

Kunkornvarai Ritruangdej 2011: Characterization and Quality Assessment of Commercial Organic Fertilizers in Central Thailand and Effects of Pelleting Process on Organic Fertilizer Properties. Master of Science (Soil Science), Major Field: Soil Science, Department of Soil Science. Thesis Advisor: Assistant Professor Kannika Sajjaphan, Ph.D. 98 pages.

Characterization of organic fertilizers commercialized in the central of Thailand. Twenty-two samples of 19 manufacturers with high registered capital were randomly chosen. The samples were analyzed following DOA methods, subsequently the result of analysis were compared with the organic fertilizer criteria that contains in the Fertilizer Enactment 2550 B.E. It has been found that 95.5% of the samples passed the physical characteristics criteria, and the rest were not passed due to their high moisture contents. As for chemical characteristics, pH of all samples passed the criteria while 18% of the samples passed of organic matter criteria. There was no sample passed the nitrogen criteria. In addition, 77% of samples contained higher total phosphorus and potassium than the criteria. The physical and chemical characteristics of all organic fertilizers did not pass the criteria that enacts by Fertilizer Enactment 2550 B.E. Furthermore, effects of pelleting process on organic fertilizer properties were investigated. Raw materials (organic materials) and organic fertilizers in each step of the process were collected to analyze physical and chemical properties following DOA methods. It has been found that each step of pelleting process has very little effects on the pelleted organic fertilizer properties. However, quality of pelleted organic fertilizers is much more influenced by properties of raw materials.

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