

# D3597: Damage of *Bemisia tabaci* biotype Bin transgenic common bean resistant to the Bean golden mosaic virus

Thursday, September 29, 2016

09:00 AM - 05:00 PM

📍 Convention Center - West Hall C

The whitefly (*Bemisia tabaci* biotype B) causes significant damage to common bean (*Phaseolus vulgaris* L.) mainly by virus transmission. Genetically modified common bean (GMCB) resistant to the *Bean golden mosaic virus* (BGMV) can tolerate larger population of adults and nymphs of whitefly. In this study we evaluated the damage caused by whitefly nymphs to GMCB and conventional bean (CB) infested in 3 developmental stages. 6 different densities of whitefly nymphs were used to infest plants in the stages of primary leaves (V2), vegetative (V4) and flowering (R6). The experimental design was completely randomized with 12 replications except for the experiment at flowering that 9 replications were used. It was determined the yield components, incidence and severity of BGMV and sooty mold. For GMCB, infestations up to 240 nymphs of whiteflies per leaf in the primary leaves, 318 nymphs in vegetative growth stage and 915 nymphs at flowering stage did not reduce mass of grain per plant, pods and grains per plant. In CB, infestations at V4 reduced yield mainly due to BGMV infection. Plants infested at R6 stage, did not present BGMV symptoms. The growth of the sooty mold, on the honeydew excreted by nymphs, was only observed on plants at the V4 stage. These results indicate that GMCB can tolerate high population levels of whitefly nymphs at any growth stage. The stress imposed by all nymph population levels tested in this study was not enough to cause direct damage to yield components or indirect damage such as sooty mold.

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