FIELD STUDIES IN 2001 TO ENHANCE EFFICACY AND ODOR MANAGEMENT OF METAM-SODIUM

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The research team of the Metam-Sodium Task Force (MSTF), which includes scientists from the MSTF, the U.S Department of Agriculture (Agricultural Research Service), Hendrix & Dail, and nematologist, Dr. John Radewald, have collaborated on field studies during 2001 that address efficacy, and pesticide movement in the soil and to the atmosphere. There were two research objectives: (1) to enhance the efficacy and consistency of the product performance, and (2) to reduce potential by-stander and non-target exposure. Enhancing product retention in the soil and reducing release to the environment supports both of these objectives.

This paper describes the chemigation field studies conducted in 2001 to improve product retention, including: (1) a summary of the key factors to prepare the field for application (in terms of soil preparation and pre-application moisture control), (2) alternative water sealing methods used to increase the water reservoir in the soil, especially during the nighttime period with decreased dispersion potential for off-gassing emissions from the field, (3) MITC concentrations in gas and liquid phase as a function of depth and time, and (4) efficacy analysis conducted in the same test as the preceding components.

The results conducted to date for chemigation (2001) and for shank injection (2000) suggest that the alternative water management strategies, coupled with adherence to sound practices to prepare the treatment zone for the application, provide an important opportunity to improve both product performance and a significant reduction of atmospheric loss of pesticide. The results include off-gassing rates to the atmosphere as a function of time based on the interpretation of the measured air quality data and dispersion modeling analyses.