POTATO VIRUS S ON WILD POTATO (*SOLANUM CHACOENSE* BITT.)

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A FEW apparently healthy plants of wild potato were transplanted into pots in a glasshouse from outside for isolation of PVX from S. *chacoense* to S. *chacoense* found in nature[1]. Individual established plants were tested serologically with antiserum of potato virus S (PVS) and potato virus X (PVX) before inoculation. Sap of some plants gave positive reaction with PVS antiserum but not with PVX antiserum, thus indicating the presence of PVS or a related virus in these plants. Potato virus X and Y have been recorded so far on *S. chacoense*, symptoms for which have been observed visually on the foliage in nature[1–4]. Since the present virus was found to be latent in *S. chacoense* plants, a study was undertaken to determine its nature.

The virus was found to be sap transmissible to *Nicotiana debneyi* exhibiting vein-clearing followed by vein-banding, interveinal mottling and finally resulting in the development of necrotic lesions on the interveinal areas 20–25 days after inoculation (figure 1). Plants of *S. tuberosum* vars. Kufri Chandramukhi, Kufri Sindhuri and *S. chacoense* reacted symptomlessly. The virus did not infect plants of A-6, *Capsicum annum*, *C. pendulum*, *Datura metel*, *D. stramonium*, *Gomphrena globosa*, *Lycopersicum esculentum* vars. Rutgers and Gola, *Nicotiana glutinosa*, *N. rustica*, *N. tabacum* vars. NC-95, Samsun, White Burley, *S. melongena* and *Vigna sinensis*..

The virus was not transmitted by *Aphis gossypii* Glover, and *Myzus persicae* Sulz. from infected *S. chacoense* plants to healthy *S. chacoense* and *N. debneyi*.

Figure 1. *N. debneyi* leaf showing interveinal necrotic lesions.

Properties of causal virus in infected sap were studied on *N. debneyi*. Thermal inactivation point was found to be around 56°C and dilution end point around 1:1000. The virus remained infective upto 6 days at room temperature (20°C) and for 20 days when sap was stored at −20°C (deep-freeze).

Serological relationship, transmission studies, host range, and some of the above properties and symptoms of isolated virus particularly on *N. debneyi* indicated that the causal virus was PVS and was similar to already reported PVS on other hosts[5–9].

According to the available literature, the virus under present study is reported for the first time on *S. chacoense*. Since the virus was observed latent in this species, it might act as a reservoir for this virus. It was also found symptomlessly on potato varieties Kufri Chandramukhi and Kufri Sindhuri. It is, therefore, advisable to destroy plants of *S. chacoense* completely from near or around the potato fields.

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