

**NITROGEN FERTILIZATION ON RICE IN ACID SULFATE SOILS OF
SOUTH KALIMANTAN (INDONESIA)**

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ABSTRACT

In Indonesia, there are about 7 million hectares of swamplands which consist of tidal swamplands and freshwater swamps. Those swamps are mainly distributed in the three big islands, namely Sumatra, Kalimantan and Irian Jaya.

The tidal swamplands are characterized by high acidity, submergence, iron toxicity, and low nutrient availability. Due to pyrite content, the acid sulfate soils show a very low pH (3.5-4.5). The rice yield was very low, ranging from 1.0 to 1.5 tons/ha, because of unfavorable soil conditions and use of traditional rice varieties.

By using nitrogen fertilizers the yield could be significantly increased for both traditional and improved varieties. Highest yield was obtained when improved variety Kampuas was fertilized with Urea with a rate of 90 kg/ha.

It was found that, in direct tidalswamps type B, normal Urea was not effective but Sulfur Coated Urea (SCU) produced higher yield. For direct tidal swamps type A, no fertilizer effect was observed. This was due to the fact that pyrite in acid sulfate soils was still under reduced conditions and fertilizers were partially transported to one other place due to slow water movement of the tidal flow.