

Ti Host status of different cover crops for *Pratylenchus penetrans*

Betre Estifanos¹, Bernd Honermeier², Johannes Hallman³, Bruno Moerschbacher⁴

¹Julius Kühn-Institut, Institute for Epidemiology and Pathogen Diagnostics, Münster, Germany

²Institute of Agronomy and Plant Breeding I, Justus Liebig University, Gießen

³Julius Kühn-Institut, Institute for Epidemiology and Pathogen Diagnostics, Münster, Germany

⁴Institut für Biologie und Biotechnologie der Pflanzen, Westfälische Wilhelms-Universität Münster, Münster, Germany

Email of corresponding author: betretadese@yahoo.com

Cover crops that are poor or non-hosts are effective in reducing nematode population densities below damaging levels. Greenhouse experiments were conducted to evaluate the host status of nine cover crops to *Pratylenchus penetrans*. The average number of nematodes per root systems and the nematode multiplication rate (ratio of final population density to initial population density = Pf/Pi) were determined 10 weeks after inoculation with 745 mixed stage nematodes of *P. penetrans*. The cover crops tested were common bird's foot (*Ornithopus sativus*), forage rape (*Brassica napus*), rape seed (summer oil type) (*Brassica napus*), Italian ryegrass cv. Tetraflorum (*Lolium italicum*), common vetch (*Vicuña sativa* subsp. *nigra*), Sun flower (*Helianthus annuum*), lentil (*Lens culinaris*), buckwheat (*Fagopyrum*

esculentum), fodder radish RSAS1037 (*Raphanus sativus*). Maize (*Zea mays*) and French marigold (*Tagetes patula*) were included as susceptible and non-host controls respectively. The results indicated that the susceptible control maize supported only a low level of nematode reproduction which was not expected. However, most of the cover crops tested supported significant levels of nematode reproduction. The highest nematode multiplication rate was obtained in lentil (Pf/Pi = 45.9) followed by common vetch (Pf/Pi = 19) and rape seed (Pf/Pi = 5.8) and the lowest was recorded in Italian ryegrass (Pf/Pi = 0.6). The Pf/Pi value of the other cover crops tested ranged from 2.6 to 3.9. Among all the cover crops tested only Italian ryegrass reduced the reproduction of *P. penetrans*.