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Sarvesh Kumar Srivastava
 Department of Plant Pathology,
 T.D. P.G. College, Jaunpur,
 Uttar Pradesh, India

Prem Chand Singh
 Department of Plant Pathology,
 T.D. P.G. College, Jaunpur,
 Uttar Pradesh, India

Ramesh Singh
 Department of Plant Pathology,
 T.D. P.G. College, Jaunpur

AK Prajapati
 Department of Plant Pathology,
 T.D. P.G. College, Jaunpur,
 Uttar Pradesh, India

Gaurav
 Department of Plant Pathology,
 T.D. P.G. College, Jaunpur,
 Uttar Pradesh, India

Survey of *Curvularia* leaf spot of sponge gourd in eastern Uttar Pradesh

Sarvesh Kumar Srivastava, Prem Chand Singh, Ramesh Singh, AK Prajapati and Gaurav

Abstract

Sponge gourd [*Luffa cylindrica* (L.) Rox] belong to the family Cucurbitaceae. The sponge gourd is native of India. It has been cultivated in India since ancient time. Survey of the severity of *Curvularia* leaf spot of Sponge gourd was conducted in each two village of two tehsil in selected seven district of eastern U.P. Viz., Varanasi, Azamgarh, Sultanpur, Mirzapur, Jaunpur, Mau and Bhadohi during *Kharif* Season 2020-21 and 2021-22. The maximum percent of disease incidence was recorded in Varanasi (24.74%) followed by Azamgarh (21.16%) and minimum PDI was recorded in Jaunpur (15.08%) in year 2020-21. In the year 2021-22 the maximum average PDI was recorded in Mirzapur (24.41%) followed by Varanasi (23.66%) and minimum average PDI was recorded in Mau (19.58%).

Keywords: Survey, *Curvularia*, sponge gourd, district

Introduction

Sponge gourd [*Luffa cylindrica* (L.) Rox] popularly known as in Hindi Ghiya, Tori, Nenua. It belong to the family Cucurbitaceae. It rather difficult to assign which occuracy in indigenous area of *Luffa species*. They have alone history of cultivation in the tropical country of Asia and Africa Sharma and Arora (2016)^[1]. The sponge gourd is native of India. It has been cultivated in India since ancient time. It is one of the most common vegetable crop grown through out the country in Brazil, Africa, and Indoburma. The average cultivated are under this crop in India had been estimated to be 732.73 ha with production of about 685.24 tonnes Sharma and Arora (2016)^[1].

Among the fungal disease *Curvularia* leaf spot of sponge gourd is most prevalent in all the state where ever sponge gourd is grown. This disease is more sever and common in Uttar Pradesh. It is assuming a serious production in UP and this need immediate proper attention. *Curvularia* leaf spot causes loss in yield. No systemic and detailed worker on this disease has been done in India or aborded.

Materials and Methods

Naturally infected leaves of Sponge gourd [*Luffa cylindrica* (L.) Rox] showing characteristic symptoms leaf spot of *Curvularia* were collected at regular interval and with the constant observation of Sponge gourd crop grown at and Students Research Farm Pilli Kothi T.D. P.G. College, Jaunpur and Varanasi, Pratapgarh, Chandauli, Mirzapur and Azamgarh district were made during *Kharif* crop season 2020-21 and 2021-22. The disease leaves of Sponge gourd crop showing characteristics symptoms leaf spot of the different stage from the different location were brought to the laboratory in polythene bags for the examinations, detection and isolation of the pathogen, responsible for the disease. Disease incidence (%) of *Curvularia* leaf spot of Sponge gourd of each village was estimated with the formula given below-

$$\text{Disease incidence} = \frac{\text{Number of infected leaf}}{\text{Total number of leaf}} \times 100$$

Disease severity (%) was determined according to the scale of (Biswas *et al.*, 1992)^[2].

Results and Discussion

In order to know the disease incidence survey were carried out for collecting natural specimens severity of this disease on sponge gourd in field during the *Kharif* crop season 2021-22 at the different location in Uttar Pradesh. Disease sample were collected for isolation and further used in different studies. The result of survey are presented in Table - 1.

Corresponding Author:
Sarvesh Kumar Srivastava
 Department of Plant Pathology,
 T.D. P.G. College, Jaunpur,
 Uttar Pradesh, India

Table 1: Incidence of Curvularia leaf spot of Sponge gourd at different location in Eastern Uttar Pradesh.

District	Tehsil	Village	In Year 2020-21				In Year 2021-22					
			65 DAS	85 DAS	105 DAS	% Disease incidence	Average Percent Disease incidence	65 DAS	85 DAS	105 DAS	% Disease incidence	Average Percent Disease incidence
Mirzapur	Chunar	Amdahan	11	15	23	16.33	21.08	26	24	30	26.66	24.41
		Phulwari	19	23	27	23.00		27	28	31	28.66	
	Lalganj	Dewari	22	27	27	25.33		09	19	24	17.33	
		Chaurai	16	20	23	19.66		25	24	26	25.00	
Azamgarh	Lalganj	Upenda	13	21	17	17.00	21.16	11	16	21	16.00	20.49
		Pakadi	21	26	30	25.66		15	22	26	21.00	
	Nizamabad	Nadauli	28	11	28	22.33		20	23	30	24.33	
		Kotwalipur	21	15	23	19.66		17	21	24	20.66	
Mau	Madhuban	Chakwara	17	23	28	22.66	20.41	15	18	26	19.66	19.58
		Kutubpur	14	16	18	16.00		19	20	22	20.33	
	Ghosi	Ahirauli	20	23	27	23.33		14	18	26	19.33	
		Amila	17	20	22	19.66		16	20	21	19.00	
Varanasi	Gangapur	Ramraipur	27	27	13	22.33	24.74	17	24	28	23.00	23.66
		Saghat	23	19	37	26.33		18	22	30	23.33	
	Pindra	Ashapur	23	18	27	22.66		20	18	30	22.66	
		Basani	19	23	31	24.33		21	26	30	25.66	
Bhadohi	Aurai	Banuli	14	16	23	17.66	18.82	16	22	30	22.66	21.16
		Domanpur	17	22	20	19.66		12	19	23	18.00	
	Gyanpur	Udhapur	18	20	23	20.33		20	25	26	23.66	
		Sowari	10	20	23	17.66		20	19	22	20.33	
Sultanpur	Lambhua	Gyanpur	16	21	27	21.33	19.74	19	23	27	23.00	21.74
		Chainpur	11	13	22	15.33		22	18	23	21.00	
	Kadipur	Badhna	20	21	29	23.33		23	19	26	22.66	
		Kalan	14	22	21	19.00		16	22	23	20.33	
Jaunpur	Sadar	Kaji ahmad noor	15	16	20	17.00	15.08	18	18	26	20.66	20.83
		Ramraipatti	11	14	16	13.66		13	21	20	18.00	
	Shahganj	Sidhai	08	12	16	12.00		17	21	28	22.00	
		Takha purab	11	19	23	17.66		22	21	25	22.66	

The result presented in Table-1 and corresponding histogram (Fig-1). The maximum average percent disease incidence (PDI) was recorded in Varanasi (24.74) followed by Azamgarh (21.16), Mirzapur (21.08), Mau (20.41), Sultanpur (19.14) and bhadohi (18.82). The minimum average PDI was recorded in Jaunpur (15.08), In the year 2021-2022. The maximum (26.33) percent disease incidence was recorded in village Saghat in Tahshil Gangapur, District Varanasi and minimum (12.00) percent disease incidence was were recorded in village Sidhai, in Shahganj tahsil of Jaunpur in the year 2020-21

In the year 2021-22 result presented in Table-1 and its corresponding histogram (Fig-1) the maximum average PDI was recorded in Mirzapur (24.41) followed by Varanasi

(23.66), Sultanpur (21.74), Bhadohi (21.16), Jaunpur (20.83) and Azamgarh (20.49). The minimum PDI was recorded in Mau (19.58). The maximum PDI (28.66) was recorded in Phulwari village of Chunar tahsil of Mirzapur district and minimum PDI (16.00) was recorded in Upenda village in Lalganj tahsil of District Azamgarh. Our finding is coincide with the finding of Patel, 2015^[3] on Curvularia leaf spot of Indian bean and Shihao *et al.*, 2005^[4] on *Cynodon dactylon*. Singh and Patel 2021^[5] on indian bean. Jat *et al.* 2013^[6] reported severe from of leaf spot disease on *A. vera* caused by *Curvularia lunata* and its management from Jaipur. *Curvularia lunata* has been found to cause leaf spot disease on *Amaranth ussinosus* (Sharma *et al.*, 2011)^[7].

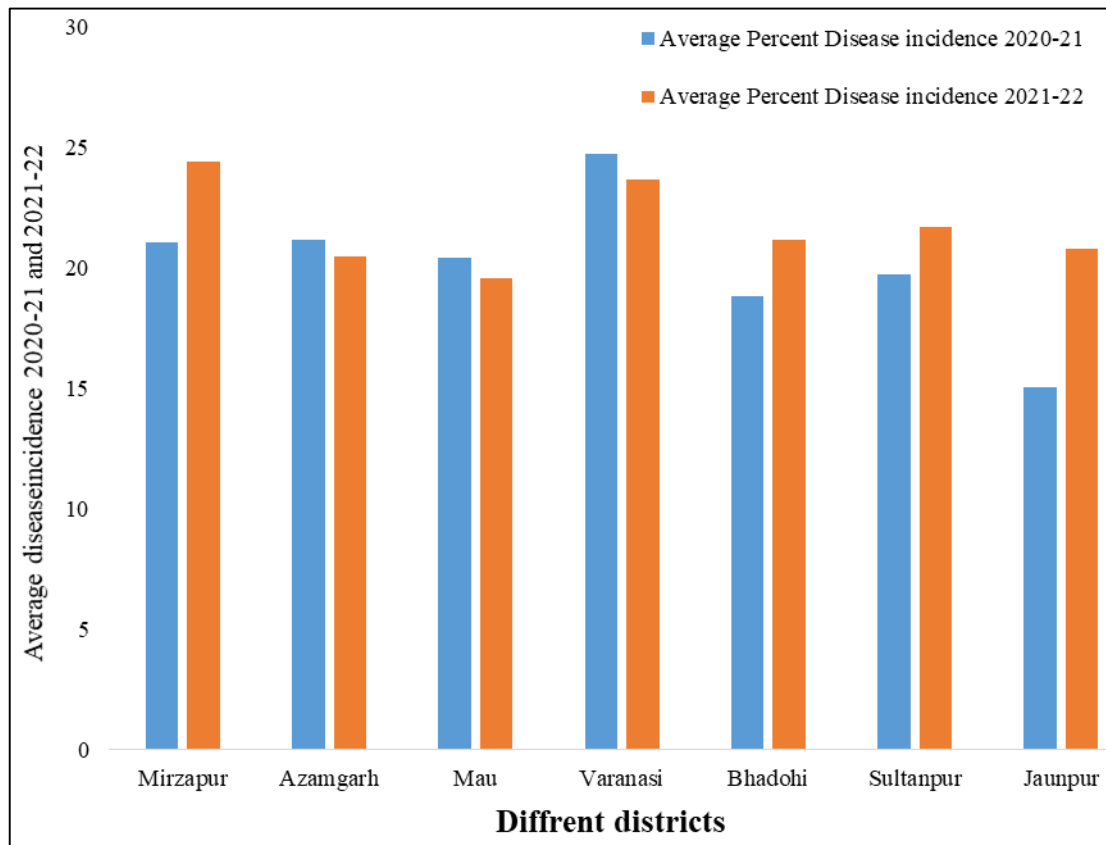


Fig 1: Incidence of *Curvularia* leaf spot of Sponge gourd at different location in Eastern Uttar Pradesh

Conclusion

The *Curvularia* leaf spot of Sponge gourd is assuming serious sponge gourd disease. In several sponge gourd growing areas in different district of Eastern Uttar Pradesh. It was found that the incidence of the disease varied from in different district in eastern U.P. In the year 2020-21 the maximum disease incidence was (24.74) at Varanasi and minimum (12.00) at Jaunpur district in eastern Uttar Pradesh.

In the year 2021-22 the maximum disease incidence was recorded in Mirzapur (24.41) and minimum disease incidence was (16.00) Azamgarh district.

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