

TITLE: IRF135, ALLYL ISOTHIOCYANATE (AITC) REGULATORY AND DEVELOPMENT UPDATE

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IRF135, (AITC) has been under development by ISAGRO USA since 2009 as a new soil treatment alternative for the broad spectrum control of weed seeds, nematodes and diseases. ISAGRO S.p.A. has applied for patent protection with worldwide rights for distribution of IRF135. Laboratory and field trials conducted with university, USDA-ARS and private contract researchers have shown IRF135 to be comparable to conventional soil fumigants in efficacy and crop yields at rates between 20 and 40 gpa. IRF135 was submitted to the US EPA Biopesticides and Pollution Prevention Division in August 2012 with an anticipated registration decision date in 4Q 2013.

IRF135 is a synthetically produced biopesticide with its origins as a naturally derived plant defense chemical produced by members of the brassicaceae family (i.e. mustard and horseradish). It is the first alternative created for use as a pre-plant soil treatment for both conventional and organic farming. ISAGRO USA has submitted an application to the U.S. Department of Agriculture for addition to the National Organic Program's list of approved substances for organic crop production. Inherently less toxic than conventional soil fumigants, IRF135 has a favorable profile for risk to human health and the environment. IRF135 has a short half-life in soil of 20 to 60 hours and degrades rapidly in sunlight.

IRF135 is a stand-alone product that is produced in a liquid formulation with 96% active ingredient and applied via conventional tractor mount shank as well as dilute concentrations in irrigation water with drip injection equipment. The proposed US EPA label is expected to allow for use as a pre-plant application to soil for all crops. In addition, a favorable 10 day plant back interval and exemption from crop tolerances make IRF135 a strong candidate for use as an alternative soil treatment.

IRF135 is in development in several countries with the intent to register for use as a soil treatment. Following registration in the USA, ISAGRO is planning to register the product in Mexico, Canada, Italy, Spain, Turkey, Morocco, Japan and Israel.