Chowwanee Meewang 2009: Study on Amino-Lipid Pattern of Bacteria in Genus *Bacillus* by Thin Layer Chromatography. Master of Science (Microbiology), Major Field: Microbiology, Department of Microbiology. Thesis Advisor: Assistant Professor Surang Suthirawut, Dr.Agr. 119 pages.

One hundred and forty-nine strains of 21 species of *Bacillus* sp. were divided into 2 main groups based on amino-lipid analysis using TLC technique. One group possessed amino-lipid of R_f 0.56 spot while the other group did not. Amino-lipid spots at R_f 0.09, 0.17, 0.22, 0.28, 0.38, 0.48 and 0.75 were commonly found in both groups. Group of possessed amino-lipid at R_f 0.56 consist of 12 species were *B. cereus, B. mycoides*, *B. thuringiensis, B. subtilis*, *B. mojavensis*, *B. atrophaeus, B. amyloliquefaciens*, *B. pumilus*, *B. licheniformis, B. firmus, B. circulans* and *B. sporothermodurans*. The group of *Bacillus* sp. which not found amino-lipid of R_f 0.56 spot consist of 9 species were *B. megaterium*, *B. flexus, B. simplex*, *B. badius*, *B. marisflavi*, *Brevibacillus choshinensis, Paenibacillus polymyxa*, *B. fusifomis* and *B. sphaericus*. Even if *Brevibacillus choshinensis* and *Paenibacillus polymyxa* are not found of R_f 0.56 spot but they were different from those group because they were appeared of R_f 0.60 and 0.65 spot. In addition, amino-lipid patterns of *Bacillus* strains used in this study were clearly distinguished from other genera of Gram positive bacteria tested, i.e. *Staphylococcus* sp., *Sarcina* sp., *Micrococcus* sp. and *Corynebacterium glutanicum* according to the disappearance of R_f 0.75 spot in those groups. In contrast, all Gram negative bacteria tested, i.e. *E. coli*, *Enterobacter aerogenes*, *Erwinia carotovora* and *Burkholdaria cepacia* possessed R_f 0.75 spot which was clearly shown as a larger spot than *Bacillus* sp.. Spot at R_f 0.75 was determined as phosphatidyl ethanolamine which is one kind of commonly phospholipids found in Gram negative bacteria but rarely found in Gram positive bacteria.

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