Minimum Separation Distances to be used for Confined Field Tests of Certain Genetically Engineered Plants

The distances used in this table are designed to be a reference point when developing designs for confined field tests between regulated crops and their sexually compatible non-regulated relatives. Separation distances are one of the measures that can be employed to meet the requirement in APHIS regulations that regulated articles be planted "in such a way that they are not inadvertently mixed with non-regulated plant materials of any species which are not part of the environmental release (APHIS regulations 7 CFR part 340.3)." These distances are one of numerous measures evaluated by BRS when reviewing each application to determine if the design for the confined field test will prevent the dissemination and establishment of regulated GE plants. For example, separation distances in this table may not apply when techniques are deployed which use physical barriers such as bags over flowers or tents over plants to prevent cross pollination or restrict insect movement. In other circumstances, conditions for the confined environmental release may require a greater distance. BRS considers this table a "living" document and will amend the document and make it available, as relevant scientific information becomes available. Please contact BRS to discuss separation distances for plants not listed in this table at biotechquery@aphis.usda.gov.

Crop	[i]Minimum Separation Distance	Notes
Alfalfa (*Medicago sativa*)	For forage production field tests: 10 ft from forage crops 1500 feet from seed production crops when leafcutter or alkali bees are stocked as pollinators 2640 feet from seed production crops when honey bees are stocked as pollinators	<20% flowering must be maintained in forage production field tests. Distances in the presence of bees apply when bees are stocked anywhere within the indicated separation zone.
	Seed production field tests: 1500 ft from forage crops 1 mile from seed production crops when leafcutter or alkali bees are stocked as pollinators 3 miles from seed production crops when honey bees are stocked as pollinators	Distances in the presence of bees apply when bees are stocked anywhere within the indicated separation zone.
Corn (*Zea mays*)	660 ft for regulated plants that are allowed to open pollinate	
	10 ft for bagged or detassled corn	To prevent mechanical mixing during agricultural operations.

Crop	[i]Minimum Separation Distance	Notes
Cotton (Upland) (*Gossypium hirsutum*)	From non-seed production cotton: 660 ft OR 40 ft of contiguous non-regulated [ii]border rows surrounding the regulated cotton plus 10 ft minimum between fields	Nontransgenic border rows to act as a pollen sink for insect pollinators. 10 ft distance to prevent mechanical mixing during agricultural operations.
	From seed production cotton or any sexually compatible wild, ruderal, or feral cotton: 1320 ft separation OR 165 ft separation which includes 60 ft nonregulated border rows or 40 ft of nonregulated border rows if [iii]effective measures are taken to restrict cross pollination by insects.	
Rice (*Oryza sativa*)	360 ft (except for 1320 ft from hybrid rice breeding and production)	
Rapeseed/Canola (*Brassica napus* (L), some *B. rapa*)	660 ft from other canola (*B. napus*)	Separation from predominantly self-pollinating types (generally *B. napus*).
	1320 ft from field mustard (*B. rapa*)	Separation from predominantly outcrossing types (generally *B. rapa*).
Safflower (*Carthamus tinctorius*)	1320 ft	
Soybean (*Glycine max* (L))	10 ft	To prevent mechanical mixing during agricultural operations.
Tomato (*Lycopersicon esulentum*)	200 ft	
Wheat (*Triticum aestivum*)	100 ft (except for 660 ft from hybrid wheat breeding and production)	

[i] Regulated trials must be separated by a minimum distance of 10 ft from *any* nonregulated crop to be used for food, feed, or seed increase (regardless of sexual compatibility) to prevent mechanical mixing. Greater distances must be used for equipment requiring more than 10 ft for access and operation. This zone is often fallow, but sometimes planted with a cover crop to be plowed under.

[ii] Border rows are to form a perimeter of the width specified and should be comprised of a nonregulated line of the same crop type flowering synchronously for the duration of flowering of the regulated crop.

[iii] Effective measures must be validated as effective, their implementation documented for inspection purposes, and any pesticides used must be applied in accordance with approved labels.