COLONIZATION AND Chlorpyrifos DEGRADATION OF STRAIN Stenotrophomonas acidaminiphila lux-β IN SOIL

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Abstract

A chlorpyrifos-degrading strain of Stenotrophomonas acidaminiphila, lux-β was chosen for research object, and the survival and chlorpyrifos-degrading activity of strain lux-β in the soil with different treatments have been investigated in this study, so as to provide technique support for monitoring the colonization and degrading activity of chlorpyrifos-degrading bacteria in natural environment. The result indicated that the quantity of lux-β in the soil rose first and decreased slowly in sterilized soil, while quickly in non-sterile soil, which suggested that native microbes had a significant influence on alien microbes. The quantity of lux-β was larger in soils with chlorpyrifos than those in soils without chlorpyrifos, and this indicated that chlorpyrifos could be used as nutrient by strain lux-β. Microbes played an important role in degrading chlorpyrifos, and lux-β had higher degradation ability than native microbes, the two of which could generate synergistic effect on degrading chlorpyrifos.

Keywords: chlorpyrifos, colonization, degradation, lux-β, stenotrophomonas acidaminiphila

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