

Ariya Saisook 2014: Effects of Hydrophilic Polymer (Oasis Gel T-400) on Growth and Yield of Some Economic Crops. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Assistant Professor Tiwa Pakoktom, Ph. D. 71 pages.

The propose of this research were to study on effects of Hydrophilic Polymer (Oasis Gel T-400) on soil properties, growth and yield of economic crops including of rice, corn and mung bean and to find out the suitable using rate of this polymer. The experiment was done during November 2013-February 2014 by Completely Randomized Design (CRD) with 4 replications. Treatment was using rate which are 0, 2, 4 and 6 kg/rai. From the results, highest soil water holding capacity was found when uses Oasis Gel T-400 rate 6 kg/rai. Soil water holding capacity was decreased which decreasing use rate respectively. The volume of plant nutrients – N, P and K – in the soil were not exchanged before planting and after harvesting. Nitrogen was a little bit increased, phosphorus was a little bit decreased and potassium was stable. Moreover, using Oasis Gel T-400 in rate 6 kg/rai have affected to plant height, number of leaf per stool and number of shoot per stool of rice. Using Oasis Gel T-400 in rate 4 kg/rai have affected to root fresh weight of rice. For corn, number of fresh leaf per plant and leaf greenness were highest in no apply Oasis Gel T-400 treatment. While, applied Oasis Gel T-400 in rate 4 kg/rai have showed the maximum of fresh stalk weight. For mung bean, plant height, number of leaf, fresh leaf weight and dry stem weight showed maximum when applied Oasis Gel T-400 in rate 4 kg/rai. Applying Oasis Gel T-400 in rate 6 kg/rai gave a maximum fresh root weight of mung bean. But all applying use rate of Oasis Gel T-400 have no affected to all economic crops. From the results can concluded that Oasis Gel T-400 have no affected to plant nutrients both before planting and after harvesting and have no affected to the yield of economic crops but the effects to plant growth were found in some use rate.

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Thesis Advisor's signature