Occurrence and Control of Virus Infecting Chayote in Ji-An, Hualien[1]

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Abstract

This study was dedicated to investigate the occurrence of viral diseases and their vector insects on chayote in the field. The results of field survey indicated that disease incidence of one-year planted fields (4.2-18%) was lower than those of two to three-years planted fields (6.2-38.3%). The virus occurrence was significantly different in the field between April to June. The virus-like symptoms apparently developed on whole plant in summer whereas they were gradually getting mild in the cool season and even almost disappeared from December to next February. To identify the viruses infecting chayote, the polymerase chain reaction（PCR）and reverse transcriptase PCR（RT-PCR）assays were carried out with specific primer pairs to detect several cucurbits viruses. The result showed that *Squash leaf curl virus* was detected in the diseased leaves, and *Zucchini yellow mosaic virus*, *Cucumber green mottle mosaic virus*, *Cucumber mosaic virus* and *Cucurbit chlorotic yellows virus* were not detected. The transmission study revealed that this virus disease could not be transmitted though mechanical inoculations or seeds. The population of whitefly in field is the highest in August and the lowest in January. The results of disease control tests in the field showed that the neem oil and the HL_PBS agent were effective for this disease control after 4-week successive applications. The results of this study are helpful for farmers of chayote to formulate virus control strategies.

Keywords: chayote, viral disease, *Squash leaf curl Philippines virus* (SLCPHV), whitefly

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