

APPENDIX A

Minimum Recommended Isolation Distances for Virginia–Grown Seed Crops

Seed Crop	Min. for home use	Min. w/ barriers *	Min. w/o barriers *	Comments
Bean, asparagus (<i>V. unguiculata</i>)	40-75'	150'	300'	Crosses with cowpeas (<i>V. unguiculata</i>)
Bean (<i>Phaseolus coccineus</i>)	75-150'	225-300'	450-600'	
Bean (<i>Phaseolus vulgaris</i>)	20'	40-75'	150'	
Bean, lima (<i>Phaseolus lunatus</i>)	40'	75-150'	150-300'	
Beets (<i>Beta vulgaris</i>)	> 600'	> 0.25 mi	> 0.50 mi	Or grow only one var./yr.; light pollen
Broccoli (<i>Brassica oleracea</i>)	600'	0.25 mi	0.50 mi	
Brussels Sprouts (<i>B. oleracea</i>)	600'	0.25 mi	0.50 mi	
Cabbage (<i>Brassica oleracea</i>)	600'	0.25 mi	0.50 mi	
Collards (<i>Brassica oleracea</i>)	600'	0.25 mi	0.50 mi	
Cauliflower (<i>Brassica oleracea</i>)	600'	0.25 mi	0.50 mi	
Carrots (<i>Daucus carota</i>)	600'	0.25 mi	0.50 mi	Crosses with Queen Anne's lace
Celery (<i>Apium graveolens</i>)	600'	0.25 mi	0.50 mi	Crosses with celeriac
Chard, Swiss (<i>Beta vulgaris</i>)	> 600'	> 0.25 mi	> 0.50 mi	Or grow only one var./yr.; pollen light
Corn (<i>Zea mays</i>)	600'	0.25 mi	0.50 mi	
Cucumber (<i>Cucumis sativus</i>)	600'	0.25 mi	0.50 mi	Armenium cucumber is <i>C. melo</i>
Eggplant (<i>Solanum melongena</i>)	75'	150'	300'	
Endive (<i>Cichorium endiva</i>)	35'	75'	150'	Crosses with chicory
Gourd (Ovifera, Lagenaria, & Luffa spp.)	600'	0.25 mi	0.50 mi	Know which species
Kale (<i>Brassica oleracea</i>)	600'	0.25 mi	0.50 mi	
Kohlrabi (<i>Brassica oleracea</i>)	600'	0.25 mi	0.50 mi	
Leek (<i>Allium ampeloprasum</i>)	600'	0.25 mi	0.50 mi	
Lettuce (<i>Lactuca sativa</i>)	40'	75'	150'	Double distance if wild lettuce in area
Muskmelon (<i>Cucumis melo</i>)	600'	0.25 mi	0.50 mi	
Onion (<i>Allium cepa</i>)	600'	0.25 mi	0.50 mi	
Okra (<i>Abelmoschus esculentus</i>)	600'	0.25 mi	0.50 mi	
Parsley (<i>Petroselinum crispum</i>)	600'	0.25 mi	0.50 mi	
Parsnip (<i>Pastinaca sativa</i>)	600'	0.25 mi	0.50 mi	
Peas (<i>Pisum sativum</i>)	20'	40-75'	150'	
Radish (<i>Raphanus sativus</i>)	600'	0.25 mi	0.50 mi	
Rutabaga (<i>Brassica napus</i>)	600'	0.25 mi	0.50 mi	
Peppers (<i>Capsicum annuum</i>)	40-75'	75-150'	300-600'	Larger isolation required for hot pepper
Salsify (<i>Tragopogon porrifolius</i>)	20-40'	75'	150'	
Spinach (<i>Spinacia oleracea</i>)	> 600'	> 0.25 mi	> 0.50 mi	Or grow only one var./yr.; pollen light
Squash (<i>Cucurbita</i> species =4)	600'	0.25 mi	0.50 mi	Know the species of each squash/pumpkin: (<i>C. maxima</i> , <i>C. mixta</i> , <i>C. moschata</i> , and <i>C. pepo</i>).
Pumpkin (<i>Cucurbita</i> species =4)	600'	0.25 mi	0.50 mi	
Sunflower (<i>Helianthus annuus</i>)	600-900'	0.25-0.50 mi	0.50-1.0 mi	Ornamental & population size an issue
Tomato, modern var. (<i>L. lycopersicum</i>)	10'	35'	75'	Style length + bees is an issue
Tomato, potato leaf or heir. (<i>L. lycopersicum</i>)	35'	75'	75-150'	Style length, flower structure + bees
Tomato, wild type (<i>L. pimpinellifolium</i>)	45'	90-135'	180'	Style length + bees is a big concern
Turnip (<i>Brassica rapa</i>)	600'	0.25 mi	0.50 mi	Crosses with Chinese cabbage (<i>B. rapa</i>)
Watermelon (<i>Citrullus lanatus</i>)	600'	0.25 mi	0.50 mi	

- Note: Minimum isolation distance recommendations are dependent on the context of the growing environment.** They are also based on the assumption that crops grown on adjacent land are garden-size plots, rather than large commercial plantings. When seed crops are grown within range of large plantings, the recommended distances above should be doubled for wind-pollinated and insect-pollinated crops. As a general rule, every doubling of isolation distance decreases the amount of cross-pollination by a factor of four. Most self-pollinated crops require no more than 150 feet isolation from large plantings, but there are exceptions. Pollination barriers should consist of flowers (annuals and perennials) and/or physical barriers (trees, shrubs and dense tall plantings). "Home use" means exactly that! Do not disseminate seed to seed exchanges without proper isolation precautions. Other isolation methods, such as isolation in time, or mechanical barriers such as caging, bagging, etc. may be used. The table on page 16 can be used to help determine how isolation distances may be adjusted for your situation. Each factor below which allows a decrease of isolation distance can be used to decrease the distance by perhaps no more than 10%: this figure is a guideline, not a rule. Keep in mind that an understanding of microenvironment and pollinator pressure is very important in making adjustments to isolation distance. When in doubt, don't compromise. These recommendations supersede previous recommendations in seed grower guides, and although they are based on crops grown in central Virginia, the distances can be generalized to much of the Mid-Atlantic and South.
- Isolation distance recommendations recommended above should be used or modified only after reading and understanding the background information in the manual titled: "Isolation Distances: Principles and Practices."**