

XRM-3162: A NEW PRE-PLANT SOIL FUMIGANT AS AN ALTERNATIVE TO METHYL BROMIDE

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A new active ingredient, XRM-3162, is in the initial stages of development as a broadspectrum, pre-plant soil fumigant by Dow AgroSciences, LLC. Micro-plot tests in 2006 and 2007 demonstrated control of nematodes, soil borne diseases and weeds at rates similar to methyl bromide.

A sandy soil (70% sand, 20% silt, 10% clay) typical for watermelon production in southern Indiana, was sifted through a 0.63mm sieve and used to fill 19 liter polyethylene buckets. Four replications of each treatment were used. Treatments included: 1)methyl bromide @ 448.4 Kg/Ha, 2) XRM-3162 @ 448.4 Kg/Ha, 3) XRM3162 @ 896.8 Kg/Ha and 4) Untreated. Prior to application of the fumigant, small sachets of yellow nutsedge (*Cyperus esculentus*), morningglory (*Ipomoea hederacea*), millet seeds colonized with *Rhizoctonia* AG-7, or sand amended with eggs of *Meloidogyne incognita*, were buried 15 cm deep in each bucket. Buckets were covered with LDPE mulch for seven days before sachets were removed and brought back to the lab for evaluation. This experiment was conducted in 2006 and 2007. Another similar experiment was conducted in 2007 using micro-plots in a bedded plot covered with LDPE mulch. Treatments and sachets were the same as in the prior trials.

Results in all three trials indicated that the 484.4 Kg/Ha rate of XRM-3162 provided control of all organisms in the sachets similar to the 484.6 KG/Ha rate of methyl bromide. Testing of this new fumigant will be expanded significantly in 2008.