

EPIDEMIOLOGICAL STUDIES ON RIPE FRUIT ROT OF CHILLI CAUSED BY COLLETOTRICHUM CAPSICI (Syd.) BUTLER & BISBY

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Chilli (*Capsicum annum L.*) is considered as an essential commodity in the preparation of spicy and tasty foods. The crop is grown commercially in Andhra Pradesh, Assam, Maharashtra, Karnataka, Tamil Nadu, Himachal Pradesh and throughout the Gangetic plains having warm humid climate. The weather conditions prevalent during the crop season favour the development of multifarious diseases, out of which ripe fruit rot caused by *Colletotrichum capsici* (Syd.) Butter & Bisby is of great economic importance. 10-60% losses in yield having been reported due to incidence of rice fruit rot of chillies (Bansal and Grover, 1969). The present study was conducted to see the influence of weather parameters on the incidence and severity of ripe fruit rot of chilli.

In order to find out the role of meteorological factors on the incidence and severity of ripe fruit rot, chilli plants were observed weekly at University Research Farm of Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni between August to October 1995. Simultaneously, meteorological data on mean relative humidity, mean temperature and cumulative rainfall were also recorded for the intervening period between two consecutive disease data recordings. Simple and partial correlations between disease incidence and severity were worked out.

Results (Fig. 1) reveal that the disease appeared in the second and third week of August and attained maximum levels of incidence and severity in the months of August and September. The environmental factors i.e., temperature, relative humidity and cumulative rainfall influenced the disease development. Simple correlation: The correlation between ripe fruit rot incidence and cumulative rainfall was significant and positive (Table 1) were non-significant for both for disease incidence and severity.

Partial correlation: Analysis of the partial correlation between ripe fruit rot incidence and meteorological factors indicated significant positive correlation with cumulative rainfall. The results pertaining to disease incidence and severity with respect to other factors showed non-significant correlations.

It was observed that ripe fruit rot disease appeared during third week of August. Heavy rainfall and high relative humidity were found to favour the disease. Sattar and Hafiz (1952) stated that disease development was severe during wet weather. Kogan (1977) observed that a temperature of 26°C, presence of free moisture or 100% relative humidity was optimum for the development of *Colletotrichum capsici*. However, Gupta et al. (1983) recorded a maximum intensity of the disease under field conditions at a temperature of 18°C and 75% relative humidity.

REFERENCES

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Table 1. Simple and partial correlation coefficients among ripe fruit rot incidence, severity and meteorological factors.

Meteorological factor	Simple correlation coefficients		Partial correlation coefficients	
	Disease Incidence	Disease severity	Disease Incidence	Disease severity
Temperature	-0.05	-0.36	-0.11	-0.28
Relative humidity	0.56	0.15	-0.02	-0.08
Cumulative rainfall	0.78*	0.43	0.54*	0.33

* significant at 5% level.