

Effect of Saline-alkali Soil and Exogenous Amino Acids on Quality and Yield of Tartary Buckwheat

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Abstract

Salt-tolerant variety Chuanqiao No.1 and salt-sensitive one Chuanqiao No.2 of Tartary buckwheat were used as experimental materials to study the effect of saline-alkali soil and exogenous amino acids on quality and yield of Tartary buckwheat. The results showed that Tartary buckwheat in saline-alkali soil is more enrichment in calcium (Ca), iron (Fe), zinc (Zn) and selenium (Se), and the Tartary buckwheat in saline-alkali soil is more nutritious. Under appropriate amino acids treatment, the seed protein and rutin content of Tartary buckwheat was significantly increased, and the Tartary buckwheat quality could be obviously increased. In particular, the amino acids treatment could significantly increase the Tartary buckwheat yield in saline-alkali soil, and the effect of exogenous Asp and Glu on yield increase was the best in salt-tolerant and salt-sensitive variety, respectively, and that in salt-tolerant variety was increased more. The effect of exogenous amino acids on quality and yield varies obviously in two Tartary buckwheat varieties. For less amount of amino acid used per hectare and lower price, it is very suitable for popularization and application in saline-alkali soil.

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