

# BACTERIAL LEAF STREAK TRANSMISSION DRIVEN BY SEED INFECTION AND IRRIGATION

Vinuri Weerasinghe, Malini Jayawardana, Shaheen Bibi and W. G. Dilantha Fernando

Department of Plant Science, University of Manitoba



## INTRODUCTION

Bacterial leaf streak (BLS) is an emerging threat to small grain cereal production in the Canadian prairies. In wheat, BLS is caused by *Xanthomonas translucens* pv. *undulosa* (*Xtu*). This study investigates the effect of seedborne *Xtu* transmission to a wheat crop with and without irrigation.

## MATERIAL & METHODS

### Experimental design

#### Seed infection levels

T1 - 0% (non-infected)

T2 - 1% infection

T3 - 10% infection

T4 - 50% infection

T5 - 100% infection

Spring wheat (CDC Landmark)  
RCBD with 3 replicates

#### Irrigation

IR - Irrigated

NI - Non-irrigated



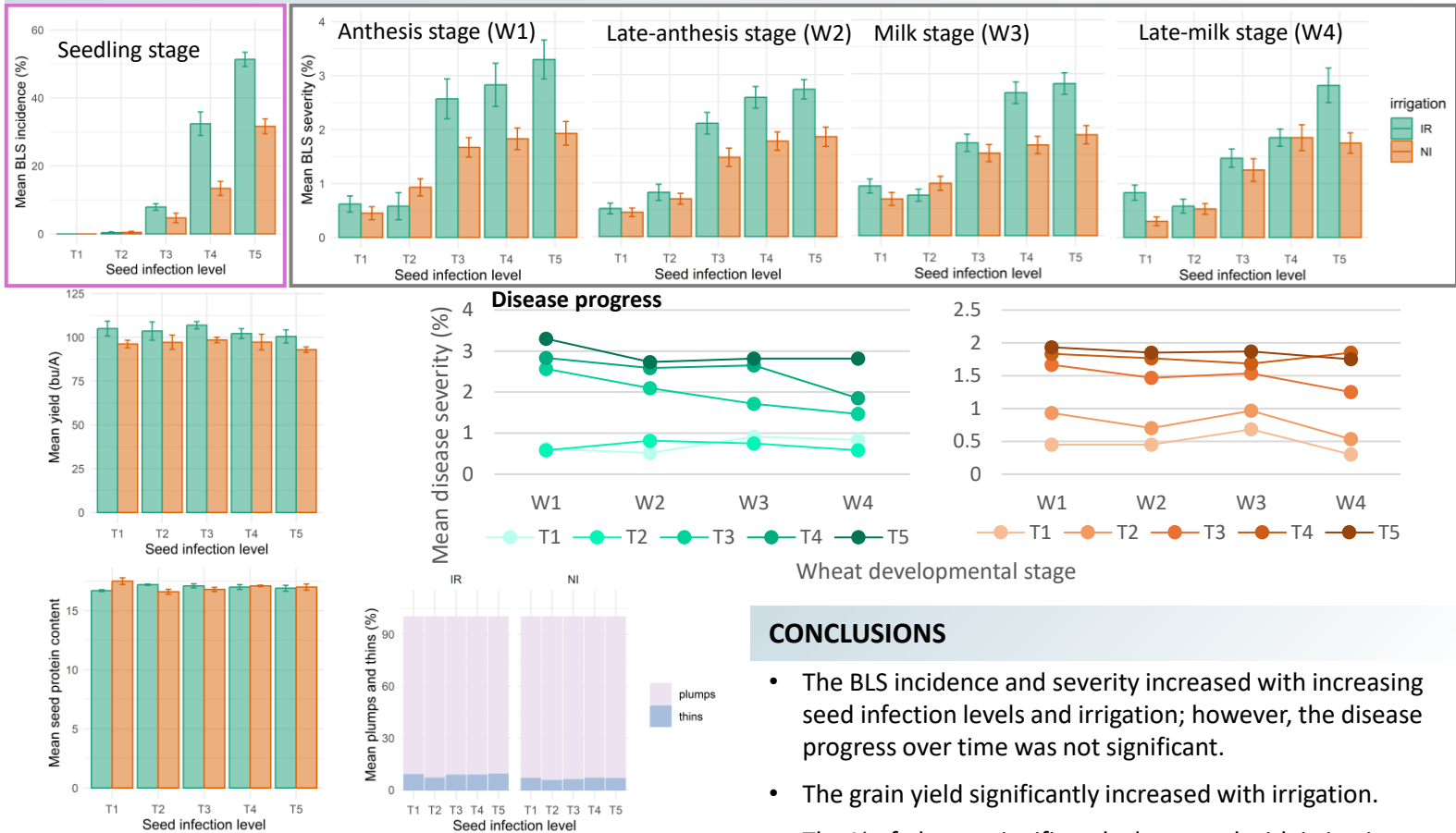
### Evaluation

- Seedling emergence
- Disease incidence
- Disease severity and progress
- Grain yield and quality

Statistical analyses



## RESULTS



## CONCLUSIONS

- The BLS incidence and severity increased with increasing seed infection levels and irrigation; however, the disease progress over time was not significant.
- The grain yield significantly increased with irrigation.
- The % of plumps significantly decreased with irrigation.
- The findings suggest an influence of seed infection and irrigation for seed-to-seedling transmission of *Xtu*, likely depending on environmental conditions.

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weerasi1@myumanitoba.ca