Chananun Pangthai 2008: Application of Liquid and Powder Plant Extract for *Aedes aegypti* Linn. Larva Control. Master of Science (Environmental Technology and Management), Major Field: Environmental Technology and Management, Department of Environment Science. Thesis Advisor: Assistant Professor Jukkrit Mahujchariyawong, Ph.D. 132 pages.

This study aims to investigate effective extracts of five plants *N. tabacum* Linn., *C. gigantean* L., *J. pifolia* L., *E. odoratum* Linn. and *T. crispa* Miers. and apply to *Ae. aegypti* L. control. Maceration method was induced by using distilled water and ethanol 95 %, macerating time were 24, 48 and 72 hours. The results indicated *N. tabacum* Linn. leaf extract gave the highest effectiveness to control larvae, followed by leaf extracts of *C. gigantean* L., seed extract of *J. pifolia* L., leaf extracts of *E. odoratum* Linn. and *T. crispa* Miers. Two breeds of *N. tabacum* Linn., burley and virginia were compared and it showed burley breed extract had more effective than virginia breed extract and using distilled water gave more effective than ethanol 95 %. Liquid extract was transformed to powder and the effectiveness test showed the same result of *Ae. aegypti* L. larva control. Both liquid extract and powder of burley can completely eliminated at concentration of 4,000 and 5,600 mg/l in 24 hours, while virginia extract can eliminated *Ae. aegypti* L. larva after 48 hours. *N. tabacum* Linn. leaf extract has the characteristics to replace using chemicals for *Ae. aegypti* L. control. However bioassay showed the impacts to some living things in water such as *oreochromis miloticus* Linn. *Poecilia reticulate* Peters, *Moina macrocopa* Straus, as same as temephos used spreadly now. Cost reduction can be expected in the case of mass production. This study shows the potential to promote using the local plants effectively.

_____ _____ ___ / ___ / ___

Student's signature Thesis Advisor's signature