Influence of shade and fertigation on growth, yield and economics of tomato (*Lycopersicon esculentum* Mill.)

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ABSTRACT

Studies were conducted at the department of Vegetable Crops, HC & RI, Tamil Nadu Agricultural University, Coimbatore to elucidate the effect of shade and fertigation on yield and quality of tomato using the hybrid ‘Ruchi’ under open and shade (35%) as main plot and three levels of (50, 75 and 100% RDF) each of water soluble and straight fertilizers as sub-plot treatments. The results revealed that the application of 100 per cent water soluble fertilizer under shade improved the growth parameters namely plant height, primary branches per plant, leaf area index and dry matter production at different stages of growth. The nitrate reductase activate was higher at flowering stage, which declined towards maturity. Early flowering was noticed with the application of 100 per cent water soluble fertilizer under open condition, whereas number of flowers per cluster, flowers per plant was the highest at 100 per cent water soluble fertilizer under shade. The yield parameters like number of fruits per plant and fruit weight were the highest at 100 per cent water soluble fertilizer under shade. The yield per hectare (99.8, 109.5 and 106.7 tonnes) during seasons I, II and III respectively were observed in the treatment with 100 per cent water soluble fertilizer under shade condition. The fruit quality parameters viz., fruit firmness, ascorbic acid, lycopene and carotene were improved with the application of 100 per cent water soluble fertilizer under shade. The economics of shade and fertigation showed that the treatment with 100 per cent straight fertilizers under shade registered the highest benefit cost ratio of 2.90, 3.13 and 3.18 during seasons I, II and III respectively.

Key words: Shade, Fertigation and Tomato.