

研究报告

新型吡唑类化合物DL-1的硝化抑制效应初探

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收稿日期 2005-4-11 修回日期 2005-8-11 网络版发布日期 接受日期

摘要

以国内外应用较为广泛的硝化抑制剂双氰胺(DCD)为参比对象,采用室内培养方法,对新型吡唑类化合物DL-1的硝化抑制效应进行初步探讨.结果表明,DL-1对土壤中铵的氧化过程具有显著的抑制效应,前3周的硝化抑制率可达70%以上,且硝化抑制能力在第14天至

28天最强.与等量DCD相比,施用量为(NH₄)₂SO₄氮量1.0%的DL-1在14、21和28 d使土壤中的NO₃⁻-N含量分别下降 26.23%、33.27%和23.31%;与不加抑制剂的对照处理相比,土壤NO₃⁻-N含量则分别下降了71.12%、69.10%和55.14%.当DL-1用量为(NH₄)₂SO₄氮量的2.0%时,土壤的硝化作用受到了更强烈的抑制,到培养第90天试验结束,土壤中的NO₃⁻-N含量始终维持在较低水平.

关键词 [吡唑类化合物](#) [DL-1](#) [DCD](#) [NH₄⁺-N](#) [NO₃⁻-N](#) [表观硝化率](#) [硝化抑制率](#)

分类号

Inhibitory effect of pyrazole compound DL-1 on soil nitrification: A preliminary study

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Abstract

The study with soil incubation test under constant temperature and humidity showed that compared with DCD, DL-1 could significantly inhibit the oxidation of soil ammonium. In the first 3 weeks of incubation, DL-1 had an inhibitory effect of >70% on soil nitrification, with the best effect during 14~28 d of incubation. On the 14, 21, and 28 d of incubation, DL-1 with its dosage being 1.0 % of (NH₄)₂SO₄-N decreased the soil NO₃⁻-N content by 26.23%, 33.27% and 23.31%, respectively, compared with the same dosage of DCD, and by 71.12%, 69.10% and 55.14%, respectively, compared with no inhibitors applied. When the dosage of DL-1 accounted for 2.0% of applied N, soil nitrification was strongly inhibited, and soil NO₃⁻-N content remained at a lower level till to the end (90 d) of incubation.

Key words

[Pyrazole compound](#) [DL-1](#) [DCD](#) [NH₄⁺-N](#) [NO₃⁻-N](#) [Apparent nitrification rate](#)

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