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INTRODUCTION

Lentil (*Lens culinaris*) is a major legume crop in Syria where its productivity is low mainly due to Fusarium wilt (*Fusarium oxysporum* f.sp. *lentis*) and drought. Although Fusarium wilt resistant cultivars are being introduced for wide production in Syria, recurrent drought pre-disposes the cultivars for high *Fusarium* infections and increased disease epidemics. Farmers apply supplementary irrigation to overcome terminal drought and hence increase yield in food legumes like lentil (1). However, the role of supplementary irrigation in affecting Fusarium wilt development has not been investigated in *Fusarium-Lens* pathosystem.

METHODOLOGY

This study was conducted for two cropping seasons (2011-2012) in highly infested soil at Tel Hadya, ICARDA research station, northern Syria. Six genotypes with different Fusarium wilt reactions (susceptible, moderately susceptible and resistant) were evaluated under rainfed and supplementary irrigation (SI) (Figure 1). The experimental design was split plot where SI and rainfed plots were assigned as main plots and genotypes as sub plots. Disease incidence, disease parameters (rate of disease development, Area Under the Disease Progress Curve (AUDPC) and final disease score), biomass and seed yields were recorded.



Figure 3. Foreground: Rainfed and back ground: SI, ICARDA Research station, Aleppo, Syria

CONCLUSIONS

➤ Lentil genotypes showed significant effects on rate of disease development, AUDPC and final disease score in both seasons and SI significantly affected AUDPC in both seasons (Figure 2) and final disease score in 2012. Percent AUDPC reduction for lentil genotypes ranged from 11 % in resistant genotypes to 52% in moderately susceptible ones whereas SI reduced AUDPC by 40% percent.

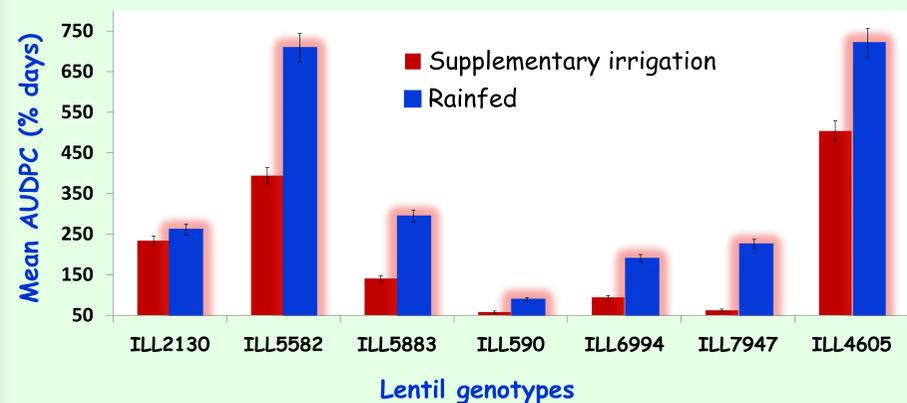


Figure 2. Effects of irrigation and lentil genotypes on mean Area under the disease progress curves

➤ Lentil genotypes did not show significant differences in seed and biological yields but significant differences were observed between SI and rainfed plots where the former increased biological yield by 37 percent (Figure 3).

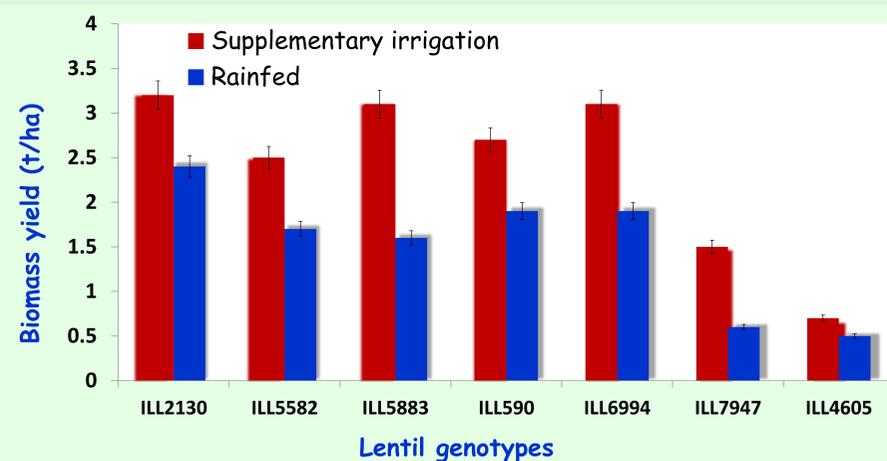


Figure 3. Effects of irrigation and genotypes on mean biological yield

References

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