

PERANAN DAN MEKANISME KERJA EUGENOL DALAM MENGENDALIKAN NEMATODA SISTA KENTANG (*Globodera rostochiensis*)

Iis Nur Asyiah

Prodi P. Biologi FKIP UNEJ Jl. Kalimantan III/3 Kampus Tegalboto Jember

Email: iisnaza@gmail.com

ABSTRAK

The research have been conducted to know the influence and mechanism of eugenol in controlling potato cyst nematode / PCN (*Globodera rostochiensis*), which is a major parasitic nematodes on potato. Research conducted using complete random design, each treatment repeated six times. Data obtained to be analyzed with the ANOVA and continued with the BNT 5%. Observations were done on percentage of mortality of juvenile phase 2 (J2), hatching eggs in the cyst, the migration ability of J2, Achetylcholinesterase inhibition (AChE) J2, non-specific esterase and ATP cyst. The results showed that after exposure to eugenol for 8 hours, J2 was capable of migration as much as 1.33 ± 0.58 while the control tail as much as 19.67 ± 2.51 tail. J2 mortality increased with increasing concentration of eugenol. Concentration of 1 mL / mL has caused J2 mortality above 50% ($68.33 \pm 5.77\%$) and J2 mortality reached 100% at concentrations of 10 mL / mL. In observation of hatching eggs in a cyst *G. rostochiensis* seen that the concentration of 1 mL / mL inhibited hatching eggs permanently. Eugenol inhibits the activity of AChE, non-specific esterase and cyst formation of ATP

Key word: Eugenol, PCN, *Globodera rostochiensis*, Achetylcholinesterase, ATP

I. Pengantar

Globodera rostochiensis yang dikenal dengan nama nematoda sista kentang atau nematoda sista kuning

(NSK) merupakan nematoda parasit utama pada akar tanaman kentang (*Solanum tuberosum* L.). Parasit ini diketahui menyerang tanaman kentang