

Sumalee Phobbongern 2008: Effect of Iodine Concentrations in Soil and Foliar Application on Iodine Content and Growth of Vegetables. Master of Science (Agriculture), Major Field: Soil Science, Department of Soil Science. Thesis Advisor: Assistant Professor Pongsant Srijantr, D.Trop.Geog. 112 pages.

The objectives of this research were to study the effect of iodine concentrations in soil and foliar application on iodine content and growth of vegetables and to evaluate the methods of iodine application for iodine accumulation in vegetables. They were designed in two experiments in Completely Randomized Design with 3 treatments and 4 replications. The basal iodine application had control, 5 and 10 mg I kg<sup>-1</sup> in iodine contents, and the foliar application had control, 0.5 and 5.0 mg I L<sup>-1</sup> in iodine concentration. Water convolvulus (*Ipomoea aquatica* Forsk. var. *reptan*), Chinese kale (*Brassica alboglabra*) and choy-sum (*Brassica chinensis* Jusl. Var. *parachinensis*) were grown in Kamphaengsaen series (Typic Haplustalfs) and Pak Chong series (Rhodic Kandustox). The iodine content in fresh vegetables and growth of vegetables were collected. The iodine content in steamed vegetables were also studied. The results showed that iodine concentrations by basal application did not reduced the growth of vegetables in height and fresh weight for water convolvulus and choy-sum, but significantly decrease for Chinese kale when compared with the control. However, the iodine accumulations were statistically different in all vegetables. Iodine concentrations by foliar application did not effected on the height and fresh weight of water convolvulus, Chinese kale and choy-sum, but accumulated iodine content significantly in all vegetables. Iodine contents between fresh and steamed vegetables did not different in each vegetables. The basal iodine application showed higher iodine accumulation than foliar application in water convolvulus and Chinese kale, but iodine accumulation in choy-sum did not different in two these experiments.

P. Sumalee

Student's signature



Thesis Advisor's signature

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