

Field Standards for Seed Production of vegetables Crops

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To maintain the requisite genetic purity and to achieve the high level of seed standards during seed production it is essential to have field standards. Since the seed production programme organized by public as well private sectors organization at different locations, seasons and of various class, thus the field standards has to be maintained uniformly during the execution of the seed programme in field. The field standards is of two types, the first one is general requirements which include the isolation distance for foundation and certified seed and second is the specific requirements comprising off type, objectionable weeds and plants affected by seed borne diseases. The objectives of general and specific requirements are to maintained genetic purity avoiding the genetic contamination and ultimately to meet the seed standards.

General requirements: The isolation requirement is variable among the crops and it is low in self pollinated crops while moderate in often cross pollinated crops and higher in cross pollinated crops where wind/ insects act as pollinating agent. The crop-wise isolation is given below.

Sr.	Crop	Contaminants	Minimum distance(m)	
			Foundation	Certified
1	Tomato	Field of the other varieties	50	25
		Fields of the same variety not confirming to varietal purity requirements for certification	50	25
2	Brinjal	Field of the other varieties	200	100
		Fields of the same variety not confirming to varietal purity requirements for certification	200	100
3	Capsicum & Chilli	Field of the other varieties	400	200
		Fields of the same variety not confirming to varietal purity requirements for certification	400	200
		Field of capsicum from chilli and vice versa	400	200
4	Okra	Field of the other varieties	400	200
		Fields of the same variety not confirming to varietal purity requirements for certification and wild okra	400	200
5	Ashgourd	Field of the other varieties	1000	500
		Fields of the same variety not	1000	500

		confirming to varietal purity requirements for certification		
6	Bittergourd	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and from balsam apple (<i>Momordica balsamina</i>), <i>bhat kerala</i> and <i>jangli kerala</i>	1000	500
7	Bottlegourd	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification	1000	500
8	Cucumber	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and from <i>cucumis hardwickii</i>	1000	500
9	Indian Squash(Tinda)	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification	1000	500
10	Longmelon	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and snapmelon, muskmelon, oriental pickling melon and other non-desserted forms of <i>cucumis melo</i>	1000	500
11	Muskmelon	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and snapmelon, longmelon, oriental pickling melon and other non-desserted forms of <i>cucumis melo</i> known to cross	1000	500
12	Pumpkin	Field of the other varieties	1000	500
		Fields of the same variety not	1000	500

		confirming to varietal purity requirements for certification and from winter squash, summer squash and cushaw(<i>C. mixta</i>)		
13	Ridgegourd	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and from spongegourd (<i>L.cylindrica</i>)	1000	500
14	Snakegourd	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and from <i>Trichosanthes labata</i> , <i>T.palmate</i> and <i>T. cucumerina</i>	1000	500
15	Spongegourd	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and from ridgegourd (<i>L.acutangula</i>)	1000	500
16	Summersquas	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and from pumpkin (<i>C. moschata</i>), <i>C. mixta</i> and <i>C. maxima</i>	1000	500
17	watermelon	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification and wild watermelon (<i>Citrullus colocynthis L.</i>)	1000	500
19	Amaranth	Field of the other varieties	400	200
		Fields of the same variety not confirming to varietal purity requirements for certification and wild amaranths	400	200
20	Celery	Field of the other varieties	500	300
		Fields of the same variety not confirming to varietal purity requirements for certification and from turnip rooted celery <i>Apium graveolens</i>	500	300

21	Methi	Field of the other varieties	10	5
		Fields of the same variety not confirming to varietal purity requirements for certification	10	522
22	Lettuce	Field of the other varieties	50	25
		Fields of the same variety not confirming to varietal purity requirements for certification and wild lettuce (<i>Lactuca scariola</i>)	50	25
23	Parsley	Field of the other varieties	500	300
		Fields of the same variety not confirming to varietal purity requirements for certification	500	300
24	Spinach& Spinach beet	Field of the other varieties	1600	1000
		Fields of the same variety not confirming to varietal purity requirements for certification	1600	1000
		Field of the swiss chard,sugar beet and garden beet for spinach beet only	1600	1000
25	cabbage	Field of the other varieties	1600	1000
		Fields of the same variety not confirming to varietal purity requirements for certificationandfromthevarietiesof <i>Brassica oleracea(L)var.oleracea ,ramose,gemmifera,acephala, gongylodes,subaduda,italica and botrytis etc.</i>	1600	1000
26	Cauliflower& Broccoli	Field of the other varieties	1600	1000
		Fields of the same variety not confirming to varietal purity requirements for certificationandfromthevarietiesof <i>Brassica oleracea(L)var.oleracea ,ramose,gemmifera,acephala, gongylodes,subaduda,italica and botrytis etc.</i>	1600	1000
27	Knol-Kohl	Field of the other varieties	1600	1000
		Fields of the same variety not confirming	1600	1000

		to varietal purity requirements for certification and from the varieties of <i>Brassica oleracea</i> (L)var. <i>oleracea</i> , <i>ramose</i> , <i>gemmifera</i> , <i>acephala</i> , <i>gongylodes</i> , <i>subaduda</i> , <i>italica</i> , <i>capitata</i> and <i>botrytis</i> etc.		
28	Garlic	Field of the other varieties	5	5
		Fields of the same variety not confirming to varietal purity requirements for certification	5	5
29	Onion	Field of the other varieties	1000	500
		Fields of the same variety not confirming to varietal purity requirements for certification	1000	500
29	Carrot	Field of the other varieties	1000	800
		Fields of the same variety not confirming to varietal purity requirements for certification	1000	800
30	Garden beet	Field of the other varieties	1600	1000
		Fields of the same variety not confirming to varietal purity requirements for certification and fields of the swiss chard and spinach	1600	1000
		Field of the other varieties	1600	1000
31	Radish	Field of the other varieties	1600	1000
		Fields of the same variety not confirming to varietal purity requirements for certification and from rat-tail radish	1600	1000
32	Turnip	Field of the other varieties	1600	1000
		Fields of the same variety not confirming to varietal purity requirements for certification and from other species of genus <i>Brassica pekenensis</i> , <i>B.chinensis</i> <i>B.napus</i> and various kind of sarson/rai	1600	1000
33	Pea	Field of the other varieties	10	5
		Fields of the same variety not confirming	10	5

		to varietal purity requirements for certification		
34	Dolichous bean	Field of the other varieties	10	5
		Fields of the same variety not confirming to varietal purity requirements for certification	10	5
35	Cowpea	Field of the other varieties	10	5
		Fields of the same variety not confirming to varietal purity requirements for certification	10	5
36	French bean	Field of the other varieties	10	5
		Fields of the same variety not confirming to varietal purity requirements for certification	10	5

Specific requirements: The maximum permitted (%) of off type, plant affected by seed borne diseases and objectionable weed plants are given below.

Sr.	Crop	Factor	Maximum Permitted (%)		Remarks
			FS	CS	
					Max. at final inspection
1	Tomato	Off type	0.10	0.20	
		Plant affected by seed diseases	0.10	0.50	Early blight, leaf blight, TMV
2	Brinjal	Off type	0.10	0.20	At and after flowering and For seed borne disease at inspection
		Plant affected by seed diseases	0.10	0.20	<i>Phomopsis vexans</i>
3	Capsicum and chilli	Off type	0.10	0.20	At and after flowering and For seed borne disease at inspection
		Plant affected by seed diseases	0.10	0.50	Leaf blight and anthracnose
4	Okra	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	none	none	Wild okra
5	Ash gourd	Off type	0.10	0.20	At and after flowering
6	Bitter gourd	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	None	None	Balsam apple, Bhat karela and Jangli kerala
7	Bottle gourd	Off type	0.10	0.20	At and after flowering
8	Cucumber	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants			<i>Cucumis hardwickii</i>
9	Tinda	Off type	0.10	0.20	At and after flowering
10	Long melon	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	None	None	Snap melon, weed melon and non-dessert form
11	Muskmelon	Off type	0.10	0.20	At any inspection conducted after flowering and for seed disease at final inspection
		Objectionable weed plants	None	None	Snap melon, weed melon and non-dessert form
		Plants affected by seed Borne disease	0.10	0.20	Cucumber Masaic Virus
12	Pumpkin	Off type	0.10	0.20	At and after flowering
13	Ridge gourd	Off type	0.10	0.20	At and after flowering
14	Sponge gourd	Off type	0.10	0.20	At and after flowering
15	Summer squash	Off type	0.10	0.20	At and after flowering and For seed borne disease at

					inspection
16	Water melon	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	None	None	Wild water melon
17	Amaranth	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	0.010	0.020	Wild amaranth
18	Celery	Off type	0.10	0.20	At and any flowering in the case of off type and at the final inspection in case of seed borne disease
		Plants affected by seed Borne disease	0.10	0.50	Leaf blight and root rot
19	Methi	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	0.010	0.020	senji
20	Lettuce	Off type	0.10	0.20	At and after flowering
		Objectionable weed plants	0.010	0.020	Wild lettuce
		Plants affected by seed Borne disease	0.10	0.50	Lettuce Mosaic Virus
21	Parsely	Off type	0.10	0.20	At and any flowering in the case of off type and at the final inspection in case of seed borne disease
		Plants affected by seed Borne disease	0.10	0.20	Leaf spot
22	Spinach	Off type	0.10	0.20	At and after flowering
23	Cabbage	Off type	0.10	0.20	At and any flowering in the case of off type and at the final inspection in case of seed borne disease
		Plants affected by seed Borne disease	0.10	0.50	Black leg, black rot and soft rot
24	Cauliflower/Brinjal/Knol-Khol		0.10	0.20	At and any flowering in the case of off type and at the final inspection in case of seed borne disease