EFFECT OF MIXED INFECTION BEET CURLY TOP VIRUS AND CUCUMBER MOSAIC VIRUS ON RESISTANT OF BEAN

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ABSTRACT

Curly top disease (CTD) of sugar beet and several crops such as tomato, pepper, bean, cucurbits, tobacco and potato is a known disease affecting these crops for over a century. Beet curly top virus (BCTV) and Cucumber mosaic virus (CMV) have been reported from Iran that causes severe disease in bean. CMV and viruses of different taxa often have been found to act synergistically in plants. In most of such mixed infections, the synergism consisted of the exacerbation of disease symptoms and breakdown resistance in plant. In this experiment, resistance of bean cultivar to mixed infection with BCTV and CMV was investigated. In greenhouse experiment, a completely randomized design with 12 replicates in four treatments was used. Plant inoculated was carried out with infectious clones of BCTV and for CMV bean plants were mechanically inoculated with CMV using extracts from freshly infected cucumber leaves. Result indicated that, mixed infection treatment had severe symptoms, stunting and leaves became crinkled. Measurement of height in treatment showed that no different between CMV infected plant and mock inoculation and they were in the same statically group. Fresh and dry weight decreased in mixed infection somehow highest fresh and dry weight observed in mock inoculated plant.

Keywords: Sugar beet, Resistance, Curly top, CMV