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**Document Title** : *Studies on Potato Virus X and Potato Virus Y infecting Potato Plants in Saudi Arabia*  
التي تصيب نباتات البطاطس في المملكة ( X , Y ) دراسات علي فيروسات البطاطس العربية السعودية

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**Abstract** : In this study samples of infected Potato plants showing symptoms suspected to be caused by viruses were provided. Artificial inoculations revealed the presence of two different virus isolates, which were identified as PYX and PVY according to symptoms on test plants and diagnostic. hosts, host range, Serological reactions, and. electron microscopy. Host ranges of PYX and PVY was restricted, and was achieved by inoculations of 13 plants species belonging to 4 different families. Positive serological reactions were obtained when PYX and PVY were reacted with PYX and PVY antisera respectively. Electron microscopy examinations revealed that PYX particles were filamentous with 490 -.517 nm length, and PVY particles were also filamentous flexous with 720 -800 nm length. Viral infection resulted in clear effect on Potato (Ajax cultivar) leaves contents of chlorophyll a + band caroteniods, and led to remarkable decrease in their content, when compared with their . contents of healthy leaves. Viral infection also resulted in obvious increase in peroxidase, polyphenoloxidase and catalase enzymes activity in comparison with the contents of these enzymes in healthy Potato leaves at the same intervals. Twelve Potato cultivars were checked for their susceptibilities to infection by PYX and PVY. It was found that 3 Potato cultivars were resistant to PYX and 4 Potato cultivars were also resistant to PVY, thus it is recommended to spread these resistant CVS in Sandi Arabia.

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