

# INVESTIGATIONS ON LEAF CRINKLE VIRUS DISEASE IN GREENGRAM

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## ABSTRACT

Greengram (*Vigna radiata* (L) Wilczek ) is the third most important pulse crop grown in India. The crop becomes a victim of large number of diseases caused by both fungi and viruses. Among the viral diseases, Leaf crinkle virus (LCV) is considered to be most serious one causing considerable damage to the crop. The roving survey of leaf crinkle virus was carried out in four districts of North Eastern Karnataka viz., Raichur, Gulbarga, Yadgir and Bidar during *kharif* season of 2012. Maximum disease severity was recorded in Yadgir (31.21%) followed by Gulbarga (21.84%) and Bidar (17.10%) districts. Maximum infection (80.0%) was recorded when the plants were inoculated with phosphate buffer 0.1 M at P<sup>H</sup> 7.0. The aphid (*Aphis craccivora*) transmitted the virus and the transmission varied from 60 to 80 per cent. Whitefly (*Bemisia tabaci*) was failed to transmit the virus to the test plants. Electron microscopic studies showed the presence of spherical particles in partially purified preparations. Detection of leaf crinkle virus disease through PCR amplification showed the absence of viral DNA and confirms that leaf crinkle virus was not grouped under begomovirus genera. Among thirteen genotypes evaluated for resistance against LCV of greengram during *kharif* 2012, none of the genotypes showed resistance to highly resistant reaction. BGS-9, Pusa Baisaki and LGG 460 were found moderately resistant, whereas the genotypes S-4, MH564 and Chinamung were found to be susceptible reaction. Comparatively lower disease incidence with increase in yield was recorded in plots receiving seed treatment with imidacloprid at 5 ml/kg along with two sprays of imidacloprid 17.8 SL @ 0.03 per cent at 25 and 40 DAS. But maximum benefit cost ratio was obtained from the cow urine seed treatment at two per cent along with two sprays of imidacloprid 17.8 SL at 0.03 per cent compared to control plot.