PHYSIOLOGICAL ASSESSMENTS IN SEEDLINGS OF Coffea conephora INOCULATED WITH GROWTH PROMOTING FUNGI

AVALIAÇÕES FISIOLÓGICAS EM MUDAS DE Coffea conephora INOCULADAS COM FUNGOS PROMOTORES DE CRESCIMENTO

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Abstract

Brazil is one of the main countries in the agricultural sector, which plays an important role in economic performance. In particular, it is one of the largest coffee producers in the world. The state of Espírito Santo is a reference in the production and development of conilon coffee, accounting for about 70% of the national output. The cultivation of this coffee type is one of the main sources of income of farmers in Espírito Santo. Based on the importance of new technologies, the objective of this work was to evaluate the influence of fungi of the species T. harzianum (CEPA T22) and T. harzianum CEPA ESALQ (1306) and a mix of arbuscular mycorrhizal fungi on the physiology of conilon coffee seedlings. The treatments were evaluated in a randomized block design in a 2 x 4 factorial arrangement, with factor A being the use of autoclaved and non-autoclaved substrate and factor B the the addition or not of different fungal isolates. The seedlings were arranged in the nursery with automatic sprinkler irrigation for 120 days. At the end of the experiment, eight treatments were evaluated, with 20 replications, totaling 160 plots and 640 plants. The variables Nitrogen Balance (NBI-G and NBI-R), Total Chlorophyll (SFR-G and SFRR), Anthocyanin (ANT-RG and ANT-RB) and Flavonoids (FLAV) were determined with the use of a Multiplex® fluorometer, while chlorophyll content was measured with a SPAD-502 meter. The collected data were submitted to analysis of variance and then the Scott-Knott clustering test and Dunnett's mean test, both at 5% probability. For the variables evaluated (SFR-G and SFR-R), Flavonoids (FLAV), Anthocyanin (ANTH-RG and ANTH-RB), and Nitrogen Balance (NBI-G and NBI-R), no significant differences were found according to the Scott-Knott test at 5% probability. In relation to the evaluations performed with the SPAD-502 meter, T8 presented the lowest mean in relation to the other treatments and differed statistically from T1 according to Dunnett's test at 5% probability. We concluded that among the physiological evaluations performed with multiplex, no significant differences were found between treatments. However, the treatment containing autoclaved substrate + Mix of arbuscular mycorrhizal fungi (T8) presented better results of the SPAD-502 index.

Keywords

Coffee growing, plant physiology, production of sustainable seedlings.