Singh, P.N. and P. Shukla (1986). Effect of temperature, relative humidity and age of plant on Myrothecium leaf spot disease of cowpea. *Farm Sci. J.* **1** :.89-90.

Sinha, A.K., U. Narain and P. Shukla (1994). Effect of sowing dates on the incidence of Myrothcium leaf spot of soybean. *Indian J. Pl. Pathol.* **12** : 63-64.

Sinha, A.K., U. Narain and M. Srivastava (1995). Effect of the age of plant on Myrothecium leaf spot of Soybean. *Indian J. Pl. Pathol.* **13** : 72.

Evaluation of Sugarcane Varieties for Resistance to Wilt Disease Caused by *Fusarium moniliforme*

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Wilt disease of sugarcane caused by *Fusarium moniliforme* is gaining economic significance in many parts of sugarcane growing area especially in Bihar, Uttar Pradesh, Gujrat, Tamil Nadu and Madhya Pradesh. This disease has been reported to cause considerable losses in germination and cane yield (Kirtikar *et al.*, 1972; Parsarthy, 1972). Therefore, the present study was undertaken to find out the source of resistance against *Fusarium moniliforme* and results thus, obtained are emboided herein.

The field trials were conducted during *rabi* season of 1997-98 and 1998-99 to detect resistance in 46 sugarcane var. with susceptible var. CoLK 8001 as check in wilt sick soil. The sets with two eye buds of each var. were also artificially inoculated by dipping separately in the spore suspension of pathogen (10^6/ml) for 30 min. and incubated under shade for 2 hrs. Planting of sets was done in two rows of 5 m length in RBD with three replications. Infector row of var. CoLK 8001 was also planted after every two row to ensure the availability of more inoculum for development of wilt disease. The wilt incidence on the basis of 0-4 scale (Anon. 1996) was recorded at monthly intervals commencing from germination and continued till harvest. The wilt incidence varied among different var. ranging from 0.1 to 29.6%. Twenty one varieties/ genotypes of sugarcane against *Fusarium moniliforme* namely CoTL 117, Co 86002, CoJN 86-2072, Co 87 R-23, Co 87008, Co 89012, Co 93077, Co 94014, Co 94016, Co 94017, Co 95003, Co 95004, Co 95007, Co 95011, Co 95013, Co 95017, Co 95018, Co 95020, CoJN 86-141, Co 87007 and Co 87010 proved resistant (0-0.1% incidence); eight entries namely Co 85-134, CoJN 86-600, CoJN 86-1981, CoJN 86-2384, CoJN 86-2411, Co 90005, Co 94015, and CoJN 86-572 moderately resistant (0.1 - 10% incidence) and ten entries *viz.* Co 6304, Co 90007, Co 90004, Co 7219, Co 6507, Co 86005, Co 93004, Co 93016, Co 95008 and CoJN 86-1820 exhibited moderately susceptible (10-20% incidence) reaction. Remaining seven entries *viz.*; Co 93006, Co 80-151, CoC 671, Co 93010, CoLK 8001, Co 93003 and Co 93022 were found susceptible (20-30% incidence) to wilt disease. The resistant stock material may be used as donor for breeding programme. Moreover var. CoJN 86-141 and CoTL 117 which were released for cultivation, may be recommended for those area having considerable degree of wilt incidence.

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References

Anonymous, (1996). A.I.C.R.P. on Sugarcane, College of Agri., Sehore, 30-35.

Kirtikar, J., G.P. Singh and R. Shukla (1972). Role of seed materials in carry over of wilt disease of sugarcane, *Indian Sugar*, **22** : 89-90.

Parsarthy, S.V. (1972). *Sugarcane in India*. The K.C.P. Ltd. Madras, pp. 685.

Influence of Date of Planting on the Development of Late Blight of Potato

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Late blight of potato caused by *Phytophthora infestans* is an important disease in West Bengal. The disease is not of regular occurrence, but appears in a noticeable form in every 2-3 years. Average yield loss due to the disease is approximately 75% of the total production (Paharia, 1961). The causal pathogen mainly perpetuates from one season to another through infected seed tubers. In the plains, the pathogen survives in seed tubers in cold stores, without showing any external symptom (Pushkarnath & Paharia, 1963). Most of the tubers, having 5% or less surface infections, were found to germinate and give rise to diseased plants (Bhattacharya *et al.*, 1990). The present studies were undertaken to investigate the disease initiation and development at different time of planting.

The studies were conducted at Adisaptagram block seed farm, Hooghly during 1997-98, 1998-99 and 1999-2000 crop seasons. Naturally infected potato tubers of cv. Kufri chandramukhi were collected from the field. Tubers having more than 10% infestation were washed thoroughly with tap water, air dried, dipped in methyl alcohol and then, treated with flame for surface sterilization. Tubers were sliced (5 mm thickness) with a sterilized knife. Then the slices, having blighted patches, were incubated at 14 ± 1°C for sporangial development in humid sterilized chambers, prepared by placing sterilized blotter sheet, wetted by sterilized water in a 9 inch dia. Petriplate. Tubers were taken out from cold storage during October, washed, dried, dipped in methylated spirit and flammed for surface sterilization. These tubers were packed with the help of sterilized tips of forceps dipped in sporangial solution of *P. infestans* (4.0×10^5 sporangia/ml). The sporangial suspension was prepared from inoculum produced on potato slices and was amended with antibiotic mixture i.e. penicillin - 500 ppm, vancomycine-200 ppm, chloramphenicol-100 ppm and carbendazim - 100 ppm to check other fungal growth and bacterial contamination. These inoculated tubers were incubated at 18 ± 1°C in perforated plastic bags for a period of three weeks for proper build up of inoculum potential and sown in the field. Tubers inoculated in the laboratory, were planted on ridges at 10 cm depth and 20 cm distance from tuber to tuber under field condition in an area of 1000^2 m. Total sprouting as well as diseased sprouts were recorded at 5 days intervals upto 45 days after planting. The meteorological data i.e. soil temperature (°C) and soil moisture (%) were recorded with the help of soil thermometer and hygrometer. The blighted tubers were planted in the field on November 5th, 15th, 25th and December 5 during the year 1997-98, 1998-99, 1999-2000 respectively. Data on tuber rotting and emergence of diseased sprouts were collected at 5 days interval upto the 45th day and final date of sowing was presented after 45 days observation. Healthy uninoculated tubers were used as control.

Affected tubers on germination did not produce any diseased sprout, when planted on 5th November, during the years on experiment. Tuber rotting on the other hand was maximum (av. 56.2%) during this period (Table 1). The total sprouts were less