Effects of silicate materials fertilizer on the soil and growth of rice

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Abstract

Silicon (Si) is essential nutrients of the rice growth. Cause soil silicon to reduce, because of continuous cropping. Add Silicon fertilizer can increase the growth of rice. In this paper, effect of silicon materials on rice growth and yield in paddy soil was studied. Some favorable effect of silicon materials was shown in these experiments because of plant analysis and soil testing. The results indicated soil pH is between 6.6 - 6.8. No significant differences. Determination of soil phosphorus, potassium, calcium, and magnesium content. Significantly higher than the control of silicate slag and carbonized husk. Highest in carbonized husk. Measured 60 days after transplanting leaves SAPD value. Silicate materials to deal with significantly higher. Brown spot disease of rice occurred up to 18.8%, without the use of silicate materials. The brown spot disease of rice was not obvious that the silicate slag and Carbonized husk of 8.3% and 8.0%. Rice production in the application of silicate materials can improve the yield of 4.1% to 9.9%. Silicate slag processing a maximum of 5855 kg / ha. Carbonized rice husk is 5750 kg / ha followed. Rice protein content and amylose content ranged from 6.4 - 6.1% and 18.3 - 18.3%. The form protein content and amylose content are not significantly different among treatments.

Key words: Rice, Fertilization, Silicate.

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