

**TITLE:** EFFECT OF SEED TREATMENT ON THE DEVELOPMENT OF DIFFERENT TRICHODERMA

**AUTORS:** SENGER, M.<sup>1</sup>; CHRISTMANN, P.E.T.P.<sup>2</sup>; DALLA PRIA, M.<sup>2</sup>; MORESCO, E.<sup>1</sup>; SA, R. A.<sup>3</sup>; BRIEGA, A. H.<sup>1</sup>; BRIGOLA, L.A.B.<sup>1</sup>; SILVA, P.D.S.<sup>1</sup>; GALDINO, J.V.<sup>1</sup>; SOUZA, K.C.<sup>1</sup>

**INSTITUTION:** <sup>1</sup>3M EXPERIMENTAÇÃO AGRÍCOLA (RUA BERNARDO GUIMARÃES 1520, PONTA GROSSA, PR-BRAZIL); <sup>2</sup>UNIVERSIDADE ESTADUAL DE PONTA GROSSA; <sup>3</sup>INNOVA AGROTECNOLOGIA.

#### **ABSTRACT**

Species of *Trichoderma* spp. have been used in agriculture as a biocontrol agent and in the promotion of plant growth. The objective of this work was to evaluate the development of different *Trichoderma* species in association with products used in seed treatment. The bioassay was performed by incorporating the products into the PDA culture. The following products and rate used were: Certeza<sup>®</sup> (Thiophanate-methyl+Fluazinam) 64.5 mL; Dermacor<sup>®</sup> (Chlorantraniliprole) 30 mL; Fortenza 600 FS<sup>®</sup> (Cyantraniliprole) 60 mL; Maxim Advanced<sup>®</sup> (Metalaxyl-M+Thiabendazole+Fludioxonil) 37.5 ml; Baytan FS<sup>®</sup> (Triadimenol) 81 mL; Standak Top<sup>®</sup> (Piraclostrobin+Thiophanate-methyl + Fipronil) 60 mL; CropStar<sup>®</sup> (Imidacloprid+Thiodicarb) 210 mL; Maxim XL<sup>®</sup> (Metalaxyl-M+Fludioxonil) 30 mL, dissolved in 150 mL of PDA culture. After addition of the products to the PDA culture they were poured into Petri dishes. After solidification, 5 mm diameter mycelial discs of different species of *Trichoderma* (*T. endophyticus*, *T. koningiopsis* and *T. harzianum*) were placed in the center of the Petri dishes. The control consisted of Petri dishes containing only PDA. Plates were incubated in BOD at 25 ± 2 ° C for a period of 7 days. The experimental design was completely randomized, with 9 treatments and 6 replicates, for each *Trichoderma* species. Daily measurements of the rays were carried out on two diametrically opposed axes, using a millimeter ruler. Calculation was made to determine mycelial growth rate index (IVCM) and the percentage of mycelial growth inhibition (PICM). Data were submitted to analysis of variance and means were compared by the Scott-Knott test at 5% probability. The treatments reduced IVCM and presented high percentages of ICPM. The application of Certeza<sup>®</sup>, Maxim Advanced<sup>®</sup>, Baytan FS<sup>®</sup>, Standak Top<sup>®</sup> and CropStar<sup>®</sup> totally inhibited the growth of all *Trichoderma* species, promoting 100% PICM values, and the Maxim XL<sup>®</sup> product inhibited 100% only growth of *Trichoderma koningiopsis*. Only the Dermacor<sup>®</sup> and Fortenza<sup>®</sup> products showed some selectivity to the *Trichoderma* species. The study exposes the microorganism as much as possible to the action of the product, a fact that does not occur in field conditions. Thus, if some selectivity of a product in the laboratory was observed, it is expected that it will present selectivity in the field. On the other hand, the high toxicity does not always indicate high toxicity in the field, but rather the possibility of damage to the microorganism.

**Keywords:** *T. endophyticus*, *T. koningiopsis*, *T. harzianum*, fungicide; insecticide