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Effect of virus titer and date of inoculation on infectivity of *Peanut bud necrosis* (PBNV), *Tobacco Streak virus* (TSV), and *Indian Peanut clump virus* (IPCV) to groundnut

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Experiments were conducted in greenhouse with groundnut (*Arachis hypogaea*) variety JL 24 (highly susceptible to PBNV, TSV and IPCV) to determine the effect of plant growth stage to the infection with PBNV, TSV and IPCV. Groundnut plants were grown in 8-inch plastic pots and germinated plants were used for virus inoculation at 10, 20 and 30 days after germination (dag). Inoculum of each virus was freshly extracted and diluted to 1:10,1:50, and 1:100 (leaf weight/by buffer) and inoculated to test plants at 10, 20 and 30 dag. Observations were recorded at weekly intervals and the virus infection was confirmed by ELISA using the respective virus polyclonal antibodies. All the plants inoculated at 10 dag with the three viruses showed infection within one week and developed typical symptoms. Only the plants inoculated with TSV at 20 dag showed seyere infection within one week, and the plants inoculated with PBNV and IPCV showed symptoms two weeks after inoculation. All the plants inoculated at 30 dag with the three viruses at 1:10 and 1:50 inoculum dilution showed symptoms within two weeks of post inoculation. Infection was delayed by a week in plants inoculated with 1:100 dilution of inoculum and only 50% of the plants inoculated with TSV and PBNV were infected. In case of IPCV, about 40% of the plants showed symptoms in 3 weeks, but at the end of 7 weeks 90% of the inoculated plants tested positive to virus and showed mild to typical symptoms, suggesting prolonged incubation of virus in such plants. This study showed that IPCV, PBNV and TSV infection to groundnut occurring at 20 dag could result in 100% infection and induces typical symptoms. Infection at 30 dag reduced infection by about 50% and symptom development was delayed. In case of IPCV, 90% of the inoculated plants were infected, but the plants showed mild symptoms and no significant difference in plant growth noticed. This data has implication on field protection of susceptible plants and also in assessing host resistance against these three viruses.

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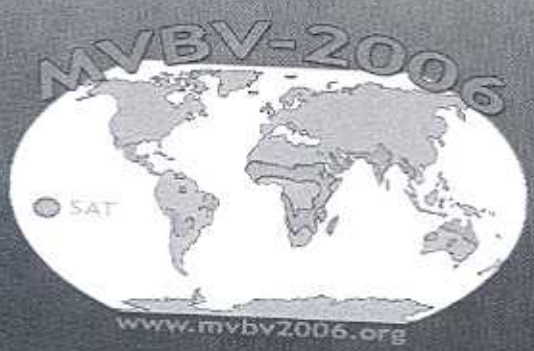

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