

Title: EFFECT OF MICROBIOLIZATION WITH *Pantoea agglomerans* IN THE DEVELOPMENT OF ROOT SYSTEM IN ONION

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

Institution ¹IFC – RIO DO SUL – 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:

Onion is considered the third oleracea culture of economic importance to Brazil. In Santa Catarina stands out as the main cultivated vegetable, focusing in the region of Alto Vale do Itajaí / SC. Microorganisms can establish relations with plant roots and promote their development. Aiming to evaluate the effect of microbiolization in onion seeds with *Pantoea agglomerans* in the initial development of the root system of onion seedlings, an experiment was conducted at the Instituto Federal Catarinense -. IFC / Campus Rio do Sul. In a completely randomized design with four replications constituting 10 plants each onion seeds Bola Precoce were microbiolized for 24 hours were suspended in suspension containing *P. agglomerans* at a concentration of 10^8 in the MacFarland scale and treatment control immersed in saline solution (0.85% NaCl). After microbiolization, the seeds were placed in trays containing non-sterile commercial substrate and wrapped in plastic greenhouse at 25 ° C (± 2 ° C). After a period of 30 days was conducted the assessment of fresh and dry mass of roots. The results showed no statistically significant difference between the parameters evaluated. However, the treatment with *P. agglomerans* had a gain of 11.84% in fresh mass and 28.30% in the dry mass of the root system when compared to the treatment control, providing a considerable gain in the roots of seedlings. Although *P. agglomerans* did not differ significantly, we can see that the inoculations led to a considerable increase in the root system of plants, which can be a determining factor in the growth of seedlings and consequently a good productivity. New researches will be conducted to find the effect of this bacterium in the development of onion during the crop cycle.

Keywords: *Allium cepa*, *Pantoea agglomerans*, Root system.