

1510.0231 GERMINATION STANDARDS; STANDARDIZED GERMINATION TESTING PROCEDURES.

Subpart 1. **Vegetable seed germination.** In accordance with Minnesota Statutes, section 21.82, subdivision 7, paragraph (a), clause (2), the germination standards for vegetable seeds prepared for use by home gardeners are as follows:

- A. artichoke, 60 percent;
- B. asparagus, 70 percent;
- C. asparagus bean, 75 percent;
- D. bean, garden, 70 percent;
- E. bean, lima, 70 percent;
- F. bean, runner, 75 percent;
- G. beet, 65 percent;
- H. broadbean, 75 percent;
- I. broccoli, 75 percent;
- J. brussels sprout, 70 percent;
- K. burdock, great, 60 percent;
- L. cabbage, 75 percent;
- M. cabbage, tronchuda, 75 percent;
- N. cantaloupe (see muskmelon);
- O. cardoon, 60 percent;
- P. carrot, 55 percent;
- Q. cauliflower, 75 percent;
- R. celeriac, 55 percent;
- S. celery, 55 percent;
- T. chard, Swiss, 65 percent;
- U. chicory, 65 percent;
- V. Chinese cabbage, 75 percent;
- W. chives, 50 percent;
- X. citron, 65 percent;
- Y. collards, 80 percent;

- Z. corn, sweet, 75 percent;
- AA. cornsalad, 70 percent;
- BB. cowpea, 75 percent;
- CC. cress, garden, 75 percent;
- DD. cress, upland, 60 percent;
- EE. cress, water, 40 percent;
- FF. cucumber, 80 percent;
- GG. dandelion, 60 percent;
- HH. eggplant, 60 percent;
- II. endive, 70 percent;
- JJ. kale, 75 percent;
- KK. kale, Chinese, 75 percent;
- LL. kale, Siberian, 75 percent;
- MM. kohlrabi, 75 percent;
- NN. leek, 60 percent;
- OO. lettuce, 80 percent;
- PP. muskmelon, 75 percent;
- QQ. mustard, India, 75 percent;
- RR. mustard, spinach, 75 percent;
- SS. okra, 50 percent;
- TT. onion, 70 percent;
- UU. onion, Welsh, 70 percent;
- VV. pak-choi, 75 percent;
- WW. parsley, 60 percent;
- XX. parsnip, 60 percent;
- YY. pea, 80 percent;
- ZZ. pepper, 55 percent;
- AAA. pumpkin, 75 percent;
- BBB. radish, 75 percent;

- CCC. rhubarb, 60 percent;
- DDD. rutabaga, 75 percent;
- EEE. salsify, 75 percent;
- FFF. sorrel, 65 percent;
- GGG. soybean, 75 percent;
- HHH. spinach, 60 percent;
- III. spinach, New Zealand, 40 percent;
- JJJ. squash, 75 percent;
- KKK. tomato, 75 percent;
- LLL. tomato, husk, 50 percent;
- MMM. turnip, 80 percent;
- NNN. watermelon, 70 percent;

Subp. 2. **Flower seed germination.** In accordance with Minnesota Statutes, section 21.82, subdivision 8, paragraph (a), clause (3), the germination standards for flower seeds prepared for use by home gardeners are set in this subpart.

A. The kinds of flower seeds listed below are those for which standard testing procedures have been prescribed. The percentage listed opposite each kind is the germination standard for that kind. For the kinds marked with an asterisk, the percentage is the total of percentage germination and percentage hard seed.

- (1) Achillea (The Pearl), *Achillea ptarmica*, 50 percent;
- (2) African Daisy, *Dimorphotheca aurantiaca*, 55 percent;
- (3) Ageratum, *Ageratum mexicanum*, 60 percent;
- (4) Agrostemma (rose campion), *Agrostemma coronaria*, 65 percent;
- (5) Alyssum, *Alyssum compactum*, *A. maritimum*, *A. procumbens*, *A. saxatile*, 60 percent;
- (6) Amaranthus, (*Amaranthus* spp.) 65 percent;
- (7) Anagalis (pimpernel), (*Anagalis arvensis*, *Anagalis coerulea*, *Anagalis grandiflora*), 60 percent;
- (8) Anemone, *Anemone coronaria*, *A. pulsatilla*, 55 percent;
- (9) Angel's Trumpet, *Datura arborea*, 60 percent;
- (10) Arabis, *Arabis alpina*, 60 percent;

- (11) Arctotis (African lilac daisy), (*Arctotis grandis*), 45 percent;
- (12) Armeria, (*Armeria formosa*), 55 percent;
- (13) Asparagus, fern, (*Asparagus plumosus*), 50 percent;
- (14) Asparagus, sprenger, (*Asparagus sprengeri*), 55 percent;
- (15) Aster, China, *Callistephus chinensis*, except Pompon, Powderpuff, and Princess types, 55 percent;
- (16) Aster, China, *Callistephus chinensis*, Pompon, Powderpuff, and Princess types, 50 percent;
- (17) Aubretia, *Aubretia deltoides*, 45 percent;
- (18) Balsam, *Impatiens balsamina*, 70 percent;
- (19) Begonia, (*Begonia fibrous rooted*), 60 percent;
- (20) Begonia, (*Begonia tuberous rooted*), 50 percent;
- (21) Bells of Ireland, (*Molucella laevis*), 60 percent;
- (22) Brachycome (swan river daisy), (*Brachycome iberidifolia*), 60 percent;
- (23) Browallia, (*Browallia elata* and *B. speciosa*), 65 percent;
- (24) Bupthalmum (sunwheel), (*Bupthalmum salicifolium*), 60 percent;
- (25) Calceolaria, (*Calceolaria* spp.), 60 percent;
- (26) Calendula, *Calendula officinalis*, 65 percent;
- (27) California Poppy, *Eschscholtzia californica*, 60 percent;
- (28) Calliopsis, *Coreopsis bicolor*, *C. drummondi*, *C. elegans*, 65 percent;
- (29) Campanula:
 - (a) Canterbury Bells, *Campanula medium*, 60 percent;
 - (b) Cup and Saucer Bellflower, *Campanula medium calycanthema*, 60 percent;
 - (c) Carpathian Bellflower, *Campanula carpatica*, 50 percent;
 - (d) Peach Bellflower, *Campanula persicifolia*, 50 percent;
- (30) Candytuft, Annual, *Iberis amara*, *I. umbellata*, 65 percent;
- (31) Candytuft, Perennial, *Iberis gibraltarica*, *I. sempervirens*, 55 percent;
- (32) Castor Bean, *Ricinus communis*, 60 percent;
- (33) Cathedral Bells, *Cobaea scandens*, 65 percent;

- (34) Celosia, *Celosia argentea*, 65 percent;
- (35) Centaurea (Basket Flower), *Centaurea americana*, Cornflower, *C. cyanus*, Dusty Miller, *C. candidissima*, Royal Centaurea, *C. imperialis*, Sweet Sultan, *C. moschata*, Velvet Centaurea, *C. gymnocarpa*, 60 percent;
- (36) Chinese Forget-me-not, *Cynoglossum amabile*, 55 percent;
- (37) Chrysanthemum, Annual, *Chrysanthemum carinatum*, *C. coronarium*, *C. segetum*, 40 percent;
- (38) Clarkia, *Clarkia elegans*, 65 percent;
- (39) Cleome, *Cleome gigantea*, 65 percent;
- (40) Columbine, *Aquilegia* spp., 50 percent;
- (41) Coral Bells, *Heuchera sanguinea*, 55 percent;
- (42) Coreopsis, Perennial, *Coreopsis lanceolata*, 40 percent;
- (43) Cosmos, Sensation, Mammoth, and Crested types, *Cosmos bipinnatus*, Klondyke type, *C. sulfureus*, 65 percent;
- (44) Dahlia, *Dahlis* spp., 55 percent;
- (45) Delphinium, Perennial, Belladonna and Bellamosum types, Cardinal Larkspur, *Delphinium cardinale*, Chinensis types, Pacific Giant, Gold Medal, and other hybrids of *D. elatum*, 55 percent;
- (46) Dianthus, Carnation, *Dianthus caryophyllus*, 60 percent;
- (47) Dianthus, China Pinks, *Dianthus chinensis*, *heddewigi*, *heddensis*, 70 percent;
- (48) Grass Pinks, *Dianthus plumarius*, 60 percent;
- (49) Maiden Pinks, *Dianthus deltoides*, 60 percent;
- (50) Sweet William, *Dianthus barbatus*, 70 percent;
- (51) Sweet Wivelsfield, *Dianthus allwood*, 60 percent;
- (52) Dracaena, *Dracaena indivisa*, 55 percent;
- (53) English Daisy, *Bellis perennis*, 55 percent;
- (54) Foxglove, *Digitalis* spp., 60 percent;
- (55) Gaillardia, Annual, *Gaillardia pulchella*, *G. picta*, Perennial, *G. grandiflora*, 45 percent;
- (56) Geum, *Geum* spp., 55 percent;

- (57) Gilia, *Gilia* spp., 65 percent;
- (58) Godetia, *Godetia amoena*, *G. grandiflora*, 65 percent;
- (59) Gourds: Yellow Flowered, *Cucurbita pepo*; White Flowered, *Lagenaria sisceraria*; Dishcloth, *Luffa cylindrica*, 70 percent;
- (60) Gypsophila: Annual Baby's Breath, *Gypsophila elegans*; Perennial Baby's Breath, *G. paniculata*, *G. pacifica*, *G. repens*, 70 percent;
- (61) Helenium, (*Helenium autumnale*), 40 percent;
- (62) Helichrysum, *Helichrysum monstrosum*, 60 percent;
- (63) Heliopsis, (*Heliopsis scabra*), 55 percent;
- (64) Helipterum (*Acroclinium*), (*Helipterum roseum*), 60 percent;
- (65) Hesperis (sweet rocket), (*Hesperis matronalis*), 65 percent;
- (66) *Hollyhock, *Althea rosea*, 65 percent;
- (67) Hunnemanian (mexican tulip poppy), (*Hunnemanian fumariaefolia*), 60 percent;
- (68) *Hyacinth bean, (*Dolichos lablab*), 70 percent;
- (69) Impatiens, (*Impatiens holstii*, *I. sultani*), 55 percent;
- (70) *Ipomea, Cypress Vine, *Ipomea quamoclit*; Moonflower, *I. noctiflora*; Morning Glories, Cardinal Climber, Hearts and Honey Vine, *Ipomea* spp., 75 percent;
- (71) Jerusalem cross (maltese cross), (*Lychnis chalconica*), 70 percent;
- (72) Job's Tears, *Coix lacrymajobi*, 70 percent;
- (73) Kochia, *Kochia childsi*, 55 percent;
- (74) Larkspur, Annual, *Delphinium ajacis*, 60 percent;
- (75) Lantana, *Lantana camara*, *L. hybrida*, 35 percent;
- (76) Liliaceae (regal lily), (*Lilium regale*), 50 percent;
- (77) Linaria, *Linaria* spp., 65 percent;
- (78) Lobelia, Annual, *Lobelia erinus*, 65 percent;
- (79) Lunaria, Annual, *Lunaria annua*, 65 percent;
- (80) *Lupine, *Lupinus* spp., 65 percent;
- (81) Marigold, *Tagetes* spp., 65 percent;
- (82) Marvel of Peru, *Mirabilis jalapa*, 60 percent;

- (83) Matricaria (feverfew), (*Matricaria* spp.), 60 percent;
- (84) Mignonette, *Reseda odorata*, 55 percent;
- (85) Myosotis, *Myosotis alpestris*, *M. oblongata*, *M. palustris*, 50 percent;
- (86) Nasturtium, *Tropaeolum* spp., 60 percent;
- (87) Nemesia, *Nemesia* spp., 65 percent;
- (88) Nemophila, *Nemophila insignis*, 70 percent;
- (89) Nemophila, Spotted, (*Nemophila maculata*), 60 percent;
- (90) Nicotiana, *Nicotiana affinis*, *N. sanderae*, *N. sylvestris*, 65 percent;
- (91) Nierembergia, *Nierembergia* spp., 55 percent;
- (92) Nigella, *Nigella damascena*, 55 percent;
- (93) Pansy, *Viola tricolor*, 60 percent;
- (94) Penstemon, *Penstemon barbatus*, *P. grandiflorus*, *P. laevigatus*, *P. pubescens*, 60 percent;
- (95) Petunia, *Petunia* spp., 45 percent;
- (96) Phacelia, *Phacelia campanularia*, *P. minor*, *P. tanacetifolia*, 65 percent;
- (97) Phlox, Annual, *Phlox drummondii* all types and varieties, 55 percent;
- (98) Physalis, *Physalis*, spp., 60 percent;
- (99) Platycodon (balloon flower), (*Platycodon grandiflorum*), 60 percent;
- (100) Plumbago, cape, (*Plumbago capensis*), 50 percent;
- (101) Poppy: Shirley Poppy, *Papaver rhoeas*; Iceland Poppy, *P. nudicaule*; Oriental Poppy, *P. orientale*; Tulip Poppy, *P. glaucum*, 60 percent;
- (102) Portulace, *Portulaca grandiflora*, 55 percent;
- (103) Primula (primrose), (*Primula* spp.), 50 percent;
- (104) Pyrethrum (painted daisy), (*Pyrethrum coccineum*), 60 percent;
- (105) Salpiglossis, *Salpiglossis gloxinaeflora*, *S. sinuata*, 60 percent;
- (106) Salvia, Scarlet Sage, *Salvia splendens*; Mealycup Sage (blue bedder), *Salvia farinacea*, 50 percent;
- (107) Saponaria, *Saponaria ocymoides*, *S. vaccaria*, 60 percent;
- (108) Scabiosa, Annual, *Scabiosa atropurpurea*, 50 percent;
- (109) Scabiosa, Perennial, *Scabiosa caucasica*, 40 percent;

- (110) Schizanthus, *Schizanthus* spp., 60 percent;
- (111) *Sensitive plant (mimosa), (*Mimosa pudica*), 65 percent;
- (112) Shasta Daisy, *Chrysanthemum maximum*, *C. leucanthemum*, 65 percent;
- (113) Snapdragon, *Antirrhinum* spp., 55 percent;
- (114) Solanum, *Solanum* spp., 60 percent;
- (115) Statice, (*Statice sinuata*, *S. suworonii*) (flower heads), 50 percent;
- (116) Stocks: Common, *Mathiola incana*; Evening Scented, *Mathiola bicornis*, 65 percent;
- (117) Sunflower, *Helianthus* spp., 65 percent;
- (118) *Sweet Pea, Annual and Perennial other than dwarf bush, *Lathyrus odoratus*, *L. latifolius*, 75 percent;
- (119) *Sweet Pea, dwarf bush, *Lathyrus odoratus*, 65 percent;
- (120) Tahoka daisy, (*Machaeanthera tanacetifolia*), 60 percent;
- (121) Thunbergia, *Thunbergia alata*, 60 percent;
- (122) Torch flower, *Tithonia speciosa*, 70 percent;
- (123) Torenia (wishbone flower), (*Torenia fournieri*), 70 percent;
- (124) Tritoma, *Kniphofia* spp., 65 percent;
- (125) Verbena, Annual, *Verbena hybrida*, 35 percent;
- (126) Vinca, *Vinca rosea*, 60 percent;
- (127) Viola, *Viola cornuta*, 55 percent;
- (128) Virginian stocks, (*Malcolmia maritima*), 65 percent;
- (129) Wallflower, *Cheiranthus allioni*, 65 percent;
- (130) Yucca (Adam's needle), (*Yucca filamentosa*), 50 percent;
- (131) Zinnia (except Linearis and Creeping), *Zinnia angustifolia*, *Z. elegans*, *Z. grandiflora*, *Z. gracillima*, *Z. haegeana*, *Z. multiflora*, *Z. pumila*, 65 percent; and
- (132) Zinnia, Linearis and Creeping, *Zinnia linearis*, *Sanvitalia procumbens*, 50 percent.

B. A mixture of kinds of flower seeds is below standard if the germination of any kind or combination of kinds constituting 25 percent or more of the mixture by number is below standard for the kind or kinds involved.

Statutory Authority: *MS s 21.85*

History: *9 SR 693*

Published Electronically: *September 18, 2013*