

THE ROLE AND IMPORTANCE OF ISOLATION DISTANCES IN ORGANIC SEED PRODUCTION OF VEGETABLES

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In the article are analyzed and discussed the results about vegetable organic seed production on limited areas, and their biological purity in dependents of ensuring isolation distances. The isolation distance varies from 50-100m in self-pollinated crops like tomato, sweet peas, beans, sweet pepper, eggplant etc. to 1000-1500 m in the case of carrot, radishes, onion, red beet. Minimum isolation distance recommendations are dependent on the context of the growing environment. In the same time the minimum isolation distance required for a foundation seed crop is markedly greater than that for a certified seed crop. Maintaining adequate isolation distances to prevent cross-pollination by crops of the same species is crucial to preserving seed variety integrity.

This subject is quite important in organic seed production of vegetables, where the production areas are smaller in comparison with cereal crops and insect species diversity are much greater and this situation leads to higher incidence of out crossing. The distance required varies widely and is influenced by many factors in the seed production environment including pollinator density, presence or absence of plant and physical barriers, and wind direction and intensity. Unfortunately available literature dates on determining isolation distances for seed crops is extremely varied and may not be accurate for organic seed growers. Seed growers must always be aware of the cultivars, varieties, or types of a particular species that are being grown in their region that may cross with their seed crops. In addition, it is important to familiarize yourself with related crops or weedy species that are capable of crossing with your seed crop. In the cases of multiplication several varieties of the same species and the required isolation in space is not possible there are advised several techniques of isolation, such as using of barrier crops, plant in blocks, collecting seed from fruits produced during peak flowering, from plants from the center of block, isolation in time, mechanical isolation, etc. which could reduce from negative impacts of purities and homogeneity of reproduced seeds. In the same time, we mentioned that these methods – advises can be prescribed compulsorily instead of established isolation distance for each crop.

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