Resurgence of Soilborne Pests in Double-cropped Cucumber after Application of Methyl Bromide Chemical Alternatives and Solarization in Tomato

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Field studies were conducted during four consecutive tomato (*Lycopersicon esculentum*)-cucumber (*Cucumis sativus*) rotations to examine the long-term residual effects of tomato methyl bromide (MBr) alternatives on soilborne pests in double-cropped cucumber. Four treatments were established in tomato fields: a) non-treated control; b) MBr + chloropicrin (Pic) (67:33 w/w) at a rate of 350 lb/acre; c) tank-mixed pebulate + napropamide at 4 and 2 lb/acre, respectively, followed by 1,3-dichloropropene (1,3-D) + Pic (83:17 v/v) at 40 gal/acre; and d) napropamide at 2 lb/acre followed by soil solarization for 7 to 8 weeks. Each of the following seasons, cucumber was planted in the same tomato plots without removing mulch films. For nutsedge (*Cyperus rotundus* and *C. esculentus*) densities, napropamide followed by solarization plots had equal control (≤15 plants/m^2) as MBr + Pic during all four cropping seasons. However, nematode control with solarization was inconsistent. Marketable yield data proved that fumigation in tomato fields with either MBr + Pic or pebulate + napropamide followed by 1,3-D + Pic had a long-term effect on double-cropped cucumber.