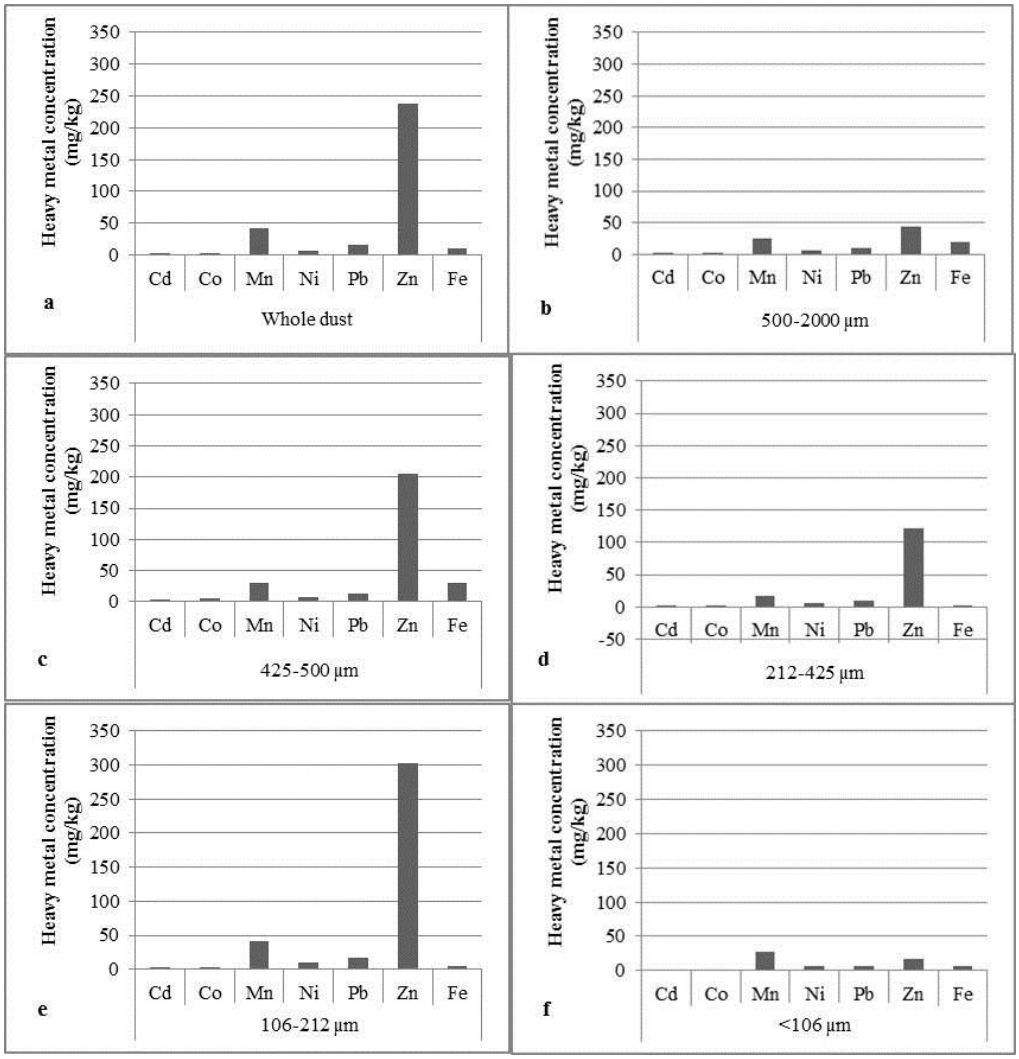

Fig. 3: Concentrations of heavy metals in the exchangeable form of the parking dust according to their size fractions; (a) whole dust, (b) size 500-2000 µm, (c) 425-500 µm, (d) 212-425 µm, (e) 106-212 µm and (f) < 106 µm.

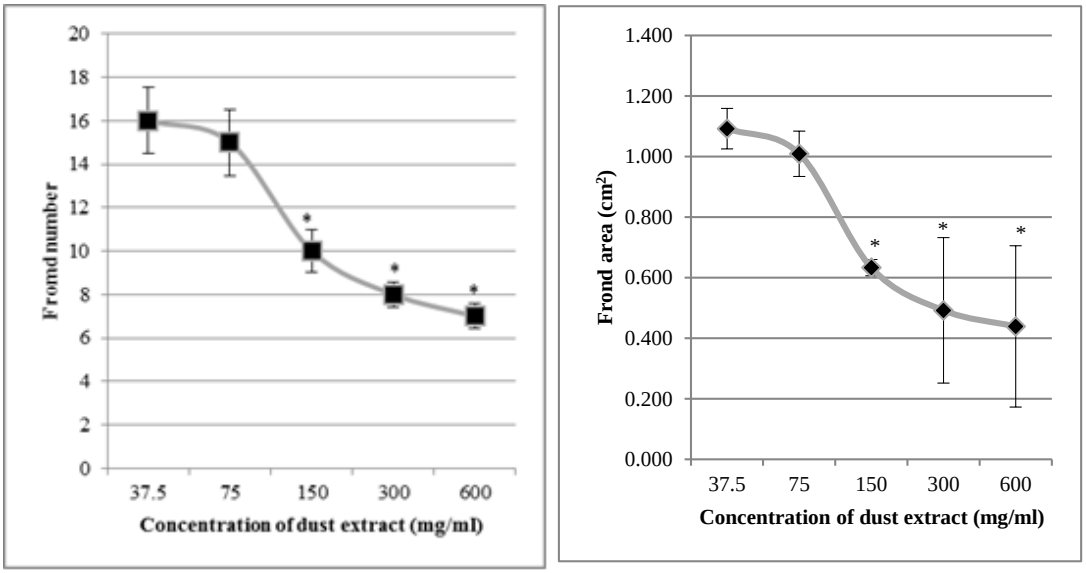

Fig. 4: Effects of parking dust extract solutions in the growth of (a) frond number and (b) frond area of duckweed evaluated over a period of 7 days. Mean±SD (n=3). "*" indicates statistical differences between particular tested concentrations and control at 95% confidence level.

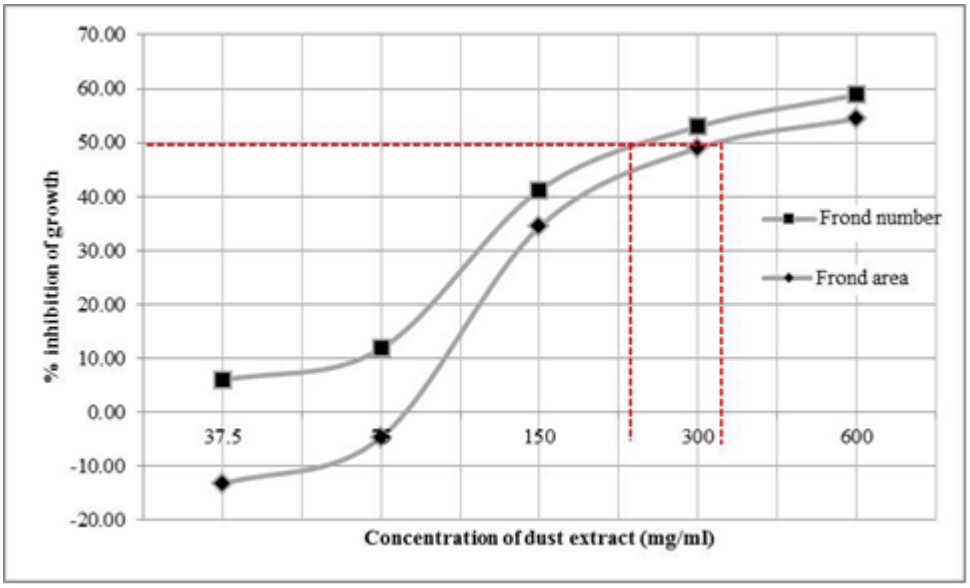

Fig. 5: Percentage of growth inhibition calculated from frond number and frond area.

IV. Conclusion

In this study, dust collected from a parking building in Bangkok consisted of Fe > Zn > Pb = Mn, however, Zn was the most prominent exchangeable heavy metal as extracted in aqueous acetic acid. Aqueous extract of the parking dust produced adverse effects to the duckweed when tested according to OECF test guideline 221. The dust extract had IC50 of 263 and 350 mg/ml for the number of fronds and frond areas, respectively. Therefore, dust deposited on parking floors should be monitored and disposed of properly to avoid ecological effects caused by its runoff.

V. Acknowledgements

We would like to thank the Department of Environmental Science and the Faculty of Science, Chulalongkorn University for the supports of this Senior Project.

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