

Characterization of Organic Alternative Substrates for the Production Of Potato Tuber- Seed

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Mixtures of organic and inorganic substrates for food production in greenhouses need to be evaluated physically, chemically and agriculturally in order to know their properties and thereby adjust the ferti-irrigation system. Thus to be used in intensive production systems as the seed potato production in greenhouses. We evaluated six mixtures of substrates by replacing only the peat component of the mixture used traditionally by producers, which consists of 40% coir, 40% peat and 20% perlite, all in a relationship v/v, materials. The substrates to test were peat (control), pine sawdust, rice hulls, compost from agave tequila, vermicompost from coffee pulp and sugar cane bagasse. The potato varieties used were Alpha and Atlantic. The substrate mixtures were placed in beds divided into squares 0.5 m x 0.5 m, with a height of 15 cm and a density 69 plants · m⁻². Each treatment had four seed tubers, with 12 repetitions, having a total of 144 experimental units, 288 tubers of each variety was used. The results indicate that the largest number of mini-tubers per plant in the Alpha range were obtained in the screening substrate mixture of coffee pulp (9.5) was statistically peat treatment (control) 5.75 and for the variety Atlantic sieving treatments coffee pulp (5.9), compost of agave tequila (4.7), peat (4.4) and rice husk (4.4). The aeration capacity (AC) was higher in treatments with 15.9% sawdust, coffee pulp screening (15.8%) and rice bran with 12.8%. In the total pore space (which is the sum capacity of aeration and moisture holding capacity) processing peat (76.0%) and bagasse from sugar cane (75.3%), where the latter is not allowed in irrigation water beginning of the experiment (hydrophobicity), and this present compaction. On both Alpha and Atlantic range submitted diseased tubers with common scab (*Streptomyces scabies*), although with a low incidence per plant.

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