

EVALUATION OF KIH-485 POTENTIAL FOR WEED CONTROL IN VEGETABLE CROPS.
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KIH-485 is an experimental herbicide being developed by the Kumiai Chemical Industry Co. Ltd., for use in corn and possibly soybeans, cotton, and sunflower. KIH-485's mode of action is currently being investigated; however early indications are that it is most effective as a preemergence grass control herbicide for several annual broadleaf species. This research was designed to determine if KIH-485 had acceptable crop safety in a variety of vegetable crops. Greenhouse evaluations were conducted to screen vegetables exhibiting tolerance for further evaluation in field trials. Species selected for field studies were tomato, pepper, snap bean, watermelon, muskmelon and pumpkin. The species were transplanted or seeded into the field and were treated with a post-plant/transplant application of KIH-485 at three concentrations (209, 105, and 52 g ai ha⁻¹). Crop injury from treatments was visually rated and compared to untreated and standard treatment controls within each species. KIH-485 at all rates caused significant crop death or stunting and severe necrosis on tomatoes and snap bean within the first three weeks after planting/transplant. Although, pepper stand was not reduced, severe chlorosis was observed and yields were reduced. Muskmelon, pumpkin and watermelon had no significant injury or yield loss from application of KIH-485 at any rate. These results suggest that KIH-485 has acceptable crop safety for use in muskmelon, pumpkins and watermelon, however, additional research is needed to determine the most effective KIH-485 use rates for weed control and whether it has potential in other vegetable crops not tested.