

SUMMARY

DEVELOPMENT OF A MIXTURE OF SUBSTRATES FOR PRODUCING TOMATO SEEDLINGS

Orizaba – Córdoba region in of Veracruz state is considered an agro-industrial area where various wastes can be recycled generating compost and/or vermicompost. On the other hand, the instability of prices of different crops generates the search for alternative ones, and the production of tomato cherry in greenhouse represents an area of opportunity. Therefore, the aim of this study was to develop a mixture of materials with vermicompost from different agro-industrial wastes, producing a suitable substrate to grow tomato cherry seedlings in greenhouse and, in this way, reduce dependence on imported substrates, thus reducing cost. Through surveys, the main wastes generated in the region were identified, as well as vermicompost producers from such residues. In addition, based on the results of a physical-chemical analysis of five selected materials, three mixtures of materials to be used as substrates were developed: 1) 75% vermicompost of cachaza, coffee pulp and cattle manure, with 25% coffee husk v/v, 2) 75% vermicompost of cattle manure and 25% coffee husk v/v, 3) 60% coffee pulp and 40% coffee husk and 4) a mixture of 70% peat and 30% agrolite as a reference. Seeds of Tomato Cherry cultivar Rubino Top and Saladett tomato cultivar Cid F1 were planted in germinating trays. With the combination of the four substrates and the two varieties, eight treatments resulted. The experimental design was completely randomized, with 14 plants per treatment and four replications. Days to germination and germination percentage, stem height, stem diameter, number of blades, dry weight of plants and roots were evaluated. With a Data Logger, maximum and minimum temperatures, relative humidity and light were daily monitored. In the two varieties, the better results with taller plants, wider stem diameter and seedling development were obtained with the vermicompost from Chocaman (75% vermicompost of cachaza, coffee pulp and cattle manure and 25% coffee husk); however, the control had similar characteristics and formed the best root ball in 99 % of the seedlings. Since, good germination and seedling development were obtained, this vermicompost is recommended as an alternative for production of tomato cherry and saladett seedlings. Therefore, it is recommended to seek other material that enhances the formation of root ball.

Keywords: germination, vermicompost, cherry, saladett