Optimizing land use efficiency in arid land conditions through sugar beet–clover intercropping.


Abstract:

This study was conducted during 2015–2017 seasons in the Agricultural Research Station, King Abdulaziz University at Hada Al-Sham region, Saudi Arabia. The aim was to investigate the effects of planting Al- Hassawi clover between sugar beet rows in two intercropping systems: 1 sugar beet row: 2 clover rows (1:2) and 1 sugar beet row: 3 clover rows (1:3) besides sugar beet monocrop and Al-Hassawi clover monocrop. Also, number of harvested cuts from clover during the sugar beet growing season (1, 2 and 3 cuts) on sugar beet yield, sucrose yield, clover yield, leaf area index and land equivalent ratio (LER) were investigated. No significant differences were found between sugar beet fresh root or sucrose yield/ha under the intercropping systems 1:2, 1:3 or sugar beet sole crop with one or two cuts from clover. Fresh forage yield/ha from clover significantly increased as number of cuts increased using the two intercropping systems. The highest clover forage yield/ha was produced from the clover sole with three cuts. The highest LER was produced under the 1:3 intercropping system with two cuts or one cut of clover.

Published In:

Sugar Tech (2018) 20:534-539 , NULL , NULL