

TITLE: EVALUATION OF ACETOIN PRODUCTION BY NATIVE RIZOBACTERIA OF SOILS OF THE WEST OF PARANÁ

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ABSTRACT:

The constant use of plant protection agents represents a risk to the environment and everyone in it present, causing contamination of the soil, animals and groundwater, in addition the emergence of pathogens, plants and insects resistant to those chemicals. To mitigate the use of plant protection agents, biological control agents appear as an environmentally correct alternative in the fight against plant pathogens. To this end, the present study aimed at investigating 28 native soil rhizobacteria strains of Western Paraná, assessing the capacity for production of acetoin, compound reported by your action in biocontrol, activating systemic resistance system of plants. To qualitative analyzes of acetoin, the isolates were incubated in Clark & Lubs (CL) liquid medium, per 72 hours at 28 °C, after incubation the isolates were submitted to Voges-Proskauer (VP) test. Following the same growing conditions and medium, the cultures were centrifuged, 5 minutes at 12.000 rpm, and the supernatant was subjected to (VP) test modified, the colorimetric reaction was read in spectrophotometer NanoDrop ® at 490nm, and the data obtained was used in the quantitative determination of acetoin. From data obtained in analytical curve for acetoin standard and by absorbance generated from the 28 sample readings, it can be observed a wide variation in the concentrations for the different isolates, highlighting the strains 241, 194 and 10 with concentrations above 3,0 mM, moreover, more ten different isolates showed production of acetoin with concentrations above 2,0 mM. Only three isolates showed negative results. Thus, the present study allowed identifying native strains with potential for biocontrol, using simple techniques and innovative. With the results obtained, it will be possible to continue the investigation under the biocontrol, *in vivo*, checking the effectiveness of acetoina on induction of systemic resistance of plants against phytopathogens.

Keywords: rhizobacteria, acetoin, biocontrol

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