

Title: EFFECT OF INOCULATION OF *Trichoderma harzianum* IN THE INITIAL DEVELOPMENT OF ONION ROOT SYSTEM

Authors: NASCIMENTO, A.¹, VICENTIN, E.¹, SANTOS, B.M.C.¹, MARCUZZO, L.L.¹.

Institution: ¹ IFC – Instituto Federal Catarinense de Educação Ciência e Tecnologia - Campus Rio do Sul (Estr. do Redentor, 5665 - Santa Galo, Rio do Sul - SC, 89163-356)

Abstract:

The onion is widely cultivated and appreciated throughout the world and Brazil ranks third position among the vegetables with major economic importance. In Santa Catarina, the onion crop stands out as the main cultivated vegetable crop, accounting for 32.9% of national production. Observing this data, the initial development is a key factor for the success of any crop and in the case of onion is one of the requirements for crop establishment. *Trichoderma harzianum* is a fungus that can be naturally found in all soils and its survival is ensured by the organic matter and / or other microorganisms presents in the soil. It can establish relationships with the root system of plants and enhance plant development. According to the mentioned, this research presented as a goal to evaluate the initial development of the root system of onion, with the application of suspension of *Trichoderma harzianum* spores and formulated commercial Trichodermil® SC. In a completely randomized design with four repetitions constituted for 10 plants each, onion seeds from the cultivar Bola Precoce were inoculationfor 24 hours in suspension with(2,2x10⁶) spores of *Trichoderma harzianum* from the formulated of concentrated suspension of Trichodermil®, and the control plants were immersed in a saline solution (0.85% NaCl). After the microbiolizationthe seeds were placed in trays containing non-sterile commercial substrate, and then, conditioned in greenhouse at 25 ° C (± 2 ° C). After 30 days an evaluation was made of fresh and dry matter of the root system. In the treatment with Trichodermil® there was not seed germination, so it was unconsidered from the statistical evaluation. The treatments were not statistically significant. Was obtained that the use of spore suspension of *Trichoderma harzianum* added 12.1% in fresh root matter; however had a reduction of 11.4% in dry matter. The use of Trichoderma was not effective at the beginning of root growth of onion, however it is very important that further research to assess the development during the crop cycle to observe its effect.

Key words: *Allium cepa*, *Trichoderma harzianum*, developing growth.