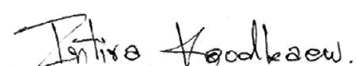


Intira Koodkaew 2007: Effects of Bioactive Compounds from Cyanobacteria (*Hapalosiphon fontinalis* (Ag.) Bornet) on Mitosis, Lipid Peroxidation, Photosynthetic Pigment and Ammonia Assimilation in Some Plants.

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Bioactive compounds from *Hapalosiphon fontinalis* (Ag.) Bornet extracted by distilled water and methanol on mitosis were investigated for cell. The bulb of onion (*Allium cepa* L.) was submerged into these extract solutions for 3 days. The result showed that both aqueous and methanolic extract inhibited mitosis of onion root tip and significantly decreased mitotic index (MI) along with the increasing of concentration. For lipid peroxidation by measuring malondialdehyde (MDA) content, photosynthetic pigment i.e. chlorophyll a, chlorophyll b, total chlorophyll and carotenoid and ammonia (NH₃) content from ammonia assimilation by sprayed extracted concentrations 0, 25, 50, 75 and 100 g(DW)/l to giant mimosa (*Mimosa pigra* L.), painted spurge (*Euphorbia heterophylla* L.), leaf mustard (*Brassica juncea* (L.) Czern.), soybean (*Glycine max* L.) finger grass (*Chloris barbata* Sw.) and rice (*Oryza sativa* L. cv. Khao Dawk Mali 105) at 3 times after planting 5, 10 and 15 days. The results were indicated that aqueous extract at high concentration increased lipid peroxidation in shoot and root of giant mimosa, painted spurge, leaf mustard and finger grass whilst methanolic extract only increased lipid peroxidation in shoot of painted spurge. For photosynthetic pigment, aqueous extract at high concentration decreased chlorophyll and carotenoid content of giant mimosa, chlorophyll of painted spurge, leaf mustard and rice but increased carotenoid content of painted spurge and finger grass and methanolic extract tend to decreased chlorophyll and carotenoid content of leaf mustard but increased carotenoid of finger grass. Ammonia content, high concentration of aqueous extract increased ammonia accumulation in shoot and root of giant mimosa, painted spurge, finger grass and rice whilst methanolic extract increased ammonia content in root of giant mimosa and shoot of leaf mustard. The result also indicate that each of the plants has differential response on *H. fontinalis* extracted, soybean is the most tolerant species and aqueous extract had more effective on physiological progress than methanolic extract.



Student's signature



Thesis Advisor's signature

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