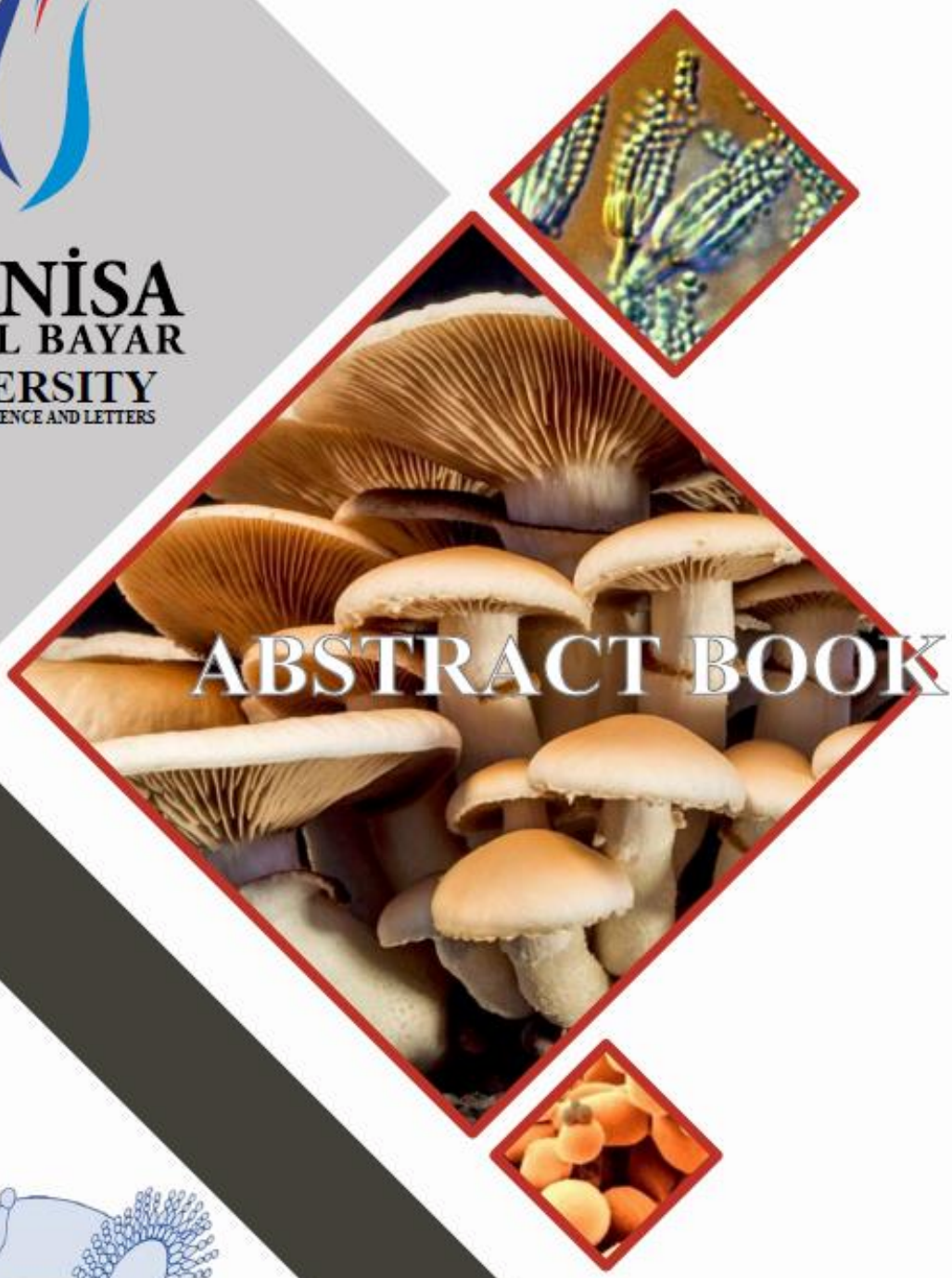
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ABSTRACT BOOK

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The biocontrol activity of *Trichoderma harzianum* ID11D against to biotic stress of *Rhizoctonia solani* B227 in bean development

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The aim of the study was to determine the efficacy of *Trichoderma harzianum* ID11D strain isolated from tea soil on germination of bean seed and to investigate the biocontrol efficacy against biotic stress of *Rhizoctonia solani* B227(AG-4) in beans.

The pathogenicity test against the bean development of the *R. solani* B227 isolate and the efficiency of the *T. harzianum* ID11D strain to seed germination success were determined by the water agar method. In the presence of *T. harzianum* ID11D and *R. solani* B227, bean development parameters were investigated by pot experiment. Physiological parameters (root and stem length, number of hair root, leaf surface area and number, etc.) were measured and then statistical analyzes were performed.

It was determined that *T. harzianum* ID11D strain had no negative effect on the germination success of the seeds compared to the control. In the pot experiment, when the control group and *R. solani* groups were compared with each other, it was determined that there was a significant difference between the results of the statistical analysis performed with the stem length, the number of lateral root and the root lesion scale (Tukey test, $p<0.05$). The *T. harzianum* ID11D group was observed to be better in most of the tested parameters than the other groups.

It was determined that *R. solani* caused pathogenesis in the bean (Zulbiye). It was observed that *T. harzianum* ID11D decreased statistically significant pathogenic effects caused by *R. solani* B227 in some parameters. In some of the parameters, it was determined that the pathogenic activity was reduced although there was no statistically significant difference. It was concluded that *T. harzianum* ID11D strain can be used as a biocontrol and plant promoter against the pathogenic effect of *R. solani*.

Keywords*: T. harzianum* ID11D, *Rhizoctonia solani*, biocontrol, plant pathogen