

Research and characterization of lactic acid bacteria capable of degrading pesticides

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Abstract

Pesticides play an important role in agriculture, their excessive use causes several problems such as pollution of ecosystems and risks to human health. The presence of microorganisms able to degrade these pollutants can reduce the negative effect of these substances. The objective of this study is to test the capacity of 10 lactic acid bacterial strains to tolerate or degrade four pesticides (chlorpyrifos, glyphosate, chlorantraniliprole and Trifloxystrobin). The results showed the capacity of the six strains (CHT24, 05, J14, Lb.dl, 45 and Lb.Con) to tolerate a concentration of 200µg/ml of the four pesticides. One strain (*Lactobacillus confusus* Lb.Con) has a remarkable capacity to grow in MRS medium without glucose which contains a concentration of 800µg/ml of chlorpyrifos. HPLC analysis showed that the selected strain remove about 25% of chlorpyrifos. This strain showed a remarkable resistance to gastrointestinal conditions and a good antibacterial activity towards the pathogenic strains.

Biography

Hamoud Nour EL Houda is a third year PhD student in biological studies at the University of Constantine in Algeria, her main research interest the medicinal plants. She holds a Magister degree in environment and health from the University of Jijel, Algeria. She has a Master in French

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