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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 chlorpyifos, 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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