

Yupaporn Paphan 2009: Breeding of Thai Native Torenia. Master of Science (Agriculture), Major Field: Horticulture, Department of Horticulture.

Thesis Advisor: Associate Professor Thunya Taychasinpitak, M.S. 70 pages.

Breeding of Thai native torenia by interspecific hybridization of torenia 4 species and hybrid of *T. concolor* by diallel crosses pollination were conducted. Only 7 combinations were seed set. There are 4 combinations of selfed were successful, parents species could be selfed but the hybrid of *T. concolor* could not be selfed. There are only 3 combinations of interspecific crosses. The crosses are the hybrid of *T. concolor* x *T. fournieri*, *T. fournieri* x *T. violacea* and *T. violacea* x *T. fournieri*. The best of percent of seeds set and percent of germination are *T. violacea* x *T. fournieri*. In second generation, *T. fournieri* x *T.violacea* and *T. violacea* x *T. fournieri* could be selfed and have similarity of percent of seeds set and percent of germination. The hybrid of *T. concolor* x *T. fournieri* seems to be sterile and could not be selfed. There are 9 combinations of back crosses were successful, hybrid of *T. concolor* x *T. fournieri* must be used as a female parent could not be used as a male parent because they are few pollen and male sterility.

The crosses combinations of *T. fournieri* x *T.violacea*, *T. violacea* x *T. fournieri* and hybrid of *T. concolor* x *T. fournieri* were selected to use for ornamental plant because they was compact plant, early to flower and colorful.

Student's signature

Thesis Advisor's signature

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