

Siwaporn Kaeochumchuen 2011: Self and Cross Ability between *Spathoglottis hybrida* 'Julalux' and Yellow Hybrid. Master of Science (Agriculture), Major Field: Horticulture, Department of Horticulture. Thesis Advisor: Miss Shermarl Wongchaochant, Ph.D. 78 pages.

Spathoglottis hybrida 'Julalux' and yellow hybrid belong to genus *Spathoglottis*. They had compact plant sizes, attractive flower colors and long blooming period. Currently, they were improving for using as ornamental pot plants. However, data of their production and breeding program are still insufficient. So that, morphological and life cycle characteristics, chromosome numbers, self and cross abilities of these hybrids and their seed germination were studied. Morphological and life cycle characteristics of the two hybrids were mostly similar except for plant sizes and flower colors. The annual growth cycles had growing period alternating to dormancy. Chromosome numbers determined from root-tip of *S. hybrida* 'Julalux' and yellow hybrid were $2n = 40$. Self and cross abilities by hand pollinating were studied. Pollinia viability was test by staining method using 1 % aceto-carmin before hand pollination. The average pollinia viability of *S.hybrida* 'Julalux' and yellow hybrid were 82 ± 5.03 and 91 ± 2.82 %, respectively. Self ability of *S. hybrida* 'Julalux' was 54.00 % and yellow hybrid was 71.43 %. In case of cross pollination, using *S. hybrida* 'Julalux' as mother plants showed 69.23 % pod set, while using yellow hybrid as mother plants showed 50.00 %. The obtained seeds from each pollinated combinations were cultured in growing media. Only seeds from combinations that had yellow hybrid as mother plants could germinate to be protocorms and develop to normal explants.

Student's signature

Thesis Advisor's signature