

EVIDENCE FOR THE DEGRADATION OF KIH-485. Peter J. Porpiglia and Osamu Watanabe, Vice President and Manager of Research and Development, Kumiai America, White Plains, NY; and Yoshihiro Yamaji and Hisashi Honda, Chief Researcher and Researcher, Kumiai Chemical Industry Co., Ltd., Tokyo, Japan.

KIH-485 is under development for broad use as a pre-emergence herbicide. The development focus for KIH-485 has been in corn and soybeans in the United States. After several years of extensive testing in replicated field trials, observations of KIH-485 activity on sensitive weeds indicate this product will provide full-season weed control under a range of environmental conditions. Up to this point there has been limited quantitative information on residual activity and half-life under field conditions primarily due to the early stage of development of KIH-485. However, field bioassays for two years have shown the residual activity of KIH-485 to be equal to or slightly greater than metolachlor at typical use rates under specific testing environments. In these trials, metolachlor tended to show longer residual activity than either dimethanamid or acetochlor, but the differences were not always significant. In 2005, two additional trials were conducted where soils were treated with KIH-485 and then sampled at various times and depths. Treated soil samples were analyzed using Gas Chromatography with Mass Spectral Detection (GC/MS). The analytical phase of these trials generally confirms field observations on residual activity while providing a better understanding of degradation of KIH-485 under natural conditions.