GAU Res. J. 1992 18 (1) : 135-136

Effect of Host Age on Sorghum Anthracnose

Ashok Mishra* and B. S. Siradhana

Department of Plant Pathology
Rajasthan College of Agriculture, Udaipur, Rajasthan

Information on most susceptible age in a host-pathogen combination would be useful in screening of germ-plasm for resistance, testing of virulence of pathogenic strains and determining the appropriate timing of chemical treatment for management. With a view to find out most susceptible age of sorghum (*Sorghum bicolor* L. Moench) to anthracnose (*Colletorichum graminicolum* (Ces. Wils.) experiments were conducted, the results of which are reported herein.

Seeds of a highly susceptible local cultivar, surface sterilized with 01% $Hgcl_2$, were sown in sterilized soil in 23 cm earthen pots so as to get different growth stages, namely 30, 45, 60, 75 and 90-day old plants. Two seedings in each pot were maintained with five posts replicated thrice for each treatment. Inoculations were made by spraying freshly harvested spore suspension ($2.5x10^4$ spores/ml) from 10-day old culture of *C. graminicolum* grown on potato dextrose agar (PDA). Inoculated plants were kept in humid chamber for 24 hr after which same were transferred to green house bench to receive diuranal light. In one treatment the seeds were dipped for one minute in the spore suspension before sowing. Un-inoculated plants served as control. Observations were recorded 15 days after the inoculations on 0-5 scale and converted iinto disease index following Mckinney (1923).

TABLE 1

Effect of host age on sorghum anthracnose

Age of plants at the time of inoculation (days)	*Per cent disease index*
Seed inoculation	60.0 (50.77)
30	56.0 (48.45)
45	68.0 (55.56)
60	75.0 (60.04)
75	45.0 (42.13)
90	30.0 (33.21)
Check	00.0 (0.0)
Figures in parenthesis are angular values	S. Em. 0.750 CD at 5% 2.312

The data presented in Table 1 revealed that there was significant correlation between the disease intensity and age of host. Maximum disease intensity was recorded when inoculations were on 60 day old plants followed by 45-day and 30-day old plants. Appreciable disease intensity was also observed when seeds were dipped in the spore suspension before sowing. These results are not in accord with those of Sinha and Sharma (1971) who did not find any symptom of sorghum anthracnose on 15 day and 30 day old plants. In the present study the plants were found susceptible with varying disease intensities at all stages of inoculation.

(Received on 25th Nov. 1989)

*Present address : Department of Plant Pathology, Gujarat Agricultural University, B. A. College of Agriculture, Anand-388 110 (Gujarat).

REFERENCES

Mckinney, H. N. 1923. Influence of temperature and moisture on infection of wheat seedlings by *Helminthosporium sativum J. Agric. Res.* **26** : 195-217.

Sinha, S. and J. K. Sharma. 1971. Role of humidity on sporulation pattern and infection in anthracnose of sorghum caused by *Colletotrichum graminicolum*. Proc. Ind. Nat. Sci. Acad. **37** (B) : 406-411.