

Ethaboxam의 호기성토양대사
Aerobic Soil Metabolism of Ethaboxam

Yong-Sang Lee,* Seung-Hoon Kang,¹ Young-Soo Keum,
Ji-Yeun Byun and Jeong-Han Kim.

Division of Applied Biology and Chemistry, College of Agriculture and Life
Sciences, Seoul National University, 103 Sodoondong, Suwon, Kyongkido, Korea

¹Agrochemical Research Center, LG Chemical Ltd. Research Park, 104-1,
Moonji-dong, Yuseong-gu, Taejon, Korea

Ethaboxam is a new fungicide acting against *Oomycetes*. To elucidate the fate of ethaboxam in soil, aerobic soil metabolism study was carried out for 60 days with [¹⁴C]ethaboxam, applied at a concentration of 0.372 μg/g to a sandy loamy soil. The material balance at each sampling day ranged from 94.5% to 101.4% and the half-life of [¹⁴C]ethaboxam was calculated to be 17 days. The metabolites identified during the study were N-[(Z)-amino(2-thienyl)methylidene]-4-ethyl-2-(ethylamino)-1,3-thiazole-5-carboxamide, 4-ethyl-2-(ethylamino)-1,3-thiazole-5-carboxamide, 4-ethyl-2-(ethylamino)-N-(2-thienylcarbonyl)-1,3-thiazole-5-carboxamide and 4-ethyl-2-(ethylamino)-1,3-thiazole-5-carboxylic acid, with maximum level of 32.9%, 9.8%, 5.8%, 1.0% of applied radiocarbon, respectively. Evolved ¹⁴CO₂ accounted for up to 18.2% of applied radiocarbon and no volatile products were detected during the study. Nonextractable [¹⁴C]residue reached 37.6% of applied material at 60 days after treatment and more than 50% of it was distributed in humin fraction. Based on the results obtained in this study, the metabolic pathway of ethaboxam in soil is proposed.

Key words : Ethaboxam; *Oomycetes*; soil; metabolism; metabolites

구두발표(○), 포스터 발표(●)

<책임연구자 >

성명 : 김 정 한

주소 : 수원시 권선구 서둔동 103 서울대 농업생명과학대학 응용생물화학부

연락처 : Tel. 0331-290-2404, Fax. 0331-293-8608, E-mail; kjh2404@snu.ac.kr