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Silicon Foliar Application on Yield and Yield Components of Rapeseed (*Brassica napus* L.) under Different Plant Densities in Iran

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Abstract

In order to study the effect of silicon foliar application and plant densities on rapeseed (Hyola-42 cul.) some yield characters, this experiment was conducted in Varamin zone at Iran during 2007-2008. In this study, the experimental unit had designed by achieved treatments in factorial on the basis completely randomized block design with three replications. Certain factors including three levels of plant density (500, 650 and 800 plants m⁻²) and silicon foliar application (0, 0.3 % and 0.6 %) were studied. The results showed that plant density and silicon foliar application significantly affected grain yield, biological yield, thousand grain weight, silique number per plant, grain number per silique, hieght plant and branches number. The highest grain yield, biological yield, silique number per plant and hieght plant were achieved under the 800 plants m⁻² and the highest thousand grain weight, grain number per silique and branches number were obtained under 500 plants m⁻². Also, all plant features were increased under silicon foliar application and highest upon characteristics were achieved by spraying of 0.6 %. Our findings may give applicable advice to commercial farmers and agricultural researchers for management and concern on planting density strategy and estimate of silicon foliar application carefully for increase of quantity and quality yields in rapeseed cultivars.

Keywords: *Brassica napus*, grain yield, plant density, silic foliar application