

Isolation and Identification of Brazilian Savannah Soil Microorganisms Resistant to Fungicide Opera

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In this research, soil samples (Brazilian Savannah – Cerrado) proceeding from soy crops treated with Opera[®] (epoxiconazol and pyraclostrobin) have been used as source of resistant microorganisms. Three microorganism collected at depth of 80 cm were selected using selective liquid J.E. – supplemented with 0.03% of Opera[®]. Morphological analysis showed that the microorganisms called M180, M280 and M380 were gram-negative bacilloccoccus with polymorphic properties. Biochemical tests (enzyme activities) showed differences in 4 of the 30 tests. The strain M180 and M380 presented peaks of growth in 48 hours in control and selective medium. The strain M280 showed growth for 48 h in selective medium and then, died. The microorganisms M180 and M380 secreted 111 e 130,5 µg protein mL⁻¹, respectively, during growth in selective medium. The strain M180, in function of its characteristics, such as anaerobic facultative, polymorphic properties and capacity to grow in presence of the Opera[®], was considered the most promising microorganism, with possibilities of application in tests of bioremediation. The biochemistry identification by Bactray[®] indicated 99% similarity with the Klebsiella genus.

Keywords: Opera[®], microorganisms, bioremediation, soil.