

عنوان مقاله:

Impact of Heat Stress and Fertilizer Management on Yield and Potassium Uptake of Rice

محل انتشار:

کنفرانس بین المللی توسعه پایدار، راهکارها و چالش ها با محوریت کشاورزی، منابع طبیعی، محیط زیست و گردشگری (سال: 1393)

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نویسندگان:

Mohammad Taghi Karbalaee Aghamolki - *Department of Land Management, Faculty of Agriculture, Universiti Putra Malaysia, ۴۳۴۰۰, Serdang, Selangor, Malaysia Corresponding author's*

Mohd Khanif Yusop - *Department of Land Management, Faculty of Agriculture, Universiti Putra Malaysia, ۴۳۴۰۰, Serdang, Selangor, Malaysia*

Mohamed Hanafi Musa - *Department of Land Management, Faculty of Agriculture, Universiti Putra Malaysia, ۴۳۴۰۰, Serdang, Selangor, Malaysia*

Hawa ZE Jaafar - *Department of Crop Science, Faculty of Agriculture, Universiti Putra Malaysia, ۴۳۴۰۰, Serdang, Selangor, Malaysia*

خلاصه مقاله:

Potassium is an essential element for rice crop and is being used to alleviate the effect of temperature stress. To study the effect of potassium and nitrogen on yield and uptake of K in normal and heat temperature stress was carried out an experiment glass house study at Universiti Putra Malaysia during the year 2012. The experiment was conducted in split plot design experiment, using Randomized Complete Block Design (RCBD) with three replications. The main plot was heat stress that contributed normal growing temperature (32oC+2) and heat stress (38oC+2) during the day with same temperature at night (22oC+2) at two growth chambers separately. Potassium fertilizer (0, 60 and 90 kg-ha) and nitrogen (0, 120, 160 kg-ha Meister-20, 120 and 160 kg-ha urea) were set as sub plots. The results showed that dry weight of straw and grain yield were decreased 18.8 and 25.8 percent compared to normal temperatures. Heat stress decreased 18.2 percent of total K uptake. K uptake in straw, grain and total uptake were increased with increasing K fertilizer level. The rate of increasing dry weight of straw and grain yield were more in M20 fertilizer related to urea fertilizer at high level of nitrogen compared to check treatment. K uptake increased in straw and grain with increasing of using N fertilizer. The grain yield was highest in high level of N fertilizer in two conditions but it was no significant difference between heat and normal temperature treatments. The highest straw and grain were obtained in high level of K and N fertilizer in both sources of N fertilizer at normal temperature.

کلمات کلیدی:

Rice , Heat stress , Potassium, Uptake, Fertilizer Management , Yield

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