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RESEARCH NOTE

Effect of different levels of inoculum on incidence of foot rot disease of finger millet caused by *Sclerotium rolfsii* sacc

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ABSTRACT

An experiment was carried out to find the different levels of inoculums on incidence of foot rot disease of finger millet or nagli at Botany farm, College of Agriculture, Dr. BSKKV, Dapoli. The fungus was studied at four levels of inoculum *i.e.* 1, 10, 50 and 100 sclerotia per pot. At all levels except 100 sclerotia per pot seedling mortality and symptoms was observed within 30th, 20th and 13th days of inoculation, respectively. Only one plant wilted upto 11th days of inoculation in inoculum level of 100 sclerotia per pot. Number of sclerotia produced per pot increased with increase in inoculum levels.

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Finger millet [*Eleusine coracana* (L.) Gaertn] also known as Nagli or Ragi is an important millet crop grown in India. It is a staple food of small or marginal farmers in many hilly regions of the country. In ancient Vedic literature, Nagli or Ragi is mentioned as *ragika*. Though the area occupied by this crop in Konkan region is more, the average yield per hectare is comparatively very low because the crop is vulnerable to diseases. As many as 25 fungal, 4 viral, 5 bacterial and 6 nematode pathogens are recorded on this crop. Among all diseases, so far reported, soil borne diseases of nagli play a vital role in drastic reduction in the yield. Among all diseases the threatening foot rot disease was noticed at Botany farm, College of Agriculture, Dapoli during 2004 -2005 as one of the most destructive disease of the crop as it infects the crop in seedlings stage resulting in complete failure of the crop. The losses reported so far due to foot rot disease caused by *S. rolfsii* vary from 40 to 50 per cent (Basta and Tamang, 1983). This called attention of research workers for immediate study.

A pot trial was carried out in the laboratory for studying the minimum number of sclerotia essential for development of foot rot disease of nagli and to fix the level at which the disease is severe, In all, five treatments were replicated four times. The treatment without fungal inoculum served as control. The numbers of sclerotia inoculated per pot were 1, 10, 50 and 100. The pots were watered daily with sterilized water and were observed for foot rot appearance in the laboratory, using 0 to 4 scale.

Once the fungus was proved to be pathogenic on nagli, it was decided to study the effect of different inoculum levels of *Sclerotium rolfsii* on disease appearance (Table 1). For this, the fungus was inoculated as sclerotia in series *viz*., 1, 10, 50, 100 per pot of sterilized potting mixture. It was observed that the inoculum level of one sclerotium took 25 days for first appearance of the disease whereas in 10, 50 and 100 sclerotia per pot, the symptoms expression was noticed in 11th day after inoculation. In all the inoculation treatments, the disease progressed with advancement in time. The terminal severity on 30th day was 2 in 1 sclerotium per pot whereas it was 4 in 10, 50 and 100 sclerotia per pot in 0 to 4 scale (Table 1). The disease severity at the time initiation of the disease increased with increase in inoculum level. The maximum disease severity *i. e.* 4, was recorded on 20th, 30th and 11th days after inoculation in 10, 50 and 100 sclerotia per pot.

Results of Table 1revealed that the number of days