Chapter ATCP 20

SEED LABELING AND SALE

ATCP 20.01	Definitions.	ATCP 20.10	Hybrid seed labeling.
ATCP 20.02	Seed evaluation and related terminology.	ATCP 20.12	Flower seed in small containers; composition
ATCP 20.04	Seed labeling; general.	ATCP 20.14	Prohibited practices.
ATCP 20.06	Seed germination; labeling, analysis and standards.	ATCP 20.16	Labeling variances.
ATCP 20.08	Treated seed, inoculated seed, coated seed and combination products;	ATCP 20.18	Seed labeler license.
	labeling		

Note: Chapter Ag 20 was renumbered ch. ATCP 20 under s. 13.93 (2m) (b) 1., Stats., Register, April, 1993, No. 448; Chapter ATCP 20 was repealed and recreated, Register June 2011 No. 666.

ATCP 20.01 Definitions. In this chapter:

- (1) "Agricultural seed" means any kind or mixture of kinds of plant seed, other than tree or shrub seed, which is sold, offered for sale, or displayed or distributed for sale for sowing purposes. "Agricultural seed" includes crop seed, vegetable seed, lawn or turf seed, flower seed and native species seed.
- (2) "Area of origin" means the area from which seed was harvested for sale or distribution.
- (3) "Coated seed" means agricultural seed that is covered with any substance that changes the size, shape or weight of the seed.
- (4) "Combination seed and non-seed product" means a product, other than treated seed, inoculated seed or coated seed, that contains agricultural seed in combination with mulch, growth media, fertilizer or other materials that are directly or implicitly purported to enhance the germination, erosion resistance, ease of application or other performance characteristics of the agricultural seed
- (5) "Container" means any package, packet, bag or other receptacle in which agricultural seed is sold, offered for sale, or displayed or distributed for sale.
- (6) "Department" means the Wisconsin department of agriculture, trade and consumer protection.
- (7) "Dormant seed" means viable agricultural seed, other than hard seed, which fails to germinate in a germination analysis conducted according to this chapter.
- (8) "Dormant seed percentage" means, for a particular kind or variety of agricultural seed, the percentage of seeds in a container or lot that are dormant seeds, as estimated by a germination analysis conducted according to this chapter.
- (9) "Flower seed" means seed of herbaceous plants grown for their blooms, ornamental foliage, or other ornamental parts and commonly known and sold under the name of flower seed in this state. "Flower seed" does not include native species seed that is labeled as native species seed.
- (10) "Germination" means the emergence and development from the seed embryo of those essential structures which, for the kind of seed, are indicative of the ability to produce a normal plant under favorable conditions.
- (11) "Germination percentage" means, for a particular kind or variety of agricultural seed, the percentage of seeds in a container or lot that germinate under favorable germination conditions, as estimated by a germination analysis under this chapter.
- (12) "Hard seed" means agricultural seed that would remain hard throughout a germination analysis conducted according to this chapter because the seed would not absorb water due to an impermeable seed coat.
- (13) "Hard seed percentage" means, for a particular kind or variety of agricultural seed, the percentage of seeds in a container or lot that are hard seeds, as estimated by a germination analysis conducted according to this chapter.

(14) "Hybrid seed" means the first generation seed of a cross produced by controlling the pollination and by combining two or more inbred lines, one inbred or a single cross with an open pollinated variety or two varieties or species, except open-pollinated varieties of zea mays (corn). "Hybrid seed" does not include the second or subsequent generation of seed produced from a cross described in this subsection.

ATCP 20.01

Note: A hybrid version of a named seed variety is considered a separate seed vari-

(15) "Indigenous" species means a species that is indigenous to the state of Wisconsin, as determined by the Wisconsin department of natural resources in Wisconsin department of natural resources technical bulletin number 192, Checklist of Vascular Plants of Wisconsin (2001).

Note: Copies of the DNR technical bulletin number 192, Checklist of Vascular Plants of Wisconsin (2001), can be obtained at http://digital.library.wisc.edu/1711.dl/ EcoNatRes.DNRBull192 or by contacting the Wisconsin department of agriculture, trade and consumer protection (seed program) at P.O. Box 8911, Madison, WI 53708–8911, (608) 224–4500 or http://datcp.state.wi.us.

- (16) "Inert matter" means all matter that is not intact seed. "Inert matter" includes broken seeds, sterile florets, chaff, fungus bodies and stones.
- (17) "Inoculated seed" means legume seed that has received an application of a bacteria culture that will effectively inoculate the legume to produce root nodulation, plant growth and nitrogen accumulation.
- (18) "Kind" means seed of a particular plant species or subspecies, or 2 or more related plant species or sub-species, which are singly or collectively known by one common name such as corn, oats, alfalfa or timothy. "Kind" includes an indigenous species or subspecies.
- (19) "Lawn or turf seed" means the seed of grasses, clovers or other agricultural seeds or seed mixtures that are commonly used or sold for seeding lawns, parks or turf areas in this state. "Lawn or turf seed" does not include native species seed that is labeled as native species seed.
- (20) "Lot" means a specific bulk quantity of agricultural seed, or a specific aggregation of agricultural seed containers, whose seed contents are uniform throughout.
- (21) "Lot code" means a number or mark that uniquely identifies a lot.
- (22) "Mixture" means agricultural seed consisting of more than one kind or variety, where each kind or declared variety represents more than 5 percent by weight of the whole mixture.
- (23) "Native species seed" means agricultural seed derived from indigenous herbaceous species.
- (24) "Noxious weed seeds" include prohibited noxious weed seeds and restricted noxious weed seeds.
- (25) "Person" means an individual, corporation, partnership, limited liability company, trust or other legal entity.
 - (26) "Pesticide" has the meaning given in s. 94.67 (25), Stats.
- (27) "Prohibited noxious weed seeds" means the seeds of weeds that are highly destructive and difficult to control by good cultural practices and use of herbicides. "Prohibited noxious weed seeds" includes convolvulus arvensis (field bindweed),

euphorbia esula (leafy spurge), cirsium arvense (canada thistle), panicum miliaceum (wild proso millet), eriochloa villosa (woolly cupgrass), pueraria montana var. lobata (kudzu), polygonum perfoliatum (mile-a-minute weed), centaurea picris (Russian knapweed), and centaurea maculos (spotted knapweed).

- **(28)** "Pure live seed percentage" means, for a particular kind or variety of native species seed, the sum of the following multiplied by the pure seed percentage:
 - (a) The germination percentage.
- (b) The hard seed percentage or dormant seed percentage, as appropriate based on the applicable seed evaluation method in this chapter.
- **(29)** "Pure seed percentage" means, for a particular kind or variety of agricultural seed, the percentage by weight of the container or lot contents that is comprised of seed of that kind or variety exclusive of inert matter and other seeds.
- (30) "Restricted noxious weed seeds" means seeds of species that are objectionable, but that can be controlled by good cultural practices or use of herbicides. "Restricted noxious weed seeds" include raphanus raphanistrum (wild radish), plantago lanceolata (buckhorn), silene alba (white cockle), cuscuta spp. (dodder), berteroa incana (hoary alyssum), avena fatua (wild oat), sinapis arvensis (wild mustard), agropyron repens (quackgrass), sonchus arvensis (perennial sowthistle), ambrosia trifida (giant ragweed), and abutilon theophrasti (velvetleaf).
- (31) "Seed evaluation" means evaluation of agricultural seed to determine seed composition, purity, germination percentage, hard seed percentage, dormant seed percentage, weed seed content, inert matter content, or other characteristics for purposes of seed labeling, regulatory compliance or enforcement under this chapter. "Seed evaluation" includes seed sampling, inspection, analysis, testing and examination. "Seed evaluation" includes evaluation by seed labelers and by the department.
- (32) "Seed evaluation terminology" means the nomenclature used in seed evaluation and related seed labeling, and includes relevant connotations, conditions, limitations and tolerances related to the declaration of seed evaluation results on seed labels.
- (33) "Seed labeler" means a person who holds a valid license under s. ATCP 20.18, and who accepts legal responsibility for the labeling that accompanies a container or lot of agricultural seed that is sold, offered for sale, or displayed or distributed for sale in this state.
- (34) "Treated seed" means agricultural seed that is treated with a pesticide, or that is treated with another substance or process for which the seed advertising or labeling makes a performance claim.
- (35) "Type" as applied to flower seed means a group of different varieties of the same kind of flower seed, where the different varieties are so nearly similar that they cannot be clearly distinguished except under special conditions or analysis.
- (36) "Uniform" means consistent in composition and characteristics that are relevant to labeling requirements under this chapter, within tolerances prescribed by the relevant seed evaluation method under this chapter for each relevant characteristic.
- (37) "Variety" means a subdivision of a kind, where the subdivision is all of the following:
- (a) Distinct in the sense that it can be differentiated from all other known varieties of the kind by one or more identifiable morphological, physiological or other characteristics.
- (b) Uniform in the sense that variations in essential and distinctive characteristics, within the variety, are describable.
- (c) Stable in the sense that the variety will remain unchanged in its essential and distinctive characteristics and in its uniformity when reproduced or reconstituted as required for different categories of varieties.

Note: Under the federal seed law (7 USC 1551 et. seq.), plant breeders may assign names to new plant varieties that they create. Variety names once established may not be changed. Plant breeders are not required to register variety names, but must

- refrain from duplicating existing variety names (the United States department of agriculture offers a name searching service to determine whether a proposed name is already in use). A company or trade name may not be used as a substitute for an established variety name. Under the federal plant variety protection act (7 USC 2321 et seq.), a plant breeder may obtain a certificate of plant variety protection (similar to a patent) for a new plant variety that meets certain criteria.
- (38) "Vegetable seed" means agricultural seed that is commonly used to produce vegetables or herbs in home gardens, and is generally known and sold under the name of vegetable or herb seed in this state.
- **(39)** "Weed" means a plant that is generally recognized as objectionable within the intended crop or planting in this state.
- (40) "Wild type" means a native species that is not a named variety.

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11; correction in (28) (a), (b) made under s. 13.92 (4) (b) 1., Stats., Register June 2011 No. 666.

ATCP 20.02 Seed evaluation and related terminol-

ogy. (1) Except as otherwise provided in this chapter, agricultural seed evaluation methods and seed evaluation terminology used in agricultural seed labeling shall be consistent with applicable *Rules for Seed Testing (October 1, 2010 edition)* published by AOSA, Inc.

Note: AOSA, Inc. is also known as the Association of Official Seed Analysts. Copies of the Rules for Seed Testing (October 1, 2010 edition), published by AOSA, Inc., are on file with the department and the legislative reference bureau. Copies may be obtained by contacting AOSA, Inc. at http://www.aosaseed.com.

(2) An agricultural seed sample collected by the department shall be accompanied by the label for that seed. At the request of the department, a seed labeler shall provide a copy of the agricultural seed label to accompany each seed sample collected by the department.

Ĥistory: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

- ATCP 20.04 Seed labeling; general. (1) LABEL CONTENTS; GENERAL. Except as provided in subs. (3) to (5), every container or lot of agricultural seed that is sold, offered for sale, or exposed or distributed for sale in this state shall be labeled with all of the following:
 - (a) The name and address of the seed labeler.
- (b) A net quantity declaration that complies with ss. 98.07 and 98.08, Stats. If the seed is sold in packaged form, the net quantity declaration shall comply with s. ATCP 90.08 (12).

Note: The net quantity declaration under par. (b) is normally expressed as the total net weight of the labeled container or lot.

- (c) A lot code identifying the labeled lot or, in the case of a labeled container, the source lot from which the container originates
- (d) The area of origin of the seed if the area of origin is known or if the seed is represented as native species seed. If the seed is a mixture of kinds or varieties from different areas of origin, the label shall identify the area of origin for each kind or variety declared under par. (e). The area of origin, if located in this state, may be identified by a geographic description or by a the name of a political subdivision such as a county. If the seed originates from another state or country, the label shall identify that state or country.
- (e) All of the following information related to the composition of the agricultural seed:
- 1. The name and pure seed percentage of each kind of agricultural seed that constitutes more than 5 percent by weight of the net contents of the container or lot. Kinds and corresponding pure seed percentages shall be listed in order of predominance based on pure seed percentage.
- 2. The name and pure seed percentage of each variety of agricultural seed that is declared on the seed label. If the label declares any variety of a kind, it shall declare every variety of that kind that has a pure seed percentage of more than 5 percent. Varieties protected by a certificate of protection under the federal plant variety protection act shall be declared. Declared varieties and corre-

sponding pure seed percentages shall be listed in order of predominance under the kinds to which they pertain. If a container or lot includes 2 or more undeclared varieties of any kind, each of which has an undisclosed pure seed percentage of more than 5 percent, the label shall identify the seed of that kind as a mixture, blend or assortment and shall include the conspicuous statement "Variety Not Stated."

- (f) The combined total amount of all weed seeds in the container or lot, expressed as a percentage by weight of the total net contents of the container or lot. If any of the weed seeds are noxious weed seeds, the label shall also identify each component kind of noxious weed seed and its percentage by weight of the container or lot contents.
- (g) The combined total amount, in the container or lot, of all agricultural seeds of kinds not declared under par. (e) 1. This amount shall be expressed as a percentage by weight of the total net contents of the container or lot. The label need not identify these seeds by kind, but may describe them collectively as "other crop seeds" to distinguish them from kinds declared under par. (e)
- (h) The combined total amount of all inert matter in the container or lot, expressed as a percentage by weight of the total net contents of the container or lot.
- (i) The summation of the component percentages declared under pars. (e) 1., (f), (g), and (h), which shall yield a total of 100 percent.
- (j) The germination information described in s. ATCP 20.06 (1), and the month and year in which the germination analysis used to determine that information was completed.
- (k) Applicable information required under s. ATCP 20.08 if any of the seed is treated, inoculated or coated seed, or if the seed is part of a combination seed and non-seed product.
- (L) Applicable information required under s. ATCP 20.10 if the label identifies any of the seed as hybrid seed.
 - (m) Other label information required by this chapter.
- (2) FORM OF LABELING. The label information required under this section shall be attached to each container of agricultural seed, except that:
- (a) The information may be provided in an invoice or other labeling document that accompanies a wholesale lot or unpackaged bulk lot of agricultural seed identified in the invoice or labeling document. If a wholesale lot includes more than one unlabeled container of agricultural seed, the wholesale lot code shall be marked on each container and the seed in each container shall conform to the labeling that accompanies the wholesale lot.
- (b) If the agricultural seed is weighed and sold at retail from an open display container in the presence of the retail purchaser:
- 1. Label information required under this section may be disclosed on a label that is attached to the display container, provided that copies of that label are also available for purchasers to take.
- 2. If the seed labeler is the retail seller, the seed labeler's name and address may be disclosed on a scale ticket, sales slip or invoice provided to the retail purchaser.
- 3. The net content declaration under sub. (1) (b) may be disclosed on a scale ticket, sales slip or invoice provided to the retail purchaser.
- (3) VEGETABLE SEED IN SMALL QUANTITIES FOR HOME USE. (a) If vegetable seed that complies with s. ATCP 20.06 (3) is packaged for home use in a container with net contents of less than one pound, or in a pre-planted container, mat, tape or other planting device with net contents of less than one pound, the container or device may be labeled with one of the following in lieu of all the information required under s. ATCP 20.04 (1) (f) to (j):
- 1. The month and year in which a germination analysis under s. ATCP 20.02 was completed on the source lot identified under sub. (1) (c).

- 2. The statement "Sell by [seed labeler inserts date]." The stated date may be no more than 12 months after the end of the month in which a germination analysis was completed on the source lot identified under sub. (1) (c).
- 3. A statement indicating the calendar year in which the seed is to be used. The beginning of the year may be no more than 12 months after the end of the month in which a germination analysis was completed on the source lot identified under sub. (1) (c).
- (b) If the vegetable seed is packaged in a pre-planted container, or in a mat, tape or other planting device, the guaranteed minimum quantity of pure vegetable seed included in that container or planting device if that quantity cannot be readily ascertained by a prospective buyer.
- (4) FLOWER SEED IN SMALL QUANTITIES FOR HOME USE. If flower seed that complies with s. ATCP 20.06 (4) is packaged for home use in a container with net contents of less than one pound, or in a pre-planted container, mat, tape or other planting device with net contents of less than one pound, the container or device may be labeled with all of the following information in lieu of all the information required under s. ATCP 20.04 (1) (e) to (j):
- (a) Applicable information under s. ATCP 20.12 describing the composition of the flower seed.
 - (b) One of the following:
- 1. The month and year in which a germination analysis under s. ATCP 20.02 was completed on the source lot identified under sub. (1) (c).
- 2. The statement "Sell by [seed labeler inserts date]." The stated date may be no more than 12 months after the end of the month in which a germination analysis was completed on the source lot identified under sub. (1) (c).
- 3. A statement indicating the calendar year in which the seed is to be used. The beginning of the year may be no more than 12 months after the end of the month in which a germination analysis was completed on the source lot identified under sub. (1) (c).
- (c) If the flower seed is packaged in a pre-planted container, or in a mat, tape or other planting device, the guaranteed minimum quantity of pure flower seed included in that container or planting device if that quantity cannot be readily ascertained by a prospective buyer.
- (5) NATIVE SPECIES SEED. (a) Seed may not be represented as native species seed unless it is derived from indigenous herbaceous species.

Note: See definitions of "indigenous" and "native species seed" in s. ATCP 20.01 (15) and (23).

- (b) A container or lot of native species seed shall be labeled with the scientific species or subspecies name corresponding to each kind or variety of native species seed declared under sub. (1)
- (c) A native species seed label may, for each declared kind and each declared variety of native species seed, state the pure live seed percentage in lieu of the germination information under s. ATCP 20.06 (1).
- (d) Native species seed germination analysis shall be performed by means of a procedure prescribed under s. ATCP 20.02 or by means of tetrazolium analysis. If tetrazolium analysis is used, germination information on the seed label shall be accompanied by the word "Untested."
- (e) If native species seed is packaged for home use in a container with net contents of less than one pound, or in a pre-planted container, mat, tape or other planting device with net contents of less than one pound, the container or device may be labeled with one of the following in lieu of all the information required under s. ATCP 20.04 (1) (f) to (j):
- 1. The month and year in which a germination analysis under par. (c) was completed on the source lot identified under sub. (1) (c).

- 2. The statement "Sell by [seed labeler inserts date]." The stated date may be no more than 12 months after the end of the month in which a germination analysis under par. (c) was completed on the source lot identified under sub. (1) (c).
- 3. A statement indicating the calendar year in which the seed is to be used. The beginning of the year may be no more than 12 months after the end of the month in which a germination analysis under par. (c) was completed on the source lot identified under sub. (1) (c).
- (f) If the native species seed is packaged in a pre-planted container, or in a mat, tape or other planting device, the guaranteed minimum quantity of pure native species seed included in that container or planting device if that quantity cannot be readily ascertained by a prospective buyer.

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

- ATCP 20.06 Seed germination; labeling, analysis and standards. (1) LABEL INFORMATION. A seed label that is required to include germination information under s. ATCP 20.04 (1) (j) shall state the following percentages for each declared kind and each declared variety of seed:
 - (a) The germination percentage.
- (b) The hard seed percentage or dormant seed percentage, as appropriate based on the applicable test method under s. ATCP 20.02.
- **(2)** GERMINATION ANALYSIS; EXPIRATION. (a) Except as provided in par. (b):
- 1. The label information under sub. (1) shall be based on a seed germination analysis under s. ATCP 20.02 that is completed within the 12–month period immediately preceding the month in which the seed is sold, offered for sale, or displayed or distributed for sale, except that for lawn or turf seed the label information may

- be based on a seed germination analysis under s. ATCP 20.02 that is completed within the 15-month period immediately preceding the month in which the seed is sold, offered for sale, or displayed or distributed for sale.
- 2. Seed on which a germination analysis under subd. 1 has expired may be relabeled with the results of a new germination analysis that complies with subd. 1.
- (b) If seed is packaged in a hermetically sealed container as provided in sub. (5), the label information under sub. (1) may be based on a germination analysis under s. ATCP 20.02 that is completed within the 36-month period immediately preceding the month in which the seed is sold, offered for sale, or displayed or distributed for sale. Seed on which a germination analysis under this paragraph has expired may not be sold, offered for sale, or displayed or distributed for sale unless it has been retested within the 9-month period immediately preceding month in which it is sold, offered for sale, or displayed or distributed for sale, and is re-labeled with the new analysis results and extended expiration date.
- (c) A person holding seed on which the germination analysis is no longer valid under this subsection shall withdraw the seed from sale and shall identify it as expired seed until it has been re– analyzed and relabeled by the seed labeler identified on the new label.
- **(3)** GERMINATION STANDARDS FOR VEGETABLE SEED. (a) Except as provided in par. (b), the germination percentage for each kind of vegetable seed shall be at least equal to the applicable percentage specified in Table 1.
- (b) If the germination percentage for any kind of vegetable seed is less than the applicable percentage specified in Table 1, the vegetable seed shall be labeled with the actual germination percentage and the conspicuous words "Below Standard" in not less than 8-point type.

Table 1
GERMINATION STANDARDS FOR VEGETABLE SEEDS

Seed Kind	Percent
Anise	50
Artichoke	60
Asparagus	70
Asparagusbean	75
Basil, Sweet	70
Bean, Garden	70
Bean, Lima	70
Bean, Runner	75
Beet	65
Broadbean	75
Broccoli	75
Brussel Sprouts	70
Burdock, Great	60
Cabbage	75
Cabbage, Tronchuda	70
Cantaloupe	75
Caraway	55
Cardoon	60
Carrot	55
Cauliflower	75
Celeraic	55
Celery	55
Chard, Swiss	65
Chervil, Salad	65
Chicory	65

Table 1 (continued) GERMINATION STANDARDS FOR VEGETABLE SEEDS

Seed Kind	Percent
Chinese Cabbage	75
Chives	50
Citron	65
Collards	80
Coriander	70
Corn, Pop	75
Corn, Sweet	75
Cornsalad	70
Cowpea	75
Cress, Garden	75
Cress, Upland	60
Cress, Water	40
Cucumber	80
Dandelion	60
Eggplant	60
Endive	70
Fennel, Florence	60
Fennel, Sweet	50
Kale	75
Kale, Chinese	75
Kale, Siberian	75
Kale, Siberian Kohlrabi	75
Leek	60
Lettuce	80
Muskmelon	75
Marjoram, Sweet	50
Mustard	75
Mustard, Spinach	75
Okra	50
Onion	70
Onion, Welsh	70
Oregano	60
Pak-Choi	75
Parsley	60
Parsnip	60
Pea	80
Peanut	60
	55
Pepper Pumpkin	75
_	
Radish Rhubarb	75 60
	60
Roquette	
Rosemary	30
Rutabaga	75
Sage	60
Salsify	75 55
Savory, Summer	55
Sorrel	65
Soybean	75
Spinach	60
Spinach, New Zealand	40
Squash	75

Table 1 (continued) GERMINATION STANDARDS FOR VEGETABLE SEEDS

Seed Kind	Percent
Thyme	50
Tomato	75
Tomato, Husk	50
Turnip	80
Watermelon	70
All Other Kinds	50

- **(4)** GERMINATION STANDARDS FOR FLOWER SEED. (a) Except as provided in par. (b) or (c), the germination percentage for each kind of flower seed, as determined by an analysis under s. ATCP 20.02, shall be at least equal to the applicable percentage specified in Table 2. When calculating the germination percentage for a kind of flower seed marked with an asterisk in Table 2, hard seeds may be counted as if they were germinated seeds.
 - (b) Except as provided in par. (c), if the germination percent-
- age for any kind of flower seed is less than the applicable minimum percentage specified in Table 2, the flower seed shall be labeled with the actual germination percentage and the conspicuous words "Below Standard" in not less than 8-point type.
- (c) If flower seed is of a kind that is not specifically identified in Table 2, and is of a kind for which no standard germination analysis is prescribed under s. ATCP 20.02, the flower seed may be labeled with the year of collection and the word "Untested."

Table 2
GERMINATION STANDARDS FOR FLOWER SEED

Seed Kind	Percent
Archillea (The Pearl) – Achillea ptarmica	50
African Daisy – Dimorphotheca aurantiaca	55
African Violet – Saintpaulia spp	30
Ageratum – Ageratum mexicanum	60
Agrostemma (rose campion) – Agrostemma coronaria	65
Alyssum – Alyssum compactum, A. maritimum, A. procumbens, A. saxatile	60
Amaranthus – Amaranthus spp	65
Anagalis (primpernel) – Anagalis arvensis, Anagalis coerulia, Anagalis grandiflora	60
Anemone – Anemone coronaria, A. pulsatilla	55
Angel's Trumpet – Datura arborea	60
Arabis – Arabis alpine	60
Arctotis (African lilac daisy) – Arctotis grandis	45
Armeria – Armeria Formosa	55
Asparagus, fern – Asparagus plumosus	50
Asparagus, sprenger, Asparagus sprengeri	55
Aster, China - Callistephus chinensis; except Pompon, Powderpuff, and Princess types	55
Aster, China – Callistephus chinensis; Pompon, Powderpuff and Princess types	50
Aubretia – Aubretia deltoids	45
Baby Smilax – Aparagus asparagoides	25
Balsam – Impatiens balsamina	70
Begonia – (Begonia fibrous rooted)	60
Begonia – (Begonia tuberous rooted)	50
Bells of Ireland – Molucella laevis	60
Brachycome (swan river daisy) – Brachycome iberidifolia	60
Browallia – Browallia elata and B. speciosa	65
Bupthalum (sunwheel) – Buphthalum salicifolium	60
Calceolaria – Calceolaria spp	60
Calendula – Calendula officinalis	65
California Poppy – Eschscholtzia californica	60
Calliopsis – Coreopsis bicolor, C. drummondi, C. elegans	65
Campanula:	
Canterbury Bells – Campanula medium	60
Cup and Saucer Bellflower – Campanula medium calycanthema.	60
Carpathian Bellflower – Campanula carpatica	50
Peach Bellflower – Campanula persicifolia	50

Table 2 (continued) GERMINATION STANDARDS FOR FLOWER SEED

Seed Kind	Percent
Candytuft, Annual – Iberis amara, I. umbellate	65
Candytuft, Perennial – Iberis gibraltarica, I. sempervirens	55
Castor Bean – Ricinus communis	60
Cathedral Bells – Cobaea scandens	65
Celosia – Celosia argentea	65
Centaurea:Basket Flower – Centaurea americana, Cornflower –C. cyanus, Dusty Miller – C. candi-	
dissima, Royal Centaurea – C. imperialis Sweet Sultan – C. moschata, Velvet Centaurea – C. gymno-	60
carpa	
Cerasium (snow-in-summer) Cerastium biebersteini and C. tomentosum	65
Chinese Forget-me-not - Cynoglossum amabile	55
Chrysanthemum, Annual – Chrysanthemum carinatum, C.coronarium, C. segetum	50
Cineraria – Senecio cruentus	60
Clarkia – Clarkia elegans	65
Cleome – Cleome gigantean	65
Coleus – Coleus blumei	65
Columbine – Aquilegia spp.	50
Coral Bells – Heuchera sanguine	55
Coreopsis, Perennial – Coreopsis lanceolata	40
Corn, ornamental – Zea mays	75
Cosmos: Sensation, Mammoth and Crested types – Cosmos bipinnatus; Klondyke type – C . sulphu-	(5
reau	65
Crossandra – (Crossandra infundibuliformis)	50
Dahlia – Dahlia spp	55
Daylily – Hemerocallis spp	45
Delphinium, Perennial- Belladonna and Bellamosum types; Cardinal Larkspur - Delphinium cardi-	55
nale; Chinensis types; Pacific Giant, Gold Medal and other hybrids of D. elatum	33
Dianthus:	
Carnation – Dianthus caryophyllus	60
China Pinks – Dianthus chinensis, heddewigi, heddensis	70
Grass Pinks – Dianthus plumarius	60
Maiden Pinks – Dianthus deltoids	60
Sweet William – Dianthus barbatus	70
Sweet Wivelsfield – Dianthus allwoodi	60
Didiscus – (blue lace flower) – Didiscus coerulea	65
Doronicum (leopard's bane) – Doronicum caucasicum	60
Dracaena - Dracaena indivisa	55
Dragon Tree – Dracaena draco	40
English Daisy – Bellis perennis	55
Flowering Maple – Abutilon spp	35
Flax – Golden flax (Linum flavum); Flowering flax L. randiflorum; Perennial flax, L. perenne	60
Foxglove – Digitalis spp	60
Gaillardia, Annual – Gaillardia pulchella; G. picta; Perennial – G. grandiflora	45
Gerbera (transvaal daisy) – Gerbera jamesoni	60
Geum – Geum spp	55
Gilia – Gilia spp	65
Gloriosa daisy (rudbeckia) – Echinacea purpurea and Rudbeckia hirta	60
Gloxinia – (Sinningia speciosa)	40
Godetia – Godetia amoena, G. grandiflora	65
Gourds: Yellow Flowered – Cucurbita pepo; White Flowered – Lagenaria sisceraria; Dishcloth – Luffa cylindrical	70
Gypsophila: Annual Baby's Breath – Gypsophlla elegans; Perennial Baby's Breath – G. paniculata, G. pacifica G. repens	70

Table 2 (continued) GERMINATION STANDARDS FOR FLOWER SEED

Heleinim – Helenium astumnale Helichrysum – Helichrysum monstrosum 60 Heliopsis – Heliopsis scabra 55 Heliotrope – Heliotropium spp. 60 Heliperum (Arcenlinium) Heliperum roseum 60 Hesperis (sweet rocket) – Hesperis matronalis 65 Hollyhock – Alithea rosea Humnemania (mexican tulip poppy) – Hunnemania fumariaefolia 60 Hyacinh bean – Dolichos lablab 70 Impatiens – Impatiens hostii, I sultain 75 Impatiens – Appress Vine – Ipomea quamochit; Moonflower – I, noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine – Ipomea spp 75 Perusulem cross (maltese cross) – Lychnis chalcedonica 70 Joh's Tears – Coix lacrymajobi 70 Kochia – Kochia childsi 71 Stars – Coix lacrymajobi 72 Kochia – Kochia childsi 73 Luriana – Lantana camara, L. hybrid Luntana – Lantana camara, L. hybrid Luntana – Lantana camara, L. hybrid Luntana – Linaria spp 76 Lobelia, Annual – Lobelia crinus 77 Linderia, Annual – Lobelia crinus 78 Luntara – Linaria spp 79 70 Lobelia, Annual – Lobelia crinus 79 Lobelia, Annual – Lopenia spp 70 Maryolo – Peru – Mirabilis jalapa 70 Marcicaria (ferefrew) – Marcicaria spp 71 Marcicaria (ferefrew) – Marcicaria spp 72 Marcicaria (ferefrew) – Marcicaria spp 73 Marcicaria (ferefrew) – Marcicaria spp 74 Mosaturiam – Tropacolum spp 75 Mosaturium – Tropacolum spp 76 Mosaturium – Tropacolum spp 77 Nemophila – Nemophila insignis 78 Nemophila – Nemophila insignis 79 Nemophila – Nemophila insignis 70 Nemophila – Nemophila insignis 70 Nemophila – Nemophila maculate 75 Niegela – Nigella dumascene 75 Pansy – Viola tricotor 76 Penstemon – Penstemon barbatus, P. grandflorus, P. lacvigatus, P. pubescens 75 Pensyla – Ployacia appundaria, P. minor, P. tanacetifolia 75 Phox, Annual – Ploko dummondi all types and varieties 75 Phox, Annual – Ploko dummondi all types and varieties 75 Phox, Annual – Ploko dummondi all types and varieties 75 Phox, Annual – Portulace portulace portulace (oi polyace) – Punibago, cape – Plumbago, capensis 76 Portulace – Portulaca gra	Seed Kind	Percent
Heliopsis – Heliopsis scabra Heliotrope – Heliotropium spp. Heliotrope – Heliotropium spp. Helipterum (Acroclinium) Helipterum roseum Hollphorum (Acroclinium) Helipterum roseum Hollphorum (Acroclinium) Helipterum roseum Hollphorum (Acroclinium) Helipterum roseum Hollphorum Althea rosea Hollphorum Althea rosea Hollphorum Althea rosea Hunnemania (mexican tulip poppy) – Hunnemania fumariaefolia Hyacinh bean – Dolichos lablab Tollinpatiens – Cypress Vine – Ipomea quamoclit; Moonflower – I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine – Ipomea spp Jerusulem cross (maltese cross) – Lychnis chalcedonica Job's Tears – Coix lacrymajobi Kochia – Kochia childsi Sosta – Coix lacrymajobi Larkspur, Annual – Delphinium ajacis Lartsan – Lantana camara, L. hybrid Lartsan – Lantana camara, L. hybrid Lilium (regal lily) – Lilium regale Solulinaria – Linaria spp Gostania – Nemophila jalapa Gostania – Nemophila jalapa Gostania – Resea odorata Maryodoria (feverfew) – Matricaria spp Gostania – Nemophila insignis Nosotis – Myosotis alpestris, M. oblongata, M. palustris Solumia – Remensia spp Gostania – Nemophila insignis Nemophila, spotted – Nemophila insignis Nemophila, spotted – Nemophila maculate Nemophila – Nemophila insignis Nemophila – Nemophila insignis Nemophila – Nemophila insignis Nemophila – Nemophila insignis Nemophila – Phacelia campanularia, P. minor, P. tanacetifolia Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia Phox, Annual –	Helenium – Helenium autumnale	40
Heliopsis – Heliopsis scabra Heliotrope – Heliotropium spp. Heliotrope – Heliotropium spp. Helipterum (Acroclinium) Helipterum roseum Hollphorum (Acroclinium) Helipterum roseum Hollphorum (Acroclinium) Helipterum roseum Hollphorum (Acroclinium) Helipterum roseum Hollphorum Althea rosea Hollphorum Althea rosea Hollphorum Althea rosea Hunnemania (mexican tulip poppy) – Hunnemania fumariaefolia Hyacinh bean – Dolichos lablab Tollinpatiens – Cypress Vine – Ipomea quamoclit; Moonflower – I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine – Ipomea spp Jerusulem cross (maltese cross) – Lychnis chalcedonica Job's Tears – Coix lacrymajobi Kochia – Kochia childsi Sosta – Coix lacrymajobi Larkspur, Annual – Delphinium ajacis Lartsan – Lantana camara, L. hybrid Lartsan – Lantana camara, L. hybrid Lilium (regal lily) – Lilium regale Solulinaria – Linaria spp Gostania – Nemophila jalapa Gostania – Nemophila jalapa Gostania – Resea odorata Maryodoria (feverfew) – Matricaria spp Gostania – Nemophila insignis Nosotis – Myosotis alpestris, M. oblongata, M. palustris Solumia – Remensia spp Gostania – Nemophila insignis Nemophila, spotted – Nemophila insignis Nemophila, spotted – Nemophila maculate Nemophila – Nemophila insignis Nemophila – Nemophila insignis Nemophila – Nemophila insignis Nemophila – Nemophila insignis Nemophila – Phacelia campanularia, P. minor, P. tanacetifolia Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia Phox, Annual –	Helichrysum – Helichrysum monstrosum	60
Helipterum (Acroclinium) Helipterum roseum Hesperis (sweet rocket) – Hesperis matronalis 65 *Hollyhock – Althea rosea 65 *Hollyhock – Althea rosea 66 Hunnemania (mexican tulip poppy) – Hunnemania fumariaefolia 60 Hyacinh bean – Dolichos labiabla 170 Impatiens – Impatiens hostii, I. sultani **Jopmea – Cypress Vine – Ipomea quamoclit; Moonflower – I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine – Ipomea spp Jerusulem cross (maltese cross) – Lychnis chalcedonica 170 Job's Tears – Coix lacrymajobi 170 Kochia – Kochia childsi 171 Larkspur, Annual – Delphinium ajacis 172 Larkspur, Annual – Delphinium ajacis 173 Lilium (regal lily) – Lilium regale 174 Lilium (regal lily) – Lilium regale 175 Linaria – Linaria spp 176 Linaria – Linaria spp 177 Linaria, Annual – Lobelia crinus 178 Lunaria, Annual – Lupinus spp 178 Lunaria, Annual – Lupinus spp 178 Lunaria, Annual – Lupinus spp 179 Lunaria (Annual – Lupinus spp 170 Lunaria (Annual		55
Hesperis (sweet rocket) - Hesperis matronalis 65	Heliotrope – Heliotropium spp.	35
Hesperis (sweet rocket) - Hesperis matronalis 65		60
Hunnemania (mexican tulip poppy) – Hunnemania fumariaefolia Hyacinh bean – Dolichos lablab Impatiens – Impatiens hostii, I. sultani **Jpomea – Cypress Vine – Ipomea quamoclit; Moonflower – I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine – Ipomea spp Jerusulem cross (maltese cross) – Lychnis chalcedonica Job's Tears – Coix lacrymajobi Kochia – Kochia chidsi Starkspur, Annual – Delphinium ajacis Larkspur, Annual – Delphinium ajacis Larkspur, Annual – Delphinium ajacis Latium (regal lily) – Lilium regale Solitium (regal lily) – Lilium regale Lobelia, Annual – Lobelia crinus Lobelia, Annual – Lobelia crinus Lobelia, Annual – Lobelia crinus Lobelia, Annual – Lupinus spp Solitium regale Lunaria, Annual – Lupinus spp Solitium regale Solitium regale Solitium regale Solitium regale Longia, Annual – Lupinus spp Solitium regale Solitium	Hesperis (sweet rocket) – Hesperis matronalis	65
Hyacinh bean — Dolichos lablab Impatiens — Impatiens hostii, I. sultani **Floomea — Cypress Vine — Ipomea quamoclit; Moonflower — I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine — Ipomea spp Jerusulem cross (maltese cross) — Lychnis chalcedonica 70 Job's Tears — Coix lacrymajobi 70 Kochia — Kochia childis 55 Larkspur, Annual — Delphinium ajacis 60 Lantana — Lantana camara, L. hybrid 33 Lilium (regal lily) — Lilium regale 50 Linaria — Linaria spp 65 Lobelia, Annual — Lobelia crinus 65 Lunaria, Annual — Louraria annua 65 **Lupine — Lupinus spp 65 **Lupine — Lupinus spp 65 Maryol of Pagetes spp Marricaria (feverfew) — Matricaria spp 60 Mignonette — Reseda odorata Myosotis — Myosotis alpestris, M. oblongata, M. palustris 50 Nemophila — Nemophila insignis 70 Niegella — Nigella damascene 75 Pansy — Viola tricclor Penstemon — Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 75 Pansy — Viola tricclor Penstemon — Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 76 Plumia — Petunia spp 77 Plumbago, cape— Plumbago capensis 78 Phox, Annual — Phlox drummondi all types and varieties 79 Physalis — Physalis » Physa		65
Hyacinh bean — Dolichos lablab Impatiens — Impatiens hostii, I. sultani **Floomea — Cypress Vine — Ipomea quamoclit; Moonflower — I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine — Ipomea spp Jerusulem cross (maltese cross) — Lychnis chalcedonica 70 Job's Tears — Coix lacrymajobi 70 Kochia — Kochia childis 55 Larkspur, Annual — Delphinium ajacis 60 Lantana — Lantana camara, L. hybrid 33 Lilium (regal lily) — Lilium regale 50 Linaria — Linaria spp 65 Lobelia, Annual — Lobelia crinus 65 Lunaria, Annual — Louraria annua 65 **Lupine — Lupinus spp 65 **Lupine — Lupinus spp 65 Maryol of Pagetes spp Marricaria (feverfew) — Matricaria spp 60 Mignonette — Reseda odorata Myosotis — Myosotis alpestris, M. oblongata, M. palustris 50 Nemophila — Nemophila insignis 70 Niegella — Nigella damascene 75 Pansy — Viola tricclor Penstemon — Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 75 Pansy — Viola tricclor Penstemon — Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 76 Plumia — Petunia spp 77 Plumbago, cape— Plumbago capensis 78 Phox, Annual — Phlox drummondi all types and varieties 79 Physalis — Physalis » Physa	Hunnemania (mexican tulip poppy) – Hunnemania fumariaefolia	60
Impatiens – Impatiens hostii, I. sultani *Ipomea – Cypress Vine – Ipomea guamoclit; Moonflower – I. noctiflora; Morning Glories, Cardinal Climber, Hearts and Honey Vine – Ipomea spp Jerusulem cross (maltese cross) – Lychnis chalcedonica Job's Tears – Coix lacrymajobi Rochia – Kochia childsi Starkspur, Annual – Delphinium ajacis Larkspur, Annual – Lobelia crinus Lilium (regal lily) – Lilium regale So Linaria – Linaria spp Go Linaria – Linaria spp Go Lobelia, Annual – Lobelia crinus Lobelia crinus Lobelia, Annual – Lobelia crinus Lonaria, Annual – Lunaria annua Go *Lupine – Lupinus spp Go Margold – Tagetes spp Go Margold – Tagetes spp Go Margold – Tagetes spp Go Marciaria (feverfew) – Marticaria spp Go Mignonette – Reseda odorata Myosotis – Myosotis alpestris, M. oblongata, M. palustris So Nasturtium – Tropacolum spp Go Nemesia – Nemophila insignis Go Nemophila, Nemophila insignis Romophila, Nemophila insignis Romophila, Nemophila insignis Romophila, Nemophila insignis Romophila, Place – Nemophila maculate Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris So Nierembergia – Nierembergia spp So Nierembergia – Nierembergia spp So Pansy – Viola tricolor Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia Phox, Annual – Phlox drummond; all types and varieties Physalis – Physalis spp Plumbago, cape – Plumbago capensis Ponytali – Beaucarnea recurvata Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulace grandiflora Primula (primrose) – Primula spp Pyrethrum (painted daisy) – Pyrethrum coccineum Salvigiosis – Salpiglossis gloxinaeflora, S. sinuate Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea So Saponaria – Saponaria ocymoides, S. vaccaria So Saponaria – Saponaria ocymoides, S. vaccaria		70
Climber, Hearts and Honey Vine – Ipomea spp Jerusulem cross (maltese cross) – Lychnis chalcedonica Job's Tears – Coix lacrymajobi Kochia – Kochia childsi Larkspur, Annual – Delphinium ajacis Larkspur, Annual – Delphinium ajacis Lilium (regal lily) – Lilium regale Linaria – Linaria spp Lobelia, Annual – Lobelia erinus Stunaria, Annual – Lunaria annua 65 Lunaria, Annual – Lunaria annua 65 Lunaria, Annual – Lunaria spp 65 Lunaria, Annual – Lunaria annua 65 Lunaria, Annual – Lunaria annua 65 Lunaria, Annual – Lunaria annua 65 Marigold – Tagetes spp 65 Marvel of Peru – Mirabilis jalapa 60 Matricaria (feverfew) – Matricaria spp 60 Matricaria (feverfew) – Matricaria spp 60 Matricaria (feverfew) – Matricaria spp 60 Marigonette – Reseda odorata 55 Myosotis – Myosotis alpestris, M. oblongata, M. palustris 50 Nasturtium – Tropacolum spp 60 Nemoshila – Nemoshila insignis 70 Nemophila – Nemophila insignis 70 Nemophila, Spotted – Nemophila maculate 60 Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nigenla – Nigella damascene 55 Pansy – Viola tricolor Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Penstemon barbatus, P. minor, P. tanacetifolia 65 Phox, Annual – Phlox drummondi all types and varieties Physalis – Physalis spp 60 Platuradodon (halloon flower) – Platycodon grandiflorum 60 Plumbago, cape – Plumbago capensis 50 Ponytail – Beaucarnea recurvata 40 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy –P. orientale; 70 Fullui Poppy – P. glaucum 70 Fortulace – Portulaca grandiflora 71 Primula (primrose) – Primula spp 72 Pyrethrum (painted daisy) – Pyrethrum coccineum 73 74 75 76 76 77 78 78 79 70 70 70 70 70 70 70 70 70		55
Jerusulem cross (maltese cross) – Lychnis chalcedonica 70 Job's Tears – Coix lacrymajobi 70 Kochia – Kochia childsi 55 Larkspur, Annual – Delphinium ajacis 60 Lantana – Lantana camara, L. hybrid 35 Larkspur, Annual – Delphinium ajacis 60 Linaria – Linaria spp 50 Linaria – Linaria spp 65 Linaria – Linaria spp 65 Lobelia, Annual – Lobelia erinus 65 Lunaria, Annual – Lubelia erinus 65 "Lupine – Lupinus spp 65 Marigold – Tagetes spp 65 Marigold – Tagetes spp 665 Marigold – Tagetes spp 665 Marvel of Peru – Mirabilis jalapa 669 Matricaria (Feverfew) – Matricaria spp 600 Mignonette – Reseda odorata 75 Myosotis – Myosotis alpestris, M. oblongata, M. palustris 75 Myosotis – Myosotis alpestris, M. oblongata, M. palustris 75 Nemophila – Nemophila insignis 76 Nemophila – Nemophila insignis 770 Nemophila – Nemophila insignis 770 Nemophila, spotted – Nemophila maculate 770 Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 75 Nigella – Nigella damascene 75 Nigella – Nigella damascene 75 Pansy – Viola tricolor 76 Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens 75 Physalis – Phacelia campanularia, P. minor, P. tanacetifolia 75 Phox, Annual – Phlox drummondi all types and varieties 75 Physalis – Physalis spp 76 Platycodon (balloon flower) – Platycodon grandiflorum 76 Platycodon (balloon flower) – Platycodon grandiflorum 76 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; 76 Tulip Poppy – P. glaucum 76 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; 76 Tulip Poppy – P. glaucum 76 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; 76 Tulip Poppy – P. glaucum 76 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; 76 Tulip Poppy – P. glaucum 76 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; 76 Tulip Poppy – P. glaucum 77 Poppy – P. prethrum (optimed		75
Job's Tears - Coix lacrymajobi		70
Schein		
Larkspur, Annual – Delphinium ajacis 60 Lantana – Lantana camara, L. hybrid 35 Lilium (regal lily) – Lilium regale 50 Linaria – Linaria spp 65 Lobelia, Annual – Lobelia erinus 65 Lunaria, Annual – Lunaria annua 65 **Supine – Lupinus spp 65 Marigold – Tagetes spp 65 Marylor of Peru – Mirabilis jalapa 60 Matricaria (feverfew) – Matricaria spp 60 Mignonette – Reseda odorata 55 Myosotis – Myosotis alpestris, M. oblongata, M. palustris 50 Nasturtium – Tropacolum spp 60 Nemesia – Nemesia spp 65 Nemoshila – Nemophila insignis 70 Nemophila, spotted – Nemophila maculate 60 Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nicernebergia – Nierembergia spp 55 Nigella – Nigella damascene 55 Pansy – Viola tricolor 60 Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Petunia spp 45 Physalis – Physalis spp <td></td> <td></td>		
Lantana – Lantana camara, L. hybrid Lilium (regal lily) – Lilium regale 50 Lilium (regal lily) – Lilium regale 50 Lobelia, Annual – Lobelia erinus 65 Lunaria, Annual – Lunaria annua 65 *Lupine – Lupinus spp 65 Maryel of Peru – Mirabilis jalapa 60 Matricaria (feverfew) – Matricaria spp 60 Maryel of Peru – Mirabilis jalapa 60 Matricaria (feverfew) – Matricaria spp 60 Mosotis – Myosotis alpestris, M. oblongata, M. palustris 50 Nasturtium – Tropacolum spp 60 Nemesia – Nemesia spp 65 Nemophila – Nemophila insignis 70 Nemophila – Nemophila insignis 70 Nemophila, spotted – Nemophila maculate Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nigella – Nigella damascen 55 Nigella – Nigella damascen 55 Pansy – Viola tricolor Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Petunia spp 60 Petunia – Phacelia campanularia, P. minor, P. tanacetifolia 65 Phox, Annual – Phlox drummondi all types and varieties 55 Physalis – Physalis spp 60 Plumbago, cape – Plumbago capensis 50 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora 75 75 76 77 78 78 79 79 70 70 70 70 70 70 70 70		
Lilium (regal lily) – Lilium regale 50 Linaria – Linaria spp 65 Lobelia, Annual – Lobelia erinus 65 Lunaria, Annual – Lunaria annua 65 *Lupine – Lupinus spp 65 Margold – Tagetes spp 65 Margold – Tagetes spp 60 Marrelaria (feverfew) – Matricaria spp 60 Mignonette – Reseda odorata 55 Myosotis – Myosotis alpestris, M. oblongata, M. palustris 50 Nesturtium – Tropacolum spp 60 Nemesia – Nemesia spp 65 Nemophila – Nemophila insignis 70 Nemophila – Nemophila maculate 60 Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nierembergia – Nierembergia spp 55 Nierembergia – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60		
Linaria – Linaria spp 65 Lobelia, Annual – Lobelia erinus 65 Lunaria, Annual – Lunaria annua 65 *Lupine – Lupinus spp 65 Marigold – Tagetes spp 65 Mary of Peru – Mirabilis jalapa 60 Mary of Veru – Matricaria spp 60 Mignonette – Reseda odorata 55 Myosotis – Myosotis alpestris, M. oblongata, M. palustris 50 Nasturtium – Tropaeolum spp 60 Nemesia – Nemesia spp 65 Nemophila – Nemophila insignis 70 Nemophila – Nemophila maculate 60 Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nicerembergia – Nierembergia spp 55 Nigella – Nigella damascene 55 Pansy – Viola tricolor 60 Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Petunia spp 45 Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia 65 Phox, Annual – Phlox drummondi all types and varieties 55 Physalis spp 60 Platycodon (balloon flower) –		
Lobelia, Annual – Lobelia erinus		
Lunaria, Annual – Lunaria annua65**Lupine – Lupinus spp65Marigold – Tagetes spp65Maryel of Peru – Mirabilis jalapa60Matricaria (feverfew) – Matricaria spp60Mignonette – Reseda odorata55Myosotis – Myosotis alpestris, M. oblongata, M. palustris50Nasturtium – Tropaeolum spp60Nemesia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Nigella – Nigella damascene55Pansy – Viola tricolor60Pentunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum50Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens, S. vaccaria50Saponaria – Saponaria ocymoides, S. vaccaria50Sabiosa, Annual – Scabiosa atropurpurea50		
*Lupine – Lupinus spp Marigold – Tagetes spp Marvel of Peru – Mirabilis jalapa Marvel of Peru – Mirabilis jalapa Matricaria (feverfew) – Matricaria spp 60 Mignonette – Reseda odorata Myosotis – Myosotis alpestris, M. oblongata, M. palustris Nasturtium – Tropacolum spp 60 Nasturtium – Tropacolum spp 65 Nemesia – Nemesia spp 65 Nemophila – Nemophila insignis 70 Nemophila – Nemophila insignis 70 Nemophila, spotted – Nemophila maculate Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nierembergia – Nierembergia spp Migella – Nigella damascene 55 Pansy – Viola tricolor Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Ptaunia spp Hacelia – Phacelia campanularia, P. minor, P. tanacetifolia 65 Phox, Annual – Phlox drummondi all types and varieties Physalis – Physalis spp 60 Plutycodon (balloon flower) – Platycodon grandiflorum 60 Plumbago, cape – Plumbago capensis Ponytail – Beaucarnea recurvata 40 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora 97 Portulace – Portulaca grandiflora 97 Portulace – Portulaca grandiflora 98 Portulace – Portulaca grandiflora 99 Pyrethrum (painted daisy) – Pyrethrum coccineum 81 82 83 840 840 840 841 840 841 842 844 845 845 845 846 847 848 848 849 849 849 849 849		
Marigold – Tagetes spp65Marvel of Peru – Mirabilis jalapa60Matricaria (feverfew) – Matricaria spp60Mignonette – Reseda odorata55Myosotis – Myosotis alpestris, M. oblongata, M. palustris50Nasturtium – Tropaeolum spp60Nemesia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Niegella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy –P. orientale; Tulip Poppy – P. glaucum60Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum55Salpia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Sabiosa, Annual – Scabiosa atropurpurea50		
Marvel of Peru – Mirabilis jalapa60Matricaria (feverfew) – Matricaria spp60Mignonette – Reseda odorata55Myosotis – Myosotis alpestris, M. oblongata, M. palustris50Nasturtium – Tropacolum spp60Nemesia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Niegella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Poptyziali – Beaucarmea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpigossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria50Scabiosa, Annual – Scabiosa atropurpurea50 </td <td></td> <td></td>		
Matricaria (feverfew) – Matricaria spp60Mignonette – Reseda odorata55Myosotis – Myosotis alpestris, M. oblongata, M. palustris50Nasturtium – Tropaeolum spp60Nemesia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Niegella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Poptys: Shirley Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate50Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Sabiosa, Annual – Scabiosa atropurpurea50		
Mignonette – Reseda odorata55Myosotis – Myosotis alpestris, M. oblongata, M. palustris50Nasturtium – Tropacolum spp60Nemesia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Niegella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpigossis – Salpiglossis – Salpiglossis plendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Myosotis – Myosotis alpestris, M. oblongata, M. palustris50Nasturtium – Tropaeolum spp60Nemessia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Niegella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate50Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Nasturtium – Tropaeolum spp60Nemesia – Nemesia spp65Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Nigella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Physalis – Physalis spp60Plutycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Nemesia – Nemesia spp 65 Nemophila – Nemophila insignis 70 Nemophila, spotted – Nemophila maculate 60 Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris 65 Nierembergia – Nierembergia spp 55 Niegella – Nigella damascene 55 Pansy – Viola tricolor 60 Pestemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. 60 Petunia – Petunia spp 45 Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia 65 Physalis – Physalis spp 60 Platycodon (balloon flower) – Platycodon grandiflorum 60 Plumbago, cape – Plumbago capensis 50 Ponytail – Beaucarnea recurvata 40 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum 60 Portulace – Portulaca grandiflora 55 Primula (primrose) – Primula spp 50 Pyrethrum (painted daisy) – Pyrethrum coccineum 60 Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate 60 Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea 50		
Nemophila – Nemophila insignis70Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Nigella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Nemophila, spotted – Nemophila maculate60Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Nigella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Nicotiana – Nicotiana affinis, N. sanderae, N. sylvestris65Nierembergia – Nierembergia spp55Nigella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Plurbycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Nierembergia – Nierembergia spp55Nigella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Nigella – Nigella damascene55Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50	<u>.</u>	
Pansy – Viola tricolor60Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens.60Petunia – Petunia spp45Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Penstemon – Penstemon barbatus, P. grandflorus, P. laevigatus, P. pubescens. Petunia – Petunia spp 45 Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia 65 Phox, Annual – Phlox drummondi all types and varieties 55 Physalis – Physalis spp 60 Platycodon (balloon flower) – Platycodon grandiflorum 60 Plumbago, cape – Plumbago capensis 50 Ponytail – Beaucarnea recurvata 40 Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora 55 Primula (primrose) – Primula spp 50 Pyrethrum (painted daisy) – Pyrethrum coccineum 51 Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate 52 Saponaria – Saponaria ocymoides, S. vaccaria 53 Scabiosa, Annual – Scabiosa atropurpurea 54 55 60 60 60 60 60 60 60 60 60		
Petunia – Petunia spp Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia Phox, Annual – Phlox drummondi all types and varieties Physalis – Physalis spp 60 Platycodon (balloon flower) – Platycodon grandiflorum Plumbago, cape – Plumbago capensis Ponytail – Beaucarnea recurvata Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora Portulace – Portulaca grandiflora Portulace – Primula spp So Pyrethrum (painted daisy) – Pyrethrum coccineum Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea So Saponaria – Saponaria ocymoides, S. vaccaria So Scabiosa, Annual – Scabiosa atropurpurea		
Phacelia – Phacelia campanularia, P. minor, P. tanacetifolia65Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Phox, Annual – Phlox drummondi all types and varieties55Physalis – Physalis spp60Platycodon (balloon flower) – Platycodon grandiflorum60Plumbago, cape – Plumbago capensis50Ponytail – Beaucarnea recurvata40Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum60Portulace – Portulaca grandiflora55Primula (primrose) – Primula spp50Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		
Physalis – Physalis spp Platycodon (balloon flower) – Platycodon grandiflorum Plumbago, cape – Plumbago capensis Ponytail – Beaucarnea recurvata Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora Primula (primrose) – Primula spp Pyrethrum (painted daisy) – Pyrethrum coccineum Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea Saponaria – Saponaria ocymoides, S. vaccaria Scabiosa, Annual – Scabiosa atropurpurea 60 60 60 60 60 60 60 60 60 6		
Platycodon (balloon flower) – Platycodon grandiflorum Plumbago, cape – Plumbago capensis Ponytail – Beaucarnea recurvata Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora Primula (primrose) – Primula spp Pyrethrum (painted daisy) – Pyrethrum coccineum Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea Saponaria – Saponaria ocymoides, S. vaccaria Scabiosa, Annual – Scabiosa atropurpurea 60 60 60 60 60 60 60 60 60 6		
Plumbago, cape – Plumbago capensis Ponytail – Beaucarnea recurvata Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora Primula (primrose) – Primula spp Pyrethrum (painted daisy) – Pyrethrum coccineum Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea Saponaria – Saponaria ocymoides, S. vaccaria Scabiosa, Annual – Scabiosa atropurpurea 50 Solvia – Scabiosa atropurpurea 50 Solvia – Scabiosa atropurpurea 50 Solvia – Scabiosa atropurpurea		
Ponytail – Beaucarnea recurvata Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora Primula (primrose) – Primula spp 50 Pyrethrum (painted daisy) – Pyrethrum coccineum Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea Saponaria – Saponaria ocymoides, S. vaccaria Scabiosa, Annual – Scabiosa atropurpurea 40 40 40 40 40 60 55 60 60 55 Frimula (primrose) – Primula spp 60 Salvia (primrose) – Primula spp 60 Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate 60 Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea 50 Scabiosa, Annual – Scabiosa atropurpurea		
Poppy: Shirley Poppy – Papaver rhoeas; Iceland Poppy – P. nudicaule; Oriental Poppy – P. orientale; Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora 55 Primula (primrose) – Primula spp 50 Pyrethrum (painted daisy) – Pyrethrum coccineum 60 Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate 60 Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea 50 Saponaria – Saponaria ocymoides, S. vaccaria 60 Scabiosa, Annual – Scabiosa atropurpurea 50		
Tulip Poppy – P. glaucum Portulace – Portulaca grandiflora Primula (primrose) – Primula spp 50 Pyrethrum (painted daisy) – Pyrethrum coccineum 60 Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate 60 Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea 50 Saponaria – Saponaria ocymoides, S. vaccaria 60 Scabiosa, Annual – Scabiosa atropurpurea 50		40
Primula (primrose) – Primula spp 50 Pyrethrum (painted daisy) – Pyrethrum coccineum 60 Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate 60 Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea 50 Saponaria – Saponaria ocymoides, S. vaccaria 60 Scabiosa, Annual – Scabiosa atropurpurea 50	Tulip Poppy – P. glaucum	60
Pyrethrum (painted daisy) – Pyrethrum coccineum60Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		55
Salpiglossis – Salpiglossis gloxinaeflora, S. sinuate60Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		50
Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea50Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50	Pyrethrum (painted daisy) – Pyrethrum coccineum	60
Saponaria – Saponaria ocymoides, S. vaccaria60Scabiosa, Annual – Scabiosa atropurpurea50		60
Scabiosa, Annual – Scabiosa atropurpurea 50	Salvia – Scarlet Sage – Salvia splendens; Mealycup Sage (blue bedder) – Salvia farinacea	50
	Saponaria – Saponaria ocymoides, S. vaccaria	60
	Scabiosa, Annual – Scabiosa atropurpurea	50
	Scabiosa, Perennial – Scabiosa caucasica	40

http://docs.legis.wisconsin.gov/code/admin_code AGRICULTURE, TRADE AND CONSUMER PROTECTION

Table 2 (continued) GERMINATION STANDARDS FOR FLOWER SEED

Seed Kind	Percent
Schizanthus – Schizanthus spp	60
*Sensitive pant (mimosa) – Mimosa pudica	65
Shasta Daisy – Chrysanthemum maximum C. leucanthemum	65
Silk Oak – Grevillea robusta	25
Snapdragon – Antirrhinum spp	55
Solanum – Solanum spp	60
Statice – Statice sinuata, S. suworonii (flower heads)	50
Stocks: Common – Mathiola incana; Evening Scented – Mathiola bicornis	65
Sunflower – Helianthus spp	70
Sunrose – Helianthemum spp	30
*Sweet Pea, Annual and Perennial other than dwarf bush – Lathyrus odoratus, L latifolius	75
*Sweet Pea, dwarf bush – Lathyrus odoratus	65
Tahoka daisy – Machaeanthera tanacetifolia	60
Thunbergia – Thunbergia alata	60
Torch Flower – Tithonia speciosa	70
Torenia (wishbone flower) – Torenia fournieri	70
Tritoma Kniphofia spp	65
Verbena, Annual – Verbena hybrid	35
Vinca – Vinca rosea	60
Viola – Viola cornuta	55
Virginian stocks – Malcolmia maritime	65
Wallflower – Cheiranthus allioni	65
Yucca (Adam's needle) – Yucca filamentosa	50
Zinna (except Linearis and Creeping) – Zinnia angustifolia, Z. elegans, Z. grandiflora, Z. gracillima, Z. haegeana, Z. multiflora, Z. pumila	65
Zinnia, Linearis and Creeping – Zinnia linearis, Sanvitalia procumbens	50
All Other Kinds	50

- **(5)** SEED PACKAGED IN HERMETICALLY SEALED CONTAINERS. Seed is deemed to be packaged in a hermetically sealed container for purposes of sub. (2) (b) if all of the following apply:
- (a) The seed was subjected to a germination analysis under s. ATCP 20.02 and packaged within 9 months after harvest.
- (b) The seed is packaged in a sealed container that does not allow water vapor penetration, through any wall or seal, greater than 0.05 grams of water per 24 hours per 100 square inches of surface at 100 degrees Fahrenheit with a relative humidity on one side
- of 90 percent and on the other side of 0 percent.
- (c) The container under par. (b) is conspicuously labeled to indicate all of the following:
 - 1. The container is hermetically sealed.
- 2. The seed in the container has been preconditioned as to moisture content.
- (d) The moisture content of the seed, as packaged in the container under par. (b), does not exceed the applicable percentage by weight of moisture specified for that seed in Table 3.

Table 3
PERCENT MOISTURE OF SEED PACKED
IN HERMETICALLY SEALED CONTAINER

Non-Vegetable Seed	Percent Moisture
Beet, field	7.5
Beet, sugar	7.5
Bluegrass, Kentucky	6.0
Fescue, red	8.0
Ryegrass, annual	8.0
Ryegrass, perennial	8.0
Other non-vegetable	6.0

Table 3 (continued) PERCENT MOISTURE OF SEED PACKED IN HERMETICALLY SEALED CONTAINER

Vegetable Seed	Percent Moisture
Bean, garden	7.0
Bean, lima	7.0
Beet	7.5
Broccoli	5.0
Brussel Sprouts	5.0
Cabbage	5.0
Carrot	5.0
Cauliflower	5.0
Celeraic	7.0
Celery	7.0
Chard, Swiss	7.5
Chinese cabbage	5.0
Chives	6.5
Collards	5.0
Corn, sweet	8.0
Cucumber	6.0
Eggplant	6.0
Kale	5.0
Kohlrabi	5.0
Leek	6.5
Lettuce	5.5
Muskmelon	6.0
Mustard, India	5.0
Onion	6.5
Onion, Welsh	6.5
Parsley	6.5
Parsnip	6.0
Pea	7.0
Pepper	4.5
Pumpkin	6.0
Radish	5.0
Rutabaga	5.0
Spinach	8.0
Squash	6.0
Tomato	5.5
Turnip	5.0
Watermelon	6.5
All other vegetable	6.0

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11; corrections in (4) (b), (c) made under s. 13.92 (4) (b) 7., Stats., Register June 2011 No. 666.

ATCP 20.08 Treated seed, inoculated seed, coated seed and combination products; labeling. (1) TREATED SEED. A container or lot of treated agricultural seed shall be labeled with all of the following, in addition to any other label information required under this chapter:

- (a) A conspicuous disclosure that the seed has been treated.
- (b) The name of the substance used to treat the seed, or a description of the treatment used. The label may use the commonly-accepted name, chemical name, or abbreviated chemical (generic) name of the substance used to treat the seed.
- (c) If the seed is treated with a pesticide, all signal words and precautionary statements required for that pesticide under 40 CFR 156.72.
- (2) INOCULATED SEED. A container or lot of inoculated agricultural seed shall be labeled with, in addition to any other label information required under this chapter, the date beyond which the inoculant is no longer warranted to be effective.
- (3) COATED SEED. (a) A container or lot of coated seed shall be labeled with all of the following information, in addition to any other information required under this chapter:
- 1. The percentage by weight of the container or lot content that is pure seed, exclusive of coating material.
- 2. The percentage by weight of the container or lot content that is coating material.
- 3. The percentage by weight of the container or lot content that is inert material other than coating material.

- (b) For coated seed, the information under s. ATCP 20.06 (1) shall be based on a germination analysis of at least 400 coated pellets that may contain seeds, regardless of whether those pellets actually contain seeds.
- (4) COMBINATION SEED AND NON-SEED PRODUCTS; LABELING. Each container or lot of combination seed and non-seed product shall be conspicuously labeled to disclose, in addition to any other labeling required under this chapter, the nature and composition of the product. The label shall describe each type of non-seed material included in the product, and shall disclose the respective percentages by weight of seed and non-seed materials. The product label may not be deceptive or misleading, and may not contain any false information or unsubstantiated performance claims.

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

- ATCP 20.10 Hybrid seed labeling. (1) SEED LABELED AS HYBRID SEED. If, in any container or lot of agricultural seed, at least 75 percent of the seeds of any kind or variety declared on the seed label are hybrid seeds, the label shall identify that kind or variety as hybrid seed. If less than 75 percent of the seeds of a declared kind or variety are hybrid seeds, the label may not identify that kind or variety as hybrid seed.
- (2) HYBRID PERCENTAGE DECLARED. If a seed label identifies a declared kind or variety of agricultural seed as hybrid seed, but less than 95 percent of the seeds of that kind or variety in the container or lot are hybrid seeds, the label shall declare the actual percentage of hybrid seeds. The label shall declare that percentage in parenthesis following the name of the kind or variety.
- **(3)** HYBRID CONSIDERED SEPARATE VARIETY. A hybrid version of a named seed variety is, for purposes of this chapter, a separate seed variety that shall be identified by a distinct variety name.

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

- **ATCP 20.12** Flower seed in small containers; composition. The flower seed label information required under s. ATCP 20.04 (4) (a) shall include all of the following as applicable:
- (1) PLANTS GROWN FOR BLOOMS. Flower seed used to grow plants primarily for their blooms shall be labeled as follows:
- (a) If the seed is for a single variety of plant, the label shall declare both the plant kind and the variety.

Note: A declaration under par. (a) might say, for example, "Marigold, Butterball."

(b) If the seed is for plants of a single type and bloom color, the label shall declare the kind, type and bloom color.

Note: A declaration under par. (b) might say, for example, "Scabiosa, Tall, Large Flowered, Double, Pink."

(c) If the seed is for assorted colors or types of a single kind of plant, the label shall declare the kind, colors and types, and shall disclose that the seed is mixed or assorted.

Note: A declaration under par. (c) might say, for example, "Marigold, Dwarf Double French, Mixed Colors."

(d) If the seed is for a mixture or assortment of kinds or varieties, the label shall indicate that the seed is a mixture or assortment, and shall identify a specific intended use of the mixture or assortment.

Note: A declaration under par. (d) might say, for example, "Cut Flower Mixture," or "Rock Garden Assortment." Statements such as "General Purpose Assortment" or "Wonder Mixture" that fail to indicate a specific intended use do not comply with par. (d).

- (e) The composition of a seed mixture or assortment under par.(d) shall be declared as follows, if the seed mixture or assortment is packaged in a container that has net contents of more than 3 grams:
- 1. The label shall list the name and pure seed percentage of each component kind and each component variety of seed that has a pure seed percentage of more than 5 percent. Kinds and corresponding pure seed percentages shall be listed in order of predominance by pure seed percentage. Varieties and corresponding pure seed percentages shall be listed in order of predominance under the kind to which they pertain.

- 2. The label shall identify component kinds and varieties that have pure seed percentages of 5 percent or less, but need not declare their individual pure seed percentages or list them in order of predominance. The label shall declare the sum of the pure seed percentages of these component kinds and varieties except that, if no component kind or variety in the container has a pure seed percentage of more than 5 percent, the label may include the statement "No component in excess of 5%" in lieu of the sum of the pure seed percentages.
- (f) If a seed mixture or assortment under par. (d) is packaged in a container with net contents of 3 grams or less, the label shall identify all of the component kinds and varieties but need not identify their pure seed percentages or list them in order of predominance.
- (2) PLANTS GROWN FOR ORNAMENTAL FEATURES OTHER THAN BLOOMS. (a) Except as provided in par. (b), flower seed used to grow plants primarily for ornamental features other than blooms shall be labeled with the name and pure seed percentage of each kind and each variety of flower seed that comprises more than 5 percent by weight of the seed container contents.
- (b) If a container includes assorted varieties of a kind, the container need not declare the individual varieties if it does all of the following:
 - 1. Identifies the kind.
- Identifies the declared kind as being a mixture, blend or assortment.
- Describes the common ornamental feature of the varieties comprising the mixture, blend or assortment.

Note: For example, a label under par. (b) might describe a mixture of ornamental gourd seeds (seed kind) as "Ornamental Gourds, Small Fruited, Mixed."

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

- **ATCP 20.14 Prohibited practices.** No seed labeler or seller of agricultural seed may do any of the following:
- (1) Sell, offer for sale, or display or distribute for sale in this state any agricultural seed that is not labeled according to this chapter, or that is accompanied by any false, deceptive or misleading labeling.
- (2) Make any unsubstantiated content or performance claim for agricultural seed.
- (3) Make any representation in connection with the advertising, promotion, offering for sale, or sale of any agricultural seed that is false, deceptive or misleading.
- (4) Sell, offer for sale, or display or distribute for sale in this state any agricultural seed that contains any of the following:
 - (a) Any prohibited noxious weed seeds.
- (b) Weed seeds that collectively constitute more than 0.50 percent of the seed container contents by weight.
- **(5)** Add any foreign material, other than the following materials, to any agricultural seed that is sold, offered for sale, or displayed or distributed for sale in this state:
- (a) Treatment materials used to produce treated seed that is properly labeled under s. ATCP 20.08 (1).
- (b) Inoculants used to produce inoculated seed that is properly labeled under s. ATCP 20.08 (2).
- (c) Coating materials used to produce coated seed that is properly labeled under s. ATCP 20.08 (3).
- (d) Mulch, growth media, fertilizer or other materials used to produce combination seed and non-seed products that are properly labeled under s. ATCP 20.08 (4).

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

ATCP 20.16 Labeling variances. The department may grant a variance from a labeling requirement under this chapter if the department finds that the variance is consistent with the purposes of this chapter, is consistent with other state and federal law, and is necessary to avoid unfairness or unnecessary hardship. A

variance shall be issued in writing. The variance shall clearly describe the terms and conditions of the variance, and shall explain the department's reasons for granting the variance.

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.

- **ATCP 20.18 Seed labeler license. (1)** REQUIREMENT. No person may act as a seed labeler unless that person holds a valid annual license from the department under s. 94.43, Stats. An annual license expires on December 31. A license is not transferable.
- **(2)** LICENSE APPLICATION. A person shall apply for a license under sub. (1) on a form provided by the department. The application shall include all of the following:
- (a) The correct legal name of the applicant, as it will appear on seed labels.
 - (b) The applicant's principal business address.
- (c) The applicant's gross sales of seed in this state, if any, under the applicant's label in the 12 months immediately preceding the date of application.
- (d) Other information reasonably required by the department for licensing purpose.
 - (e) The license fee required under sub. (3).

Note: License application forms may be obtained by contacting the Seed Program

- at the Department of Agriculture, Trade and Consumer Protection, P.O. Box 8911, Madison, WI 53708–8911 or at (608) 224–4500 or at www.datcp.state.wi.us.
- (3) LICENSE FEE. A license application under sub. (2) shall include the following fee based on the gross sales reported under sub. (2) (c) or, if no sales are reported under sub. (2) (c), a fee of \$25:
 - (a) Twenty–five dollars for gross sales of less than \$10,000.
- (b) Fifty dollars for gross sales of at least \$10,000 but less than \$50,000.
- (c) One hundred dollars for gross sales of at least \$50,000 but less than \$100,000.
- (d) Three hundred dollars for gross sales of at least \$100,000 but less than \$250,000.
- (e) Five hundred dollars for gross sales of at least \$250,000 but less than \$500,000.
- (f) Seven hundred fifty dollars for gross sales of at least \$500,000 but less than \$1 million.
- (g) One thousand dollars for gross sales of at least \$1 million but less than \$10 million.
- (h) Fifteen hundred dollars for gross sales of at least 10 million but less than 100 million.
- (i) Twenty-five hundred dollars for gross sales of at least \$100 million.

History: EmR1049: emerg. cr., eff. 1–1–11; CR 10–107: cr. Register June 2011 No. 666, eff. 7–1–11.