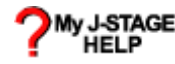


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[\[Image PDF \(529K\)\]](#) [\[References\]](#)***Nitrosomonas europaea* ATCC25978 Is the Right Ammonia-Oxidizing Bacterium for Screening Nitrification Inhibitors****Ruiko Okano¹⁾, Hirotohi Takazaki¹⁾, Douchi Matsuba¹⁾, Tatuaki Tokuyama²⁾, Yukiharu Sato¹⁾ and Ko Wakabayashi¹⁾**

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Abstract:

To determine whether *Nitrosomonas europaea* is adequate to assay nitrification inhibitors as representative of ammonia-oxidizing bacteria or not, the inhibitory activity exhibited by known nitrification inhibitors in soil and the susceptibility of recently isolated ammonia-oxidizing bacteria to the inhibitors in cell suspension were compared. Nitrapyrin, MAST and Br-MAST completely inhibited nitrification in soil at 15 ppm for 15 days, whereas dicyanodiamide and thiourea were weak inhibitors. In order of effectiveness, the inhibitors ranked as follows; Br-MAST>MAST>nitrapyrin>>dicyanodiamide ≥ thiourea. Ammonia-oxidation by ammonia-oxidizing bacteria in cell suspension was strongly inhibited by nitrapyrin, MAST and Br-MAST, whereas dicyanodiamide and thiourea were weak inhibitors. *N. europaea* is adequate to assay nitrification inhibitors as representative of ammonia-oxidizing bacteria.

Keywords:

ammonia-oxidizing bacteria, susceptibility to nitrification inhibitors, nitrapyrin

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