

Satane Srisatsanawong 2010: Effect of Layer and Laying Japanese Quails Manure Extract as Foliar Application on Mineral Content in Stem, Leaf, Grain and Yield of Rice CV. Pin Kaset 1. Master of Science (Environmental Science and Technology), Major Field: Environmental Science and Technology, Division of Sciences. Thesis Advisor: Associate Professor Chongrak Kaewprasit, Ph.D. 147 pages.

Objective of this study was to compared effects of layer and laying Japanese quails manure extract as foliar application on mineral contents in stem, leaf, grain and yield of rice CV. Pin Kaset 1. Experimental design of this study was Randomize Completely Block Design (RCBD) with 6 treatments and 3 replicates as followed : 1. control unit (no manure extract and fertilizer spraying) 2. liquid chemical fertilizer (LCF) 3. layer manure extract with LCF 4. layer manure extract 5. laying Japanese quails manure extract with LCF 6. laying Japanese quails manure extract. All treatments were foliar applied to rice when rice was grown at 45 days and applied every 15 days until 120 days, then stop applying all treatments, and harvested at 140 days.

Results showed that diet minerals found in both of manure extract were 13 minerals, which was as same as plant minerals. Furthermore, by regressions between minerals in manure and mineral in manure extract of layer and laying Japanese quails, there was relationships among this two parameters according to $Y = aX \pm b$. r^2 of the regressions of minerals that found in manure and layer manure extract for N, K, Cu, Zn and Na were 0.564, 0.794, 0.679, 0.267 and 0.318, respectively and r^2 of the regressions of those in laying Japanese quails for N, K, S, Cl and Na were 0.289, 0.435, 0.270, 0.825 and 0.726, respectively.

Layer and laying Japanese quails manure extracts significantly ($p < 0.05$) effect on rice minerals accumulation. The highest accumulation was found in stem, followed by leaf and grain. For growth of rice, it were found that, firstly, rice applied by layer manure extract with LCF treatment trended to increase leaf extent and stem height which was more than the other treatments (46.1 cm of leaf extent and 147.4 cm of stem height), secondly, rice applied by laying Japanese quails manure extract treatment had 34 tillers which was more than the other. thirdly, 1,000 dry weight of grain that applied by laying Japanese quails manure extract were 26.05 g and finally, fresh yield was 933.7 kg rai⁻¹ which were higher than the other treatments.

Student's signature

Thesis Advisor's signature