Chapter 6

Conclusion

The percentage of actinomycetes isolated from Mungkorn-tong, Kao-lam, Sarika, Jom-pon, Kao-bin and Pothisat were 2.23, 3.92, 7.23, 0.16, 1.16 and 0.84 respectively. The net actinomycetes was 3.81%. From these isolated actinomycetes, 51 active ones out of 104 strains (49.04%) were able to produce antibiotics against test organisms, and they were classified into 6 groups.

One of the isolates, strain ST-13-2 was selected for further study, it was identified as a closely related to *Streptomyces parvullus*. Antibiotic production of strain ST-13-2 was compared in 3 liquid media: glucose peptone medium, glucose soybean medium and maltose soybean medium. The glucose soybean medium was the most suitable in this study. An initial pH of 7.0 (before sterilization) proved to be optimum for antibiotic production and the optimum temperature was 23^{o}C. The high yield was in the incubation peroid between 2 and 6 days.

Determination of antibiotic substances from strain ST-13-2 by bioautograph, using *S. aureus* as test organism, showed more than one inhibition spot in developing solvent system 3, propanol : pyridine : acetic acid : water (15:10:3:10). They were classified in water-soluble basic antibiotic group. The Rf value was one identical to standard antibiotic, cloxacillin (Rf = 0.26).

In clinical laboratory evaluation, the crude antibiotic solution from strain ST-13-2 was able to inhibit all isolates of *S. aureus*, *E. coli* and *K.pneumoniae*, but some isolates of *Ps. aeruginosa*.