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## Comparative Efficacy of Various Botanicals against Potato Leaf Roll Virus in Relation to Environmental Conditions

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### Abstract

Research was carried out to identify resistant source against potato leaf roll virus (PLRV) on the basis visual symptoms and ELISA test. Out of twenty-nine varieties/lines only two 394021–120 (line) and Orla (variety) was resistant to PLRV and ten varieties showed moderately resistant response categorized on the basis of visual symptoms. These results were confirmed through ELISA test. All other varieties/lines fall in the susceptible to highly susceptible range. The disease incidence was highly significant correlated with maximum and minimum air temperature and relative humidity. While on the other hand there was also a significant correlation of maximum and minimum air temperature, relative humidity and wind speed with number of aphids per plants. There was increasing trend in disease severity with one degree increase in maximum temperature. The critical rang for temperature at which maximum disease was recorded was 22–24°C with a relative humidity range of 60–70%. For the successful management plant extracts, neem (*Azadirachta indica*), datura (*Datura stramonium*), garlic (*Allium sativum*), onion (*Allium cepa* L.), allovera (*Aloe barbadensis*), eucalyptus (*Eucalyptus globulus*) and two bio products i.e Imidacloprid and Vampire were evaluated in the field. All the treatments were replicated thrice by following a complete randomised block design. All the treatments showed a significant reduction in disease by lowering the aphid population. Among the two bio products Imidacloprid proved to be the best by decreasing the disease incidence up to 36.10%. Among plant extracts datura (*Datura stramonium*) and neem (*Azadirachta indica*) were proved equally effective by lowering the disease incidence up 38.14% and 37.72% respectively.

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