

**DETECTION OF PROBABLE CAUSAL AGENT/S OF CHILLI
NARROW LEAF DISORDER (CNLD) THROUGH MOLECULAR
METHODS**

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Chilli (*Capsicum annum* L.) is one of most important cash crops grown in Sri Lanka belonging to the family Solanaceae. Chilli Narrow Leaf Disorder (CNLD) is a major destructive disease of chilli and causes substantial yield losses in the dry zone of Sri Lanka. Narrow leaves with thin strips of lamina along the midrib and stunted growth of the plants are typical symptoms of the disease. Classical microbiological studies have confirmed that pathogenic bacteria and fungi are not the causal agents of the disease, hence the causal agent/s of CNLD have not been identified yet. Considering the virus-like symptoms of CNLD, a possible involvement of virus and/or phytoplasma as the probable causal agent/s could be expected. The present study was conducted to detect phytoplasma and begomovirus in CNLD infected plant parts using PCR technique. Modified CTAB method was successful in extracting genomic DNA from leaf, seed and pericarp tissues of chilli. PCR was performed using phytoplasma (*e.g.* WL-F and WL-R) and begomovirus (*e.g.* BegaCP-F and BegaCP-R) specific primers. PCR products with the expected size (*i.e.* 1250bp) were detected in leaf samples showing typical CNLD symptoms when primed with WL-F and WL-R primers. However, phytoplasma specific PCR products were not detected from seeds and pericarps of the pods of CNLD-infected plants. Disappearance of symptoms after transplanting is a common observation in CNLD-infected plants. Phytoplasma specific PCR products were detected in newly immersed flush of such transplanted plants though they were symptomless. Further, begomovirus were not detected in leaves, seeds and pericarps of plants showing typical CNLD symptoms.

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