

RESPONSE OF ONION PLANTS GROWN ON CLAYEY SOIL TO ADDITION OF ELEMENTAL SULPHUR AND FOLIAR SPRAY WITH COPPER

M.M. El-Shouny, S. A .El- Shikha and S.F. El-Fiki

Soil, Water and Environment Res. Inst., Agric. Res. Center, Giza, Egypt

(Received: Apr. 11 , 2010)

ABSTRACT: *A field experiment was conducted at Kafer El-Akram Village, Quessna region, Menufiya Governorate during the two successive winter seasons of 2007/2008 and 2008/2009 to study the effect of elemental sulphur as soil application at levels of 0, 0.5 and 1.0 ton/fed and copper as foliar spray at 60 and 75 days from transplation of onion (*Allium cepa* L., cv. Giza 20) at rates of 0, 100, 200 and 300 mg Cu/L. and their interaction on growth parameters (plant height, neck or bulb diameter and dry weight of onion bulb after 100 days of transplanting), bulb yield, its quality, nutrient contents and storability of onion.*

The obtained results indicated that:

- *The application of sulphur at different levels resulted in a slighty decrease in soil pH, soluble mono cations and anions (Na^+ , K^+ , Cl^- and HCO_3^-). On the contrary, the values organic matter, EC, soluble dications and anions (Ca^{++} , Mg^{++} and SO_4^{--}) and available N,P and K were increased.*
- *The addition application of sulphur and copper at different levels significantly increased all growth parameters after 100 days of transplanting, bulb yield, mineral content and storability of onion plants in this investigation.*
- *Generally, application of 1.0 ton S/fed with spray onion plants by 300 mg Cu/L remarkably enhanced yield quality, mineral content and storability values of onion bulb, likewise physical and chemical properties of experimental soil.*

Key words: *Onion plants, Sulphur application, Cu-Foliar spraying, bulb yield, Nutrients uptake.*
