

EFFICACY OF SEAWEED EXTRACT ON CHILLI LEAF CURL VIRUS

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Abstract

Chilli (*Capsicum annum* L) is one of the important cash crops grown in Sri Lanka. The annual chilli production in Sri Lanka is hampered by several biotic and abiotic causes and decline yield of chilli. Leaf Curl Virus Disease (LCVD) is considered as major biotic constraints and has direct impact on chilli yield. To manage Chilli LCVD several eco-friendly strategies are being practiced for several decades, but none of these practices were promised, except successful control of vectors of LCV using insecticides. Indiscriminate use of insecticides created unwanted human health hazards. The current trends in plant pathology is intending to boost the immunity of host to increase the resistance against pathogens. Therefore, this study was conducted to investigate the efficacy of Seaweed Extract to manage LCVD. The experiments were conducted at the FCRDI, Mahailuppallama during 2019/2020 Maha season. Vijaya variety was selected for this experiment with five treatments and a non-treated control. Treatments were arranged in Two Factor Factorial Design with three replicates. Data were collected and growth, yield, aphid severity, disease severity (scale of 0-4) were measured to check significant effect of the treatment to the disease severity, plant growth and yield at $P < 0.05$ through DMRT using SAS 9.1. Out of tested treatments first application of Sea Weed Extract at ten days after planting with subsequent application of seaweed extract at fifteen days interval plus application of insecticides at ten to fifteen days interval (T3) and first application of Seaweed Extract at fifteen days after planting with subsequent application of seaweed extract at fifteen days interval plus application of insecticides at ten to fifteen days interval (T4) were found less LCVD severity index and less Aphid severity index with high growth and yield. When considering treatment three and four, first application of seaweed extract at fifteen days after transplanting is better than first application of seaweed extract at ten days after planting due transplanting shock. Therefore, first application of seaweed extract at fifteen days after transplanting is best. And application of seaweed extract with recommended insecticides is better to increase the immunity of plants to effective management of LCVD.

Keywords: Aphid, Chili, Chilli Leaf Curl Virus, Natural Seaweed Extract, Insecticide