Effects of Time and Level of *Striga* Infection on Pearl Millet Varieties in North Darfur

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Abstract

This study conducted to revise the interaction between the parasitic weed *Striga hermonthica* (Del.) and pearl millet (*Pennisetum glaucum*). The main objective of the study was to investigate the effects of time and level of *Striga* infection on the interaction between the host plant and parasite. (Dimbie) and the Ashana pearl millet varieties were grown in pots with and without seed infestation with Striga. Both pearl millet genotypes responded to infection by the *Striga* parasite, but it was evident that Dimbie was more strongly affected than Ashana pearl millet in plant height; final leaf number, green leaf area, and total dry weight which were significantly reduced by infection. The Ashana landrace showed significantly lower and delayed attachments of *Striga hermonthica* than the Dimbie cultivar, and this could be explained by a delay in the onset of attachments. *Striga hermonthica* infection had a stronger effect on the sensitive cultivar, although the parasite affected growth and dry matter allocation in both cultivars. The reduction in biomass production was accompanied by a relatively increased allocation of dry matter to the roots. It was observed that the pearl millet genotypes have different sensitivities to *Striga* infection. The tolerant millet variety Ashana is highly resistant to *Striga* infection while sensitive variety Dimbie is slightly resistant to the weed *Striga* infection and therefore the hypothesis is rejected. It is concluded that differences in root manner and the resulting early infection and higher *S. hermonthica* numbers are partly responsible for the stronger effects of the parasite on the Dimbie cultivar.

Keywords: Attachment, infection time, pearl millet tolerance, *Striga hermonthica*

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