

Buntarika Nuntha 2007: Breeding and Selection of Male Sterile Ornamental Pepper.

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Advisor: Associate Professor Thunya Taychasinpitak, M.S. 63 pages.

Breeding and selection of male sterile ornamental pepper, had compact plant size, cluster habit of fruit setting and blight yellow immature fruit. Characteristics were selected and used as the parental plants and maintainer lines in crossing. The 42 cross combination of male sterile with S msms genotype and male fertile plants containing N MsMs, N Msms and N msms genotypes, which bred and selected by Peechanida (2006), were conducted. Nineteen crosses (490 plants) of 42 crosses combinations produced complimentary male fertile progenies. Therefore, all of pollen (375 plants) produced both male fertile and sterile progenies. Twenty of 23 combinations shown number of progeny fitting to 1:1 Mendelian ratio. However, the remaining three combinations were not fit to the 1:1 ratio. These results indicated that genotype of pollen parental plant was N Msms. In comparison, the characteristics of progenies showed that numbers of growing days from sprouting to flowering were earlier, plant sizes were more compact than their parents. Cluster habit of fruit setting was also found in some progenies

Six progeny lines, which revolved 1:1 mendilian ratio, were used for full sib crossing, total 14 combinations

Progenies obtained from all combinations showed male fertile and male sterile in ratio 1:1. The blooming of the first floret of obtained progenies were earlier, and plant sizes were more compact when compared to their parents. They had branching habit of fruit setting and bright yellow immature fruits. This research could produce the male sterile ornamental peppers, containing the expected characteristics as be mentioned above. Furthermore, these lines could be maintained and selected by full sib crossing for next generation.

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