

INTISARI

Epidemi penyakit kuning akibat Begomovirus pada kacang panjang pertama kali dilaporkan terjadi di Jawa pada 2008-2009. Hingga kini, insidensi dan intensitas penyakit kuning semakin meluas. Penelitian ini bertujuan untuk mendeteksi Begomovirus pada kacang panjang, kutu kebul, dan beberapa inang alternatif lainnya di sekitar pertanaman kacang panjang. Begomovirus dideteksi secara molekuler dengan metode Polymerase Chain Reaction (PCR) menggunakan primer universal Begomovirus Krusty-Homer. Begomovirus ditularkan melalui uji penularan alami di sekitar lahan pertanaman kacang panjang bergejala kuning. Hasil penelitian menunjukkan bahwa Begomovirus terdeteksi pada tanaman kacang panjang bergejala kuning, kutu kebul, dan beberapa inang di sekitarnya. Begomovirus dapat ditularkan ke tanaman timun dan cabai secara alami melalui serangga vektor. Gejala infeksi Begomovirus sangat bervariasi. Analisis filogenetik menunjukkan Begomovirus isolat Donoharjo, Ngaglik, Sleman terbagi ke dalam dua grup. Grup satu terdiri atas *Ageratum yellow vein virus* (AYVV) pada *Ageratum conyzoides* serta *Ageratum yellow vein China virus* (AYVCNV) pada timun dan cabai. Grup dua terdiri atas *Mungbean yellow mosaic India virus* (MYMIV) pada kacang panjang dan *Horsegram yellow mosaic virus* (HgYMV) pada *B. tabaci*. Begomovirus yang teridentifikasi pada tanaman inang utama, kacang panjang, memiliki kekerabatan yang sangat tinggi dengan Mungbean yellow mosaic India virus (MYMIV) isolat Sleman dengan presentase homologi 99%.

Kata kunci : Begomovirus, PCR, Kacang Panjang, MYMIV

ABSTRACT

Epidemic of yellow disease due to Begomovirus in yardlong beans was first reported in Java in 2008-2009. Until now, the incidence and intensity of yellow disease is increasingly widespread. This study aims to detect Begomovirus in yardlong bean, whitefly, and other alternative host around yardlong bean cultivation. The Begomovirus was detected molecularly by the Polymerase Chain Reaction (PCR) method using the Begomovirus Krusty-Homer universal primer. Begomovirus is transmitted through a natural transmission test to other plant host around the yardlong bean cultivation that have yellow symptoms. The results showed that Begomovirus was detected in long bean plants with yellow symptoms, whitefly, and various hosts around it. Begomovirus can be transmitted to cucumber and chili plants naturally by insect vectors. The infected plants showed various symptoms. Phylogenetic analysis showed that the Begomovirus isolate from Donoharjo, Ngaglik, Sleman was divided into two groups. Group one consisted of *Ageratum yellow vein virus* (AYVV) in *Ageratum conyzoides* and *Ageratum yellow vein China virus* (AYVCNV) in cucumber and chili. Group two consisted of *Mungbean yellow mosaic India virus* (MYMIV) in yardlong beans and *Horsegram yellow mosaic virus* (HgYMV) in *B. tabaci*. The begomovirus identified in the main host plant, yardlong bean, has a very high homology with the *Mungbean yellow mosaic India virus* (MYMIV) isolate from Sleman with a homology percentage of 99%.

Keywords : Begomovirus, PCR, Yardlong bean, MYMIV