INTISARI

Pectobacterium carotovorum merupakan patogen penyebab penyakit busuk lunak yang penting pada tanaman hortikultura. Penyakit busuk lunak dapat menurunkan kuantitas dan kualitas produk hortikultura. Salah satu produk hortikultura yang bernilai ekonomi tinggi yaitu anggrek. Madu merupakan salah satu bahan yang memiliki aktivitas antibakteri. Madu manuka mengandung *methylglyoxal* (MGO) yang berperan sebagai anti bakteri. *P. carotovorum* masuk ke dalam kelas *Gammaproteobacteria*, famili *Enterobacteriae*. Bakteri ini mengeluarkan faktor virulensi berupa enzim pendegradasi dinding sel, dan memiliki flagela untuk motilitas bakteri. Hasil penelitian menunjukkan madu manuka menurunkan virulensi *P. carotovorum* yaitu dengan mengurangi motilitas; menghambat pembentukan pelikel; mengurangi produksi enzim pektat liase, poligalakturonase, selulase, dan enzim proteolitik. Madu manuka dapat menekan gejalan busuk lunak pada tanaman anggrek. Madu manuka diduga mempengaruhi ekspresi gen pembentukan enzim, dan ekspresi gen penghasil flagela.

Kata kunci : faktor virulensi, patogenesitas, madu manuka, motilitas, enzim pendegradasi dinding sel

ABSTRACT

Pectobacterium carotovorum is a pathogen causing soft rot in many horicultural crops. Soft rot can decrease quantity and quality of hoticultural crops. One of horticultural products with high economic value is orchid. Honey is one of the substances that have antibacterial activity. Manuka honey contains methylglyoxal (MGO) which is used as anti bacterial. *P. carotovorum* is a bacterium of the class Gammaproteobacteria and family Enterobacteriaceae. This bacteria secretes virulence factor in the cell wall degrading enzyme, and has flagella for bacterial motility. The results showed that manuka honey decreased *P. carotovorum* virulence by reducing motility; inhibits the formation of the pellicle; reducing the production of pectate liase enzymes, polygalactuonase, cellulase, and proteolytic enzymes. Manuka honey can decrease symptomp diseases in orchid plants. Manuka honey may can affect the expression of genes of enzyme formation, and the expression of flagella-producing genes.

Keywords: virulence factor, pathogenicity, manuka honey, motility, cell wall degradating enzyme