

Management of wilt of cumin (*Cuminum cyminum* L.) by organic amendments

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ABSTRACT

Among the various organic amendments used, mustard cake was the best followed by groundnut cake for the management of wilt of cumin (*Cuminum cyminum*) caused by *Fusarium oxysporum* f. sp. *cumini* in pot culture.

Key words : cumin, (*Cuminum cyminum*), management, organic amendments, wilt.

Cumin (*Cuminum cyminum* L.) suffers from many disease, important among them being wilt caused by *Fusarium oxysporum* f. sp. *cumini*. As the pathogen is soil borne, chemical control is not feasible and no resistant variety is also available. Hence disease management through organic amendments was attempted in the present study.

A pot culture experiment was conducted with six treatments with three replications. Five oil cakes, namely, groundnut, neem, castor, mustard and mahua were powdered and mixed in upper 7.5 cm soil layer @ 15g/pot (25 × 15 cm), keeping unamended pots as control. The pathogen *Fusarium oxysporum* f. sp. *cumini* grown on soil maize medium (finely sieved soil 350g, maize meal 100g and water just sufficient to moisten the mixture) was added to the pots @ 50g/pot and mixed well. Cu-

min seeds were then sown in these pots. After germination, 20 plants per pot were maintained. The incidence of wilt was recorded in each treatment and per cent incidence was calculated (Table 1).

Table 1 Efficacy of soil amendments in controlling wilt disease of cumin

Soil amendment	Plant mortality (%)
Mustard cake	28.94 (23.41)
Groundnut cake	30.34 (25.51)
Castor cake	32.91 (32.87)
Neem cake	35.66 (35.61)
Mahua cake	42.47 (42.45)
Control	64.75 (64.77)
S Em ±	1.24
CD at 5%	3.82

Figures in parentheses are retransformed values.

The incidence of wilt was reduced in the treatments amended with organic cakes compared to control (without organic amendments). The mortality of cumin plants was lowest (28.94 per cent) in pots amended with mustard cake followed by groundnut cake (30.34), castor cake (32.91), neem cake (35.66) and mahua cake (42.47). Similar results were also obtained in cumin (Champawat & Pathak 1988), chickpea (Gurha & Singh 1981) and coriander (Srivastava & Sinha 1971).

References

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