

## CHAPTER 4

### Conclusions

Jambolan plum tree (*Syzygium cumini*) was selected as the sampling tree for the study of atmospheric particulate deposition by leaf-washing method to compare with four-stage filter pack method. The sampling has been carried out for 9 months from July 2012 – March 2013 at the study site located in sub-urban area of Chiang Mai.

Ion deposition amounts obtained from both methods were significantly different ( $p < 0.05$ ). Ion deposition amount from the four-stage filter pack was approximately 2-4 times higher than that from the leaf-washing method. However, calcium, nitrate and sulfate were dominant ions identical for both methods. Correlation coefficient values between pairs of the same ions were relatively high ( $r = 0.250 - 0.932$ ) for both methods in dry season. It showed that leaf-washing method is an alternative method for particulate sampling in dry season. It has low operating cost, simple and can be applied in wider areas. Overall, it can be concluded that the leaf-washing method is effective and has a potential to be applied for dry deposition sampling.

### Recommendations for future work

There are some limitations of using leaf-washing method for atmospheric particulates deposition collection, the following points are suggested.

In this study, only one tree type was selected for sample collection due to some limitations for tree selection. The sampling tree must be taller than 3 meters and locate near the filter pack sampling station for comparison. They have to be an evergreen tree in order to have leaves for a whole year round. Tree leaf physiology is another important factor. Its surface roughness, leaf arrangement, etc. seem to be related with amount of atmospheric deposition. Therefore, there should be tested using more

tree types to find out most appropriate ones to be used as sampling trees in the leaf-washing method.



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