Study of the Effect of Nitrogen Application and Plant Density on Quantitative and Qualitative yield of Triticale in Climatical Conditions of Khuzestan (Ramin)

Shehram Lakh, Seyed Eshaghieh Siadat, Fathih S. S. Amini, and Iraj A. Honami

Arid Zone Research Institute, University of Isfahan, Isfahan, Iran

Abstract

The present study was conducted to investigate the effects of nitrogen application and plant density on the quantitative and qualitative yield of Triticale (Triticale spp.) in climatic conditions of Khuzestan (Ramin). A factorial experiment with a split-plot design was set up in a randomized complete block design with three replications. The main plot treatments consisted of nitrogen application at levels of 0, 50, and 100 kg N ha⁻¹, while the subplots treatment comprised plant densities of 150, 200, and 250 plants m⁻². The results showed that nitrogen application at 50 kg N ha⁻¹ had a significant effect on the quantitative and qualitative yield of Triticale. Moreover, a plant density of 200 plants m⁻² was found to be optimal for maximizing the yield of Triticale. Overall, the results indicated that appropriate nitrogen application and plant density can significantly improve the yield and quality of Triticale in the climatic conditions of Khuzestan (Ramin).