

# Effects of Soil Moisture & Compound Infection of Two Fungi on the Aboveground Growth of Alfalfa

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Alfalfa (*Medicago sativa*, abbreviated as alfalfa) has important economic and ecological value. Root rot is the main root disease in alfalfa production. Among them, *Fusarium oxysporum* and *Rhizoctonia solani* is the main root rot pathogen. In this study, four strains and the currently widely planted alfalfa variety Longdong alfalfa were selected as experimental materials through a greenhouse pot experiment. Four moisture gradients were set according to the soil water holding capacity (WHC) to study the effects of soil moisture and the combined infestation of two fungi on the growth of aboveground parts of alfalfa.

The analysis showed that the pathogenicity of T7 was significantly different from the other groups under 25% WHC and 100% WHC moisture treatments, which were significantly higher, and T9 was significantly different from the other groups under all moisture treatments, which were significantly lower.

The analysis showed that under each strain treatment, the pathogenicity of 25% WHC and 100% WHC were significantly different from the other groups and significantly higher. The results show that under different soil water holding capacity treatments, the lower and higher soil water holding capacity aboveground diseases are more significant. It is speculated that the disease resistance of alfalfa itself in a drought and waterlogging environment the impact is greater than the strain.

Figure 1. Disease index of different strains under the same water treatment.

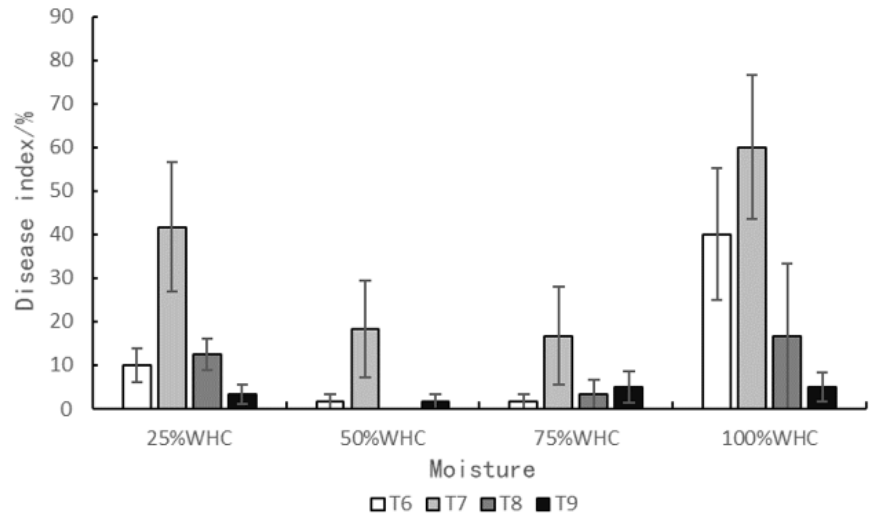
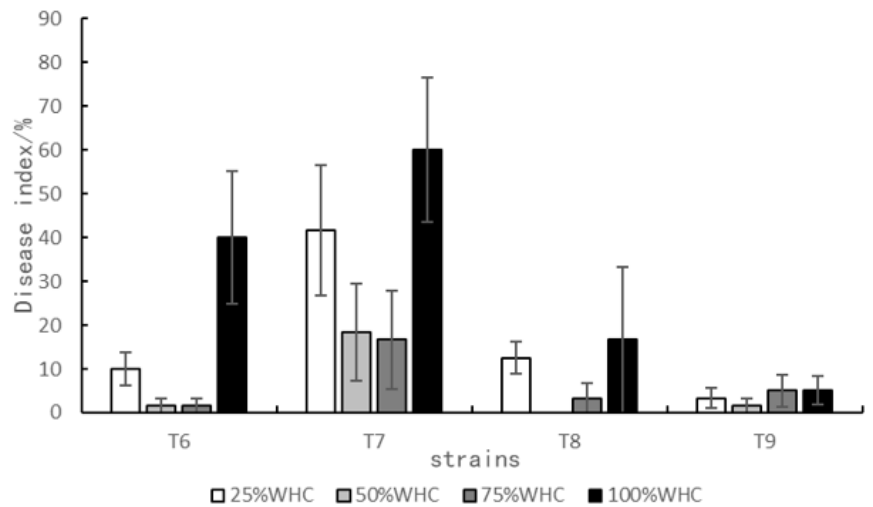


Figure 2. Disease index of aboveground parts with different water content under the same strain.



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