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## **Determination of Carbamate and Organophosphate Pesticides in vegetables and fruits during the rainy season**

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### **Abstract:**

This research was detection of organophosphate and carbamate in vegetables and fruits during the raining season at Kalasin fresh food market, Thailand. The method was selected 45 samples including kale, onion, carrots, coriander, celery, parsley, morning glory, lemongrass, bell pepper, lettuce, gourd, tomatoes, turnip, collard flowers, thyme, cucumber, potato, bean sprouts, small grapes, great grapes, apples, longan, zalacca, rambutan, green onion, dragon, cowpea, small eggplant, luffa gourd, cowslip creeper, corn, Nam Wah bananas, asparagus, baby corn, ear mushroom, chinese cabbage, cabbage, golden needle mushroom, chinese chives, canton, watermelon, mango, guava, yam-bean and orange. The chemical analysis used MJPk test kit. The results found that 5 samples were unsafe such as corn, apple, celery, onion and turnip and 40 samples were safe levels such as kale, carrots, coriander, parsley, morning glory, lemongrass, bell pepper, lettuce, gourd, tomatoes, collard flowers, thyme, cucumber, potato, bean sprouts, small grapes, great grapes, longan, zalacca, rambutan, green onion, dragon, cowpea, small eggplant, luffa gourd, cowslip creeper, Nam Wah bananas, asparagus, baby corn, ear mushroom, chinese cabbage, cabbage, golden needle mushroom, chinese chives, canton, watermelon, mango, guava, yam-bean and orange. Agriculture products, especially fruits and vegetables, are important component of the human diet as these are sources of vitamins and minerals. Pesticides can also remain as residue in foodstuffs after their application and can spread in the environments. The presence of pesticide residues in food is one important concern for consumers, due to their possible long-term adverse health effects.

**Keywords:** Organophosphate, Carbamate vegetables, fruits and raining season