

Efficient Reduction of Organophosphate Pesticide from Fruits and Vegetables Using Cost Effective Neutralizer

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Abstract : Organophosphate group pesticides are common pesticide group, which gain entry into food product due to incomplete removal of pesticide residues. The current food industry raw material handling process is not sufficient to eliminate pesticide residues. A neutralizer was used to neutralize the residues of pesticide on *Vitis vinifera* (Grapes). The water based dilution of neutralizer was demonstrated on fruits like grapes. Analysis for pesticides in water wash and neutralizer wash was carried out using GCMS. Fruits washed with neutralizer exhibited 72.95% removal of pesticides compared with normal water wash method. An economical chemical neutralizer can be used to remove such residues in raw material handling at industrial scale with minor modification in process to achieve minimum pesticide entry into final food products.

Keywords : GCMS, organophosphate, raw material handling, *Vitis vinifera*, pesticide neutralizer

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