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ONLINE ISSN : 1349-0923

PRINT ISSN : 1348-589X

**Journal of Pesticide Science**

Vol. 31 (2006) , No. 4 pp.420-423

[\[PDF \(73K\)\]](#) [\[References\]](#)**Characterization of a *Nocardioides*-based, atrazine-mineralizing microbial colony isolated from Japanese riverbed sediment****Koji Satsuma<sup>1)</sup>, Maiko Kameshiro<sup>1)</sup>, Osamu Hayashi<sup>1)</sup>, Kiyoshi Sato<sup>1)</sup> and Yasuhiro Kato<sup>1)</sup>**

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(Received: May 11, 2006)

(Accepted for publication: July 20, 2006)

**Abstract:**

A multiple-member microbial colony (designated A14N) capable of mineralizing the herbicide atrazine has been isolated from Japanese riverbed sediment. We have determined the enzymes involved in the degradation route and the species composition of the colony. A14N converted atrazine to cyanuric acid *via* hydroxyatrazine and *N*-isopropylammelide as intermediates. Furthermore, A14N characteristically had the ability to cleave the triazine ring of cyanuric acid. A14N harbours genes coding atrazine-degrading enzymes, which are highly similar to those previously described: *trzN*, *atzB* and *atzC*. At least three phylogenetically different species, *Nocardioides* sp., *Mycobacterium* sp. and *Leptospira* sp. were present in A14N. Among these, *Nocardioides* sp. was closely related to the atrazine-degrading *Nocardioides* sp. strains previously isolated from agricultural soils. Thus, *Nocardioides* sp. in A14N could also be responsible for the degradation of atrazine to cyanuric acid.

**Keywords:**atrazine, degradation, mineralization, microbial colony, *Nocardioides*[\[PDF \(73K\)\]](#) [\[References\]](#)

To cite this article:

Koji Satsuma, Maiko Kameshiro, Osamu Hayashi, Kiyoshi Sato and Yasuhiro Kato,  
“Characterization of a *Nocardioides*-based, atrazine-mineralizing microbial colony isolated  
from Japanese riverbed sediment”. *J. Pestic. Sci.* Vol. **31**, pp.420-423 (2006) .

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doi:10.1584/jpestics.G06-14

JOI JST.JSTAGE/jpestics/G06-14

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[View "Advance Publication" version \(September 7, 2006\).](#)

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