-1](#) for further information.
- 2 You may offer the exporter the option of getting contaminants and pests identified instead of proceeding directly to cleaning or treating the seed. Refer to [Table 3-5-6](#) on [page 3-5-11](#) for further information.



Important

Samples from commercial lots of seed may be extremely valuable. Return all samples to the exporter, being careful to note the lot numbers so that they may be returned to the original seed lot from which they were obtained.

Submitting the Sample

If the foreign country has specific seed testing requirements, submit the seed sample to an accredited facility for testing. Refer to *Testing* on [page 3-6-1](#) for further information.

Certifying Canadian Produced Seed

To facilitate the United States' trade of Canadian produced seed, the following options are available for certifying Canadian produced seed being reexported from the United States.



Important

This policy does not apply to seed reexported from Canada; the options below pertain only to seed grown in Canada.

Option 1

Option 1 will provide the greatest assurance that a commodity meets an importing country's requirements. Therefore, exporters **must** provide the required documentation to allow certification under this option. Consignments not certified under Option 1 may be rejected and ES may **not** be able to assist the exporter.

1. Use PPQ Form 577 to certify the seed. List Canada as the country of origin.
2. Issue PPQ Form 577 **only** if the exporter provides you with the importing country's phytosanitary requirements for Canadian produced seed. The requirements **must** be in the form of official communication from either the National Plant Protection Organization (NPPO) of the importing country or Canada.
3. You may use the official communication presented by the exporter for certification purposes for 6 months from the date of the document, unless the document states otherwise. Remind exporters to obtain confirmation of a country's import requirements each time they export because import requirements can change at any time.
4. If the importing country requires one of the following phytosanitary actions, you may certify the seed once the requirement(s) has been met.
 - A. Laboratory analysis or testing: **must** be conducted by a United States authorized laboratory.
 - B. Treatment: **must** meet policy and procedures as stated in this manual.

The phytosanitary action **must** be conducted in the United States. **Do not** list phytosanitary actions taken in Canada on PPQ Form 577. **Do not** use phytosanitary actions taken in Canada as the basis for issuing PPQ Form 577.

5. If the country requires phytosanitary actions/measures, **other than** those listed under point 4, **do not** certify the consignment.

6. You **must** inspect the consignment.
7. If an exporter presents import requirements and you determine that the requirements cannot be met, **do not** certify the consignment under either Option 1 or Option 2.

Option 2

Use Option 2 if the exporter cannot obtain the import requirements of the importing country. Caution the exporter that the consignment may **not** meet the phytosanitary requirements of the importing country, may be rejected, and that ES may **not** be able to assist them if a shipment is held or rejected.

1. Use PPQ Form 579 to certify the seed. List Canada as the country of origin.
2. **Do not** include additional declarations pertaining to phytosanitary actions.
3. Include an additional declaration that, “The shipment met the entry requirements of the United States.”
4. You **must** inspect the consignment.