

## MANAGEMENT OF APHIDS AND APHID-TRANSMITTED VIRUSES IN STORED SEED POTATOES IN KENYA

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### ABSTRACT

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This study was carried out in two storage seasons viz. May to August 2002 and November 2002 to February, 2003 to determine effectiveness of insecticides (bifenthrin, dimethoate, mineral oil, pirimiphos-methyl plus permethrin) and commonly used indigenous technical knowledge (ITK) technologies (fresh blue gum leaves, dry grass and wood ash) to reduce aphid infestation and manage aphid-transmitted viruses in stored potato seed tuber sprouts during 2002 and 2003 at National Potato Research Center (NPRC), Tigoni, Kenya Agricultural Research Institute, Kenya. Three aphid species *Aulacorthum solani*, (Kalt) *Myzus persicae* (Sulzer) and *Macrosiphum euphorbiae* (Thomas) colonized the stored seed tubers. *Aulacorthum solani* was the most common followed by *M. persicae* then *M. euphorbiae* in both storage periods. Both bifenthrin and wood ash significantly ( $P < 0.05$ ) reduced aphid infestation. Two of the most economically important potato viruses such as potato leaf roll virus (PLRV) and potato virus Y (PVY) were serologically identified in all tubers infested by aphids with the latter having the lowest incidence in bifenthrin treated tubers while the former had its lowest incidence in DC Tron treated tubers. Both viruses had their highest incidence in untreated tubers. The presence of aphids and their related virus diseases on stored tubers affirms the importance of the storage phase pest management to assure quality seed tubers. This would reduce field losses associated with the aphids and the aphid-transmitted viruses. In addition, better quality seeds would assure farmers of improved productivity hence more family income.

Key words: Aphids, Aphid-vectored diseases, insecticides, indigenous technical knowledge