

Kitjamate Jangsirikul 2008: Efficiency of Distillery Slop and Slop Ash as Sources of Potassium for Sweet Corn. Master of Science (Soil Science), Major Field: Soil Science, Department of Soil Science. Thesis Advisor: Associate Professor Jongruk Chanchareonsook, D.Agr. 85 pages.

The present work reported the efficiency of distillery slop and slop ash as sources of potassium for sweet corn. The investigation was divided into two experiments. The first experiment was carried out in the laboratory to study the effect of distillery slop, slop ash on available potassium content in Pak Chong and Tha Mai soil series. The second experiment was conducted in pot and it consisted of two parts using distillery slop and slop ash as source of potassium for sweet corn grown on Pak Chong soil series as the first part and on Tha Mai soil series as the second part. The experiment was performed in 3x3 Factorial in completely randomized design with 3 replication. Two factors which were potassium from three sources including potassium chloride, distillery slop and slop ash, and three rates of application at 0, 75 and 150 mg K₂O kg⁻¹ soil were investigated.

The results from laboratory experiment showed that application of distillery slop and slop ash to Pak Chong and Tha Mai soils increased available potassium content including rate of potassium release as did potassium chloride. The pot experiment using distillery slop and slop ash as source of potassium for sweet corn grown on Pak Chong and Thamai soil showed that growth, yield and total potassium uptake of sweet corn were increased significantly. The effectiveness of distillery slop, slop ash and potassium chloride on the increase of growth, yield and total uptake of sweet corn were similar. Utilization of distillery slop and slop ash as sources of potassium for sweet corn did not change soil pH and EC. Therefore, distillery slop and slop ash could be used efficiently as potassium fertilizer for sweet corn.

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Thesis Advisor's signature

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