

عنوان مقاله:

Effects of Nitrogen and Silicon Fertilizer on Rice Growth in two Irrigation Regimes

محل انتشار:

اولین همایش بین المللی و دومین همایش ملی کشاورزی، محیط زیست و امنیت غذایی (سال: 1395)

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خلاصه مقاله:

Plant health is an important factor for plant growth and development. Silicon is not considered an essential element for plant development and growth, but its absorption brings several benefits to some crops, especially rice, by increasing cellular wall thickness, providing mechanical resistance to the penetration of fungi, improving the opening angle of leaves and making them more erect, decreasing self-shading and increasing resistance to lodging, especially under high nitrogen rates. This experiment was carried out in split-split plot in basis of randomized complete block design with four replications at Sari, Mazandaran, Iran in 2015. Irrigation system include continues flooding and deficit as main plots and nitrogen rates N0, N46, N92, and N138 kg ha⁻¹ as sub plots and silicon rates Si0 and Si500 kg ha⁻¹ as sub-sub plots. Results showed that with application of nitrogen fertilizer panicle length had increased 7.41%. With Si application flag leaf length was increased about 6.38%. Number of total tillers per hill was decreased with flooding. Total spikelet s number per hill in flooding irrigation was higher than deficit irrigation. Grain yield in flooding irrigation was 31 kg ha⁻¹ higher than that of deficit system. N138 and N0 had the maximum and the minimum grain yield (6128 and 4306 Kg ha⁻¹). The highest straw yield was obtained at interaction of N138Si500. It can be concluded that if the nitrogen application was high and water supplied was available we could have silicon application until increase grain yield. Keywords: Irrigation

کلمات کلیدی:

Irrigation, Nitrogen, Rice, Silicon, Yield

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