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Effects of soil moisture stress on the internal quality and yield of tomato (*Lycopersicon esculentum* Mill.)

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Studies were conducted to investigate the effects of soil moisture stress on the fruit quality of tomato cv. KC-1 viz., vitamin C, Total Soluble Solids (TSS) and acid content and to determine the most critical stage/s of growth of tomato to moisture stress. Moisture stress was imposed during the vegetative, flowering, early fruiting and fruit ripening stages. A period of four day stress was given during the above growth stages by withholding water completely at once. Moisture stress reduced the vitamin C content of fruits. The TSS and the acid content of the fruits were mildly affected by moisture stress when the stress was imposed during the fruit ripening stage. Vitamin C, TSS and acid content of the fruits were not affected by the stress during the vegetative, flowering and early fruiting stages. Moisture stress reduced the yield of tomato and the stress during the flowering stage showed the highest yield reduction compared to the other growth stages. This reduction was mainly attributed to reduced number of flowers, reduction in the size of newly formed flowers and the abscission of flowers and flower buds during the flowering stage. Hence, the flowering stage is the most critical stage of growth of tomato to moisture stress for the fruit yield, while the fruit ripening stage is the most critical stage for the internal fruit quality of tomato.

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