

## Disease prevalence and severity assessment of *Pratylenchus coffeae* on an infected banana in Peninsular Malaysia

### ABSTRACT

*Pratylenchus* spp. cause considerable damage to the banana plant (*Musa* spp.) globally and although reported extensively in Malaysia, disease prevalence and infection severities have not been defined. The objective of this research, therefore, was to determine the prevalence of *Pratylenchus coffeae* and the extent of their damage on *Musa* spp. Of the 13 banana fields sampled, *Pratylenchus* nematodes were found in 76% of them. Proportions of root cortexes occupied by reddish brown lesion were significant in all the states. All the sampled areas exceeded the threshold limit, which is a 1% increment above 5% and is considered highly significant damage. The pathological reaction of *P. coffeae* against Pisang Berangan multiplications was observed after 12 weeks of growth in a glasshouse experiment. There were significant differences in vegetative growth within the various pathogen inoculation levels evaluated. Pisang Berangan showed a high level of susceptibility through the activity of polyphenol oxidase and peroxidase-induced resistance at all days after inoculation with *P. coffeae* compared to the control, except at week 12 where it declined or was non-significant from the control. Educating banana growers on the prevalence of this pathogenic parasite is therefore imperative for management decisions.

**Keyword:** Disease evaluation; *Musa* spp.; Nematodes; Root lesion