

Intisari

Meloidogyne graminicola merupakan salah satu nematoda parasite tumbuhan yang menyebabkan puru akar pada tanaman padi. Saat ini, tanaman padi mulai ditanam di lahan berpasir dekat daerah pantai dimana lahan tersebut berpotensi terkena cekaman salinitas. Tujuan dari penelitian ini untuk mengetahui migrasi nematoda secara vertikal dan viabilitas *Meloidogyne graminicola* di bawah kondisi lahan salin. Sebaran vertikal nematoda dilihat dalam kolom tanah bersegmen dari pipa PVC sepanjang 10 cm dengan diameter 7 cm. Tinggi masing masing segmen 2,5 cm yang diisi dengan tanah salin dengan kadar salinitas 0 dS/m, 1 dS/m, 3 dS/m, 6 dS/m, dan 9 dS/m. Tanah di kolom tersebut diinokulasi oleh J2 *M. graminicola* dan diamati pada hari ke 7 setelah inokulasi. Viabilitas nematoda diamati dengan menginokulasikan J2 *M. graminicola* ke tanah salin dengan kadar salinitas 0 dS/m, 1 dS/m, 3 dS/m, 6 dS/m, dan 9 dS/m dan diamati pada 28 HSI. Pengamatan dilakukan dengan menghitung populasi di tanah, populasi di akar, serta skoring kerusakan tanaman Hasil menunjukkan bahwa juvenile 2 *M. graminicola* mengalami penurunan kemampuan dalam bermigrasi seiring peningkatan kadar salinitas. Salinitas juga menyebabkan penurunan populasi serta kemampuan nematoda dalam melakukan infeksi dan pembentukan puru. Hasil penelitian menunjukkan bahwa nematoda *M. graminicola* mampu bertahan di salinitas pada kadar salinitas tertentu.

Kata kunci: *Meloidogyne graminicola*, salinitas, sebaran vertikal, viabilitas



Abstract

Meloidogyne graminicola is one of the plant-parasitic nematodes that causes root galls in rice plants. Currently, rice cultivation has begun on sandy soils near coastal areas, where the land is potentially exposed to salinity stress. The aim of this study is to determine the vertical migration and viability of *Meloidogyne graminicola* under saline soil conditions. The vertical distribution of nematodes was observed using a segmented soil column made from PVC pipe, 10 cm in length and 7 cm in diameter. Each segment was 2.5 cm high and filled with saline soil with salinity levels of 0 dS/m, 1 dS/m, 3 dS/m, 6 dS/m, and 9 dS/m. The soil in the column was inoculated with J2 *M. graminicola* and observed on the 7th day after inoculation. Nematode viability was observed by inoculating J2 *M. graminicola* into saline soils with salinity levels of 0 dS/m, 1 dS/m, 3 dS/m, 6 dS/m, and 9 dS/m, and assessed at 28 days after inoculation (DAI). Observations included counting the population in the soil, the population in the roots, and scoring plant damage. The results showed that second-stage juveniles (J2) of *Meloidogyne graminicola* exhibited reduced migration ability with increasing salinity levels. Salinity also led to a decrease in population as well as the nematode's ability to infect and induce gall formation. The findings indicate that *M. graminicola* is able to survive under certain levels of salinity.

Keywords: *Meloidogyne graminicola*, salinity, vertical distribution, viability