

Research Paper :

Management of stem rot of broccoli caused by *Sclerotinia sclerotiorum* through cultural practiced

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SUMMARY

The effect of cultural practices viz., date of planting, soil amendments and intercropping were carried out against stem rot of broccoli caused by *Sclerotinia sclerotiorum*. The disease incidence was significantly influenced by planting dates. The crop transplanted in Ist week of October showed minimum disease intensity (19.40% and 18.94 %) in both the years. However, crop transplanted in 3rd week of November showed maximum disease intensity (32.50% and 30.40%) in both the years. The crop transplanted in 1st week of October gave maximum yield. Among eight different amendments, basal application of pyrite @ 2t/ha showed minimum disease intensity (19.15% and 20.50%) followed by neem cake @ 20 t/ha. The gypsum was least effective in controlling the disease. Disease incidence was reduced to a great extent when broccoli plants were intercropped with either one or two rows of onion or garlic.

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Broccoli (*Brassica oleracea* var. *italica* Plenck) is a cole crop gaining importance in India due to its nutritional value. This Brassicaceous vegetable has almost made its place in Indian vegetable market and broccoli of purple green heading type, is a new gift to Indians. However, the productivity of this crop is not as high here as in other countries. Because the crop is prone to several diseases of fungal origin but recently it has been observed that the stem rot caused by *Sclerotinia sclerotiorum* (Lib.) de Bary is increasingly drawing attention as a destructive disease. Intensive use of fungicides for protection of crop from disease is not only injurious to human health but also polluting the environment. Therefore, it was the demand of the time to develop an alternate, effective and safe approach to manage the disease. In present time, cultural practices are the safest and cheapest source of the management of diseases. Hence, present study was undertaken to find out the effect of planting date, soil amendments and intercropping in managing the disease.

MATERIALS AND METHODS

Experiments were carried out to estimate the disease incidence on different transplanting periods during the two crop seasons of *Rabi* 2004-05 and 2005-06. A susceptible variety Montop of broccoli was transplanted in the field on different dates. The treatments were I week of October, III week of October, I week of November and III week of November. Each treatment was replicated thrice. The data on disease intensity were recorded from the first appearance of the disease and subsequently at 10 days interval, till the maximum disease incidence occurred. The yield was also recorded after harvest.

To see the impact of different soil amendments, a trial was laid out in RBD with three replications during two crop seasons of *Rabi* 2004-05 and 2005-06 with susceptible var. Montop in 2 x 3² m plot size. Six soil amendments like neem cake, mustard cake, castor cake, water hyacinth, paddy straw and wheat straw @ 20t/ha and two soil amendments viz., pyrite and gypsum @ 2 tonnes/ha were incorporated in the soil before

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