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Capsaicin production for pharmaceutical use.

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Capsaicin has significant pharmaceutical and non-lethal force potential. It is used in topical ointments to relieve pain of peripheral neuropathy, as a treatment in apoptosis of prostate cancer cell, and is being tested for the prevention of pain post surgery. Previous research was focused on the culinary and food value of hot peppers which are the major source of capsaicin. Whilst most of the varieties cultivated are considered ‘hot’ based on the Scoville test, little effort was pursued in producing varieties for high oil yield. This study evaluates the oil production of 3 local selections of hot peppers in Trinidad., viz ‘Scotch bonnet’, ‘7-pots’, and ‘Carvahlo hot’. The crop was cultivated under green house conditions and received the recommended nutrient and crop protection practices. The ripe peppers were harvested , chopped and air –dried for 72hr at room temperature. The extraction method used was the solid-liquid extraction technique using both ethanol and acetone as solvents. The result based on the ethanol solvent showed that the fixed oil yield [ml/100g of fruit] were as follows – ‘Scotch-bonnet’ [3.5ml] , ‘7-pots’ [5.0ml] and ‘Carvahlo hot’ [9.0ml]. The fixed oil is a complex of all the *capsaicinoids capsaicin, homo-, dihydro-, nor-dihydro- and homodihydro-capsaicins*, and also included all other aromatic compounds. ‘Carvahlo hot’ has the potential to produce approximately 19 times more than the highest pepper-oil yield reported in the Caribbean. Further research is conducted on increasing yield through plant breeding and using Supercritical fluid extraction [SCFE].

Key Words: Capsaicin, capsaicinoids, ‘Carvahlo hot’, Scoville test

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