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Cultural management of Alternaria blight of tomato

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The tomato (Lycopersicon esculentum) is one of the most popular crops grow in India .The Alternaria blight of tomato caused by Alternaria alternata f.sp. lycopersici is more severe and common disease in U.P. The importance of cultural practices is known from ancient time . Suitable adjustment in cultural practice can modify the environmental in such a manner that become unfavourable for the pathogen and thus the disease development . Disease intensity was reduce when shifting in date of transplanting was made for the disease indifferent crop varieties .The tomato crop transplanted in 2nd week of July .Showed less disease intensity (15.5 and 12.80 %) and in 4 week of September showed maximum(35.0and38.5%) in both the years (2003-04 & 2004-05). Using seven different soil amendments under field conditions.The minimum disease intensity (12.57and12.0%)was observed in application of Neem cake followed by Pyrite and wheat straw was least effective in controlling the disease in both the years of experimentation.

Kew words- Culteral management, Tomato, *Alternaria alternat*f.sp.*lycopersici*.

Introduction

Tomato (*Lycopersicon esculentum*) is one of the most popular crop grown in India, which suffers from several diseases. Alternaria blight incited by *Alternaria alternata f.sp.lycoperici* causes sever yield losses under congenial conditions. Considering the importance of the crop and the disease severity, the study was under taken to evaluate the cultural practices for management of Alternaria blight of tomato

Materials and Methods

The study was conducted on the role of different transplanting dates in the developments of disease. The experiment were conducted in the crop season 2003-2004 and 2004-2005 heaving plot size 3x2 m . Different dates of transplanting was done on the dates starting from every 2and 4 week of July, August and September. The disease intensity was recorded after 60 days from the date of transplanting and data were analyzed statically. Each treatment was replicated four times and irrigated as and when required .

The average disease intensity was calculated for both the years . The soil amendments experiments were also conducted in the field during 2003-2004and 2004-2005 . Plots of 3x2 m were taken for each treatment and replicated four times following R.B.D. Different types of amendments like neem cake ,mustard cake , paddy straw, wheat straw and water hyacinth more takne@ 30.0ton /ha. and Pyrites and Gypsum @2.0ton /ha.more used Disease intensity and yield were recorded at the maturity of crop.

Results and Discussion

The result obtained from Table 1 revealed that the average minimum disease intensity (14.15%)in both crop seasons was observed in the crop transplanted on 2nd week of July as compared to those with other transplanting dates. The average maximum disease intensity (36.75) was observed in late transplanted plots . The tomato transplanting in the second week of July showed less disease intensity (15.50and 12.80%) in both the years (Fig.1). However, late shown crop in the 4th week of September showed maximum (35.00and 38.50%) in both the years. Similar result was also reported by (Abdul *et al.*, 1995). The disease could be managed by the use of different type of soil amendments. Average disease intensity was recorded in both year 2003-2004and 2004-2005 and results are summarized Table 2 (Fig.2).

Table-1:Effect of alternation in date of transplanting on the disease intensity

S. No.	Date of transplanting	2003-2004		2004-2005	
		Av. disease intensity	Y yield Q/ ha.	Av. disease intensity	Yield Q/ha.
1.	2nd week of July	15.50(23.18)	210	12.80(20.20)	212
2.	4th week of July	18.30(25.32)	200	16.50(23.96)	202
3.	2nd week of August	22.50(28.31)	190	20.00(26.56)	195
4.	4th week of Augest	28.00(31.95)	175	25.80(30.52)	185
5.	2nd week of September	32.85(34.97)	170	30.00(33.21)	180
6.	4th week of September	35.00(36.27)	165	38.50(38.35)	166
C.D.	at 5%	S.E.=0.43 S.E.=7.04		S.E.=0.81 S.E.=4.20	
		C.D.=(0.90) C.D.=14.69		C.D.=(1.70) C.D.=8.77	

The amendments were applied in the field 15 days prior to the transplanting of tomato crop and allowed to decompose. The disease was minimized in varying degree is by the use of different soil amendments. Neem cake observed to be most affecting followed by pyrite and mustard cake in both the years. Minimum disease intensity (12.50and 12.00 %) was observed with the application of neem cake in both the years. Soil amendment with wheat straw was least effective in controlling the disease in both years . Similar findings have also been reported by (Lovang and Wildt, (1998) and Nandagopal and Ghewande *(*2004).

Table 2. Effect of different soil amendments on disease intensity

S.No.	Soil amendments	Av. Disease Intensity		Yield q/ha.	
		2003-04	2004-05	2003-04	2004-05
1-	Neem cake	12.57(20.70)	12.00(20.26)	240.0	235.0
2.	Pyrite	16.87(24.25)	15.90(23.49)	235.0	230.0
3.	Mustered	18.50(25.47)	17.30(24.57)	215.0	220.0
4.	Paddy straw	20.30(27.13)	21.50(27.62)	210.0	200.0
5.	Mahuva cake	22.50(28.31)	21.90(27.90)	195.0	148.0
6.	Caster cake	24.89(29.92)	23.97(29.31)	185.0	187.0
7.	Wheat straw	29.30(32.77)	28.97(32.56)	170.0	165.0
8.	Control	35.45(36.45)	33.50(35.36)	160.0	165.0
C.D. at 5%		S.E.=0.30 C.D.=0.64	S.E.= 0.36 C.D.=0.75	S.E.=4.56 C.D.=9.52	S.E.=3.38 C.D.=7.06

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