WEL-COME

Influence of Weather Parameters on *Alternaria* Leaf Spot of Safflower

By
Gud *et.al.*,

AICRP on Safflower, ZARS, Solapur-413 002(MS)
Mahatma Phule Agriculture University, Rahuri

Oilseed crops play an important role in India's agricultural economy

Safflower is one among them which is grown on large scale particularly in Maharashtra, Karnataka and Andhra Pradesh

Status of safflower area, production and productivity during 2007-08

State	Area(000 ha)	Production (000 tonnes)	Productivity (kg/ha)
Maharashtra	231.0	154.0	667
Karnataka	70.0	57.0	814
Andhra Pradesh	16.0	12.0	750
All India	320.3	224.5	701

Source- Project Director's Report, AICRP on Safflower, 2009

Major Diseases of Safflower

Alternaria leaf spot

Fusarium wilt

Alternaria **leaf spot is a major destructive disease of safflower**

This infects the leaves, stem, head, seed etc

This resulted in reduction in seed yield and deterioration of oil quality

Weather conditions play a predominant role in determining the course and severity of epidemics

In the present investigation influence of different weather parameters *viz*., temp., RH, rainfall etc were correlated with the development of *Alternaria* leaf spot of safflower

15 10:38

15 10:54

12 10:25

Field experiment was conducted on medium black soil at AICRP on safflower, Solapur, Maharashtra (India) during *rabi* season of 2008-09

Cultivar Phule Kusuma was sown on three sowing dates

1) **Early sowing in the month of August**
2) **Normal sowing in the month of September and**
3) **Late sowing in the month of October**

Cultivar was sown on an area of 100 m^2 plot for each sowing date

Recommended agronomic practices like spacing, fertilizer, thinning weeding, hoeing etc were followed in the plot

Crop was protected against aphid and capsule borer by spraying Dimethoate 30 EC and Endosulfan 35 EC @ 0.05 %, respectively

Twenty plants each from early, normal and late sown crop were scored for recording the *Alternaria* leaf spot disease incidence

Observations were taken at weekly intervals started from 20 DAS

Per cent disease intensity (PDI) was correlated with various weather parameters

Early sowing:-

Correlation studies indicated that the rainfall, min. temp., max. temp. and RH-I and II had a positive correlation with the disease development

Weather conditions during 35 to 44 MW were, observed to be the most congenial for the crop infection and further rapid build-up of the disease

During this period, a total of 325.9 mm rainfall was received coupled with relative humidity in the range of 62 to 92 % and favourable temp. in the range of 29 to 33^{0}C

Rains received during 35 to 38 MW (271.2 mm) coupled with relative high humidity in the range of 90 to 92% resulted in primary infection of the crop

Congenial climatic conditions during 40-42 MW (54.70 mm rainfall coupled with 77-85 % RH) resulted in rapid development of the disease

In normal and late sowing also, the disease had a positive correlation with rainfall, min. temp. and RH I and II

Disease intensity recorded:-

- **Early sown condition- 80.00 per cent (Max)**
- **Normal sown condition - 57.00 per cent**
- **Late sown condition- 38.00 per cent (Min)**

Conclusion:-

Rains received coupled with high humidity above 80% and temperature in the range of 21 to 32^{0}C favours the infection and development of *Alternaria* leaf spot disease

Thank You