Thitapa Kaewsringam 2014: The Accumulation of Lead in Maize (*Zea May* L.*)* and Selection of Bacteria in Lead Contaminated Field at Klity Village, Kanchanaburi Province. Master of Science (Environmental Science and Technology), Major Field: Environmental Science and Technology, Division of Science. Thesis Advisor: Associate Professor Thanawan Panich-pat, Ph.D. 105 pages.

The propose of this research was to study lead accumulation in maize and rhizobacteria types of maize grown in lead contaminated area. Lead accumulation in maize was studied in pot and field experiment at Klity village, Kanchanaburi provice. The result of pot experiment was accorded with field experiment. The lead concentration in maize increased when increasing age on 120 > 70 > 40 days. The highest lead concentration of maize was reported in roots on day 120 (172.031 and 110.665 mg kg^{-1} of pot and field experiments, respectively). The lowest lead concentration was reported in grains on day 70 (2.136 and 1.242 mg kg^{-1} of pot and field experiments, respectively). However, lead concentrations in pot experiment were higher than those of field experiment. In addition, maize in this research should not be used for phytoremediation due to the low BCF and TF < 1. Shoot height, root length, moisture content and dry weight were shown not significant of different between pot and field experiment. The European Union Standard of lead in cereals founded that lead concentration in grains on day 120 of field experiment exceeded the European Union Standard for cereals that might not be safe for consumption but did not exceed the standard as animal feed. This research classified 4 species of bacteria which could tolerant endurance on lead concentration more than 3,600 mg kg^{-1} such as *Bacillus* sp. B26 (2012), *Pseudomonas* sp. S169, *Pseudomonas putida* strain RW10S2 and *Bacillus subtilis* strain SM10

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