

P P Singhal Memorial Pesticide Industries Award 2014-Runner

## Role of Seed in the Epidemiology of Yellow Mosaic Virus Disease in Mungbean (*Vigna radiata* L.)

Lalit Mahatma and D M Pawar

Department of Plant Pathology, NMCA, NAU, Navsari-396 450, Gujarat, India  
E-mail: mahatmalalit@yahoo.co.in



L Mahatma

### Abstract

Yellow mosaic disease (YMD) of mungbean (*Vigna radiata* L.) is caused by a variant, MYMV-[Vig:IN:NVS:Mg:2012] in the South Gujarat. The disease spread through its insect vector whitefly, *Bemisia tabaci* (Gennadius) (Hemiptera: Aleyrodidae). The disease appear with the emergence of first trifoliate leaf which rapidly covers the entire field under the suitable environmental conditions. Heavy incidence of the disease in first and subsequent trifoliate was observed from the different villages of Surat, Navsari and Valsad districts of the South Gujarat. Typical yellowing was observed on all the green colored aerial parts of the plant including pods and seeds. Presence of a Begomovirus was detected from the different parts of the flowers and seeds viz., sepal, standard petal, wing petal, keel petal, androecium, empty pod (after removing seed), seed coat and cotyledon. Detection of the same from the callus developed by using the infected seed cotyledon as explant confirms that the virus not only present in the seeds but remain viable in the cotyledon. MYMV was not detected in the embryonic axis and gynoeceium. Study suggested that the seed plays indirect role in the transmission of the MYMV in the mungbean. To the best of our knowledge this is the first report which shows presence of MYMV in the seeds and its role in the epidemiology of any of the Begomovirus in the world.

**Key words:** Callus, Indirect seed transmission, Mungbean, MYMV

**Citation:** Mahatma L and Pawar DM. 2015. Role of seed in the epidemiology of yellow mosaic virus disease in mungbean (*Vigna radiata* L.) *J Mycol Pl Pathol* 45(4): 324-329.