The Asian Journal of Horticulture; Vol. 5 No. 2; (December, 2010) : 435-438

Received : July, 2010; Accepted : November, 2010

Research Paper

Effect of copper nutrition on growth and yield of chilli (*Capsicum annuum* L.) in a vertisol of zone-8, Karnataka

G.V. GANGAMRUTHA, H.T. CHANNAL AND **B.I. BIDARI**

See end of the article for authors' affiliations

Correspondence to :

B.I. BIDARI
Department of Soil Science and Agricultural Chemistry College of Agriculture, University of Agricultural Sciences, DHARWAD (KARNATAKA) INDIA

ABSTRACT

A field experiment was carried out to study the effect of copper nutrition on growth and yield of chilli in a vertisol. Results revealed that, treatment receiving soil application of $CuCl_2$ at 2.5 kg ha^{-1} + 0.25 per cent foliar spray (T_8) registered the highest plant height (93.29 cm), more number of branches (18.47), maximum dry matter production (104.69 g $plant^{-1}$), minimum flower drop (252), more number of fruits (36.70), highest dry weight (138.08 g) of 100 fruits and dry fruit yield (10.38 q ha^{-1}).

Gangamrutha, G.V., Channal, H.T. and Bidari, B.I. (2010). Effect of copper nutrition on growth and yield of chilli (*Capsicum annuum* L.) in a vertisol of zone-8, Karnataka, *Asian J. Hort.*, **5** (2) : 435-438.

Key words : Vertisol, Copper, Flower drop, Carbohydrate

Chilli, an important fascinating spicy solanaceous vegetable, plays vital role in Indian diet by virtue of its delicious taste, attractive red colour, peculiar flavour and varying modes of consumption and uses. In modern agriculture, due to increase in cropping intensity with fertilizer responsive high yielding varieties, copper is becoming limiting element for optimum crop growth. Copper is a micronutrient required in very small quantities by plants. Yet it is very important in crop production because of its active role in plant metabolic processes, which markedly increases the yield of crops particularly vegetables. Copper is deficient in few soil orders. In the present study, an attempt has been made to study the effect of copper nutrition on growth and yield of chilli.

MATERIALS AND METHODS

A field experiment was conducted at Main Agricultural Research Station, UAS, Dharwad in zone-8 of North Karnataka on a vertisol during *Kharif* 2008 to study the effect of copper nutrition on growth and yield of chilli (cv. BYADGI DABBI). A composite soil sample was collected from the experimental site (0-20cm) and was analysed for physico-chemical properties before the

Table 1 : Treatment details of the experiment

Treatments
T_1 – RDF
T_2 – RDF + FYM
T_3 – RDF + FYM + NAA
T_4 – RDF + FYM + 0.25% $CuCl_2$ foliar spray
T_5 – RDF + FYM + 0.5% $CuCl_2$ foliar spray
T_6 – RDF + FYM + 2.5 kg ha^{-1} $CuCl_2$ soil application
T_7 – RDF + FYM + 5.0 kg ha^{-1} $CuCl_2$ soil application
T_8 – RDF + FYM + 2.5 kg ha^{-1} $CuCl_2$ soil application + 0.25% $CuCl_2$ foliar spray
T_9 – RDF + FYM + 2.5 kg ha^{-1} $CuCl_2$ soil application + 0.5% $CuCl_2$ foliar spray
T_{10} – RDF + FYM + 5.0 kg ha^{-1} $CuCl_2$ soil application + 0.25% $CuCl_2$ foliar spray
T_{11} – RDF + FYM + 5.0 kg ha^{-1} $CuCl_2$ soil application + 0.5% $CuCl_2$ foliar spray

RDF - Recommended dose of fertilizer (100:50:50 kg N, P_2O_5 and K_2O ha^{-1})
FYM - Farmyard manure (10 t ha^{-1} spot application)
NAA - Naphthalene acetic acid
DAT - Days after transplanting (foliar spray was given twice each at 0.25 and 0.50 per cent concentration on 30 and 60 DAT in the form of $CuCl_2$)