## NEMATODE AND DISEASE CONTROL WITH DRIP IRRIGATION APPLICATIONS OF 1,3-D AND CHLOROPICRIN

James P. Mueller
Field Development Scientist
DowElanco

In terms of innate biological activity on nematodes and pathogens in soil, 1,3-dichloropropene (1,3-D; TELONE® Soil Fumigants) and chloropicrin are among the most promising methyl bromide alternatives. These compounds are not without their own regulatory challenges. New application technologies are being developed to address regulatory concerns, particularly air quality issues. Delivery system, efficacy, and environmental fate studies are proceeding along parallel paths.

Drip irrigation is one very promising delivery system being developed for 1,3-D/chloropicrin combinations. Target crops include those which currently use methyl bromide, and several others. Delivery systems research has identified several hardware configurations that will safely and conveniently deliver these compounds through drip irrigation systems. Preliminary air monitoring data indicate that, with a properly installed drip irrigation system, drip application may result in less 1,3-D loss to the atmosphere than standard soil injection application. Numerous field studies have demonstrated the effective nematode control provided by drip applied 1,3-D. This is generally as effective as standard soil injection application. Drip irrigation application of TELONE II (1,3-D) is currently registered for melons in Arizona. Studies are in progress to determine the effectiveness of drip applied 1,3-D/chloropicrin combinations for soil borne disease control.