STUDI SENYAWA TANAMAN JAGUNG SEBAGAI PENOLAK *Bemisia tabaci*

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INTISARI

Bemisia tabaci merupakan salah satu hama tanaman cabai merah yang berperan sebagai vektor Begomovirus. Vektor dapat dikendalikan melalui Pengendalian Hama Terpadu (PHT) dengan menggunakan tanaman jagung sebagai tanaman pembatas yang bersifat sebagai tanaman penolak. Tujuan penelitian ini untuk mengetahui kandungan senyawa volatil tanaman jagung dan umur tanaman jagung yang berperan sebagai penolak *B. tabaci*. Senyawa volatil tanaman jagung umur 4 MST (Minggu Setelah Tanam), 6 MST, 8 MST, 10 MST, dan 12 MST ditangkap dan dilarutkan dalam n-heksan dan etanol, kemudian dianalisis menggunakan GC-MS. Pengujian penolakan *B. tabaci* dilakukan dengan menggunakan olfactometer (Y tube). Data dianalisis dengan uji t pada taraf 95%. Hasil pengujian dengan olfactometer, senyawa tanaman jagung, tanaman jagung, dan tanaman cabai bersama dengan tanaman jagung menunjukkan bahwa tanaman jagung umur 12 MST mempunyai efek penolakan paling tinggi terhadap *B. tabaci*. Senyawa tanaman jagung yang terdeteksi pada pelarut n-heksan dan etanol antara lain geranyl acetate, limonene, citronella, citronellol acetate, eugenol, farnesol, 1,8- cineole, bornyl acetate, citronellyl acetate, patchouli alcohol, champene, myrcene, caryophillene, β- farnesene, α-patchoulene, β-pelhandrene, β-patchoulene, dan β- carryophillene.

Kata kunci: *Bemisia tabaci*, tanaman jagung, tanaman cabai merah, senyawa penolak.

STUDY OF CORN PLANT COMPOUNDS AS *Bemisia tabaci* REPELLENTS

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ABSTRACT

Bemisia tabaci is one of the pests that have an important role as a vector of Begomovirus. This vector can be controlled through Integrated Pest Management (IPM) practices. One of the practices is using corn crop as a barrier crop to prevent the vector to attack the main crop. The aim of this research was to know the volatile compound of corn crop on any particular ages as a repellent againts *B. tabaci.* The volatile compound of the corn as barrier crop is expected to repel the vector. Volatile compound collection was carried on four Weeks After Planting (WAP), six WAP, eight WAP, ten WAP, and twelve WAP using volatile compound capture device that use two kinds solvents, *i.e*. n-hexsan and ethanol, then were analyzed using GC-MS. Bioassay of *B. tabaci* repellency was conducted using olfactometer (Y tube). The data was analyzed using t-test 95%. The results with the olfactometer test on the combination treatment of corn-corn and corn-chilli peper showed that the optimal age of corn crop in emitting volatile that repel of *B. tabaci* was twelve WAP. Using n-hexan and ethanol as solvent the repellent compound content of the corn captured were geranyl acetate, limonene, citronella, citronellol acetate, eugenol, farnesol, 1,8-cineole, bornyl acetate, citronellyl acetate, patchouli alcohol, champene, myrcene, caryophillene, β- farnesene, α-patchoulene, β-pelhandrene, β-patchoulene, and β- carryophillene.

Key words: *Bemisia tabaci,* corn crop, red chili crop, repellent compound.