

## Factors affecting rice tungro disease and its management in Cumilla region

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### Abstract

Rice Tungro disease caused by Rice Tungro Virus (RTV) transmitted by vector Green Leaf Hopper (GLH), *Nephotettix virescens*. Every year tungro disease infection is devastating in many rice growing areas in Cumilla region as well as countrywide. In Bangladesh, yield loss due to tungro was reported to be as high as 100% under severe conditions. Three crop rice (Rice-Rice-Rice) areas are most vulnerable to Tungro disease infection. Field experiments in the seedbed and main field were conducted in different locations of Nangalkot and Laksam Upazila, Cumilla during Aus, T. Aman and Boro 2019-20 seasons due to find out the factors and a sustainable management practice of rice tungro disease. Temperature, Rainfall, GLH and previous tungro infection data were collected from BRRRI Cumilla and the projected areas. GLH data were collected by hand sweeping and light trap from both seedbed and main fields. From the study intensive rice cultivation (Rice-Rice-Rice), susceptible rice variety, presence of abundant GLH in the seedbed (20 times more), increasing yearly temperature (35 to 38 °C), high rainfall with higher number of rainy days are found the most critical factors for tungro disease devastation. It is confirmed that severe Tungro disease infections in the main field come from the virus infected seedlings of the seedbed. Systemic insecticide spray in the seedbed for two times reduces GLH population from the seedbed and also in the main field. The present study revealed that preventive measure is the only way to control tungro disease devastation. Rice tungro disease management technology is 1. Seedbed along with surroundings should be free from GLH by light trapping/hand sweeping/insecticide spray 2. Spray registered systemic insecticide viz. MIPC 2.6g / Cartap 2.4g/ Carbaryl 3.4g/ Chlorpyrifos 2ml/ Carbosulfan 2ml per litre water are the most effective in the seedbed for 2 times for controlling GLH. The season-wise spray times are a) During Aus season, 10 days after seeding (DAS) and about 3-5 days before transplanting b) During T. Aman season, 10-15 DAS and about 5 days before transplanting c) During Boro season, 15-20 DAS and about 5 days before transplanting. Uprooting the tungro infected plants (if visible) followed by insecticide spray in the main field. The benefit of the technology is spraying insecticide in seedbed 2 times by 22 to 44/- (depends on chemical) can protect about 1 bigha rice field from tungro i.e. protect at least 16640/- (1040/- x 16 mound).

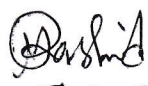
\*Presenter of Sunday seminar on 7.2.2021 at BRRRI auditorium and

Zoom Platform (ID: 9471494595, Password: 2021)


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