# Survey for the status of anthracnose of greengram in Northern Karnataka

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**Abstract :** A roving survey was conducted to assess the incidence of anthracnose of greengram during *Kharif* season of 2007-08 and 2008-09 in Bagalkot, Belgaum, Bellary, Bidar, Bijapur, Dharwad, Gadag, Gulbarga, Haveri, Koppal and Raichur districts of northern Karnataka. The disease severity during *Kharif* 2008-09 (38.34%) was higher than *Kharif* 2007-08 (35.53%). The disease severity was highest in Bidar district (49.43%) followed by Gulbarga district (48.12%) Humnabad taluk of Bidar district and Chincholli taluk in Gulbarga district were worst hit due to disease. Indi taluk in Bijapur district recorded least disease severity in both the years. Some fields in Chitaguppa, Dubalgundi (Bidar district) and Nidagunda (Gulbarga district) recorded up to 60 per cent disease severity during *Kharif* 2008-09. The congenial weather conditions like frequent rains, moderate temperature coupled with higher humidity might have helped in building up of high disease pressure in Bidar and Gulbarga districts.

Key Words : Survey, Greengram, Anthracnose, Disease severity, Weather

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### INTRODUCTION

Greengram (Vigna radiata L.) is one of the important pulse crops of India. It is quite versatile crop grown for seeds, green manure and forage and it is also considered as "Golden Bean". Presently in India greengram is cultivated over an area of 32.99 lakh hectare with a production of 13.74 lakh tones (Prasad, 2006). The major greengram growing states are Orissa, Maharashtra, Andra Pradesh, Rajasthan, Karnataka and Gujarat. It ranks third among all pulses grown in India after chickpea and pigeonpea. The Hyderbad Karnataka area particularly Bidar and Gulbarga districts has an extensive cultivated area of greengram, pigeonpea and chickpea hence this regions are called as "pulse bowl" of Karnataka. In Karnataka, anthracnose caused by Colletotrichum truncatum (Schw.) Andrus and Moore is one of the major diseases of greengram. In northern Karnataka, anthracnose severity was in the range of 18.2 to 86.57 per cent (Laxman, 2006). Very little work has been done on systematic survey of this disease in northern Karnataka. Hence, present investigation was initiated on survey for anthracnose in major greengram growing districts of northern Karnataka, to identify the incidence of the disease over time and geographical locations.

### **MATERIALS AND METHODS**

Roving method of survey was followed to assess the incidence of anthracnose in eleven major greengram growing districts of Northern Karnataka. The survey was conducted during *Kharif* 2007-08 and 2008-09 in three taluks of Bagalkot, one taluk of Belgaum, two taluks of Bellary, five taluks of Bidar, two talukas of Bijapur, four taluks of Dharwad, three taluks of Gadag, four taluks of Gulbarga, three taluks of Haveri, two taluks of Koppal and two taluks of Raichur districts. In each taluka, minimum of five fields were selected and in each village, minimum of five fields were selected to assess the severity of greengram anthracnose.

The anthracnose severity was recorded by following 0 - 9 scale of Mayee and Datar (1986). Further, these scales were converted to per cent disease index (PDI) using the formula

given by Wheeler (1969).

PDI –	Sum of individual disease ratings	100
r D1 –	No. of bservations assessed	Maximum disease rating

#### **RESULTS AND DISCUSSION**

The village-wise disease severity has been presented in Table 1 and 2 for *Kharif* 2007 and *Kharif* 2008, respectively.

Data pertaining to survey conducted during Kharif 2 007 as presented in Table 1 revealed that, anthracnose of greengram was noticed with a range of 21.36 to 58.97 per cent. The anthracnose severity in Bagalkot district ranged from 25.15 per cent (Ballur) to 37.25 per cent (Bevoor). The disease index ranged between 27.22 (Inchal) to 35.20 per cent (Belavadi) in Belgaum district. In Bellary district, the disease ranged between 20.15 per cent (Sonna) to 33.16 per cent (Itagi). In Bidar, the disease index varied from 35.62 (Kamthan) to 60.54 per cent (Dubalgundi). In Bijapur district, the disease index ranged between 19.71 per cent (Halsangi) to 25.36 per cent (Almel). The disease index ranged between 27.81 (Gambyapur) to 50.17 per cent (Hirenarti) in Dharwad district. In Gadag district, the disease index ranged between 35.16 per cent (Advisomapur) to 52.64 per cent (Kalkeri). In Gulbarga, the disease index varied from 35.29 (Tengali) to 60.19 per cent (Pechanpalli). In Haveri district, the disease index ranged between 32.18 per cent (Basapur) to 41.08 per cent (Antarvalli). In Koppal, the disease index varied from 27.33 (Chikkenkoppa) to 38.11 per cent (Talkal). The disease index ranged between 26.75 (Guragunta) to 35.22 per cent (Heerapur) in Raichur district.

During Kharif 2008, the disease severity was noticed with a range of 24.67 to 60.07 per cent (Table 2). In Bagalkot district, the anthracnose severity ranged from 28.52 per cent (Sunag) to 41.27 per cent (Bevoor). In Belgaum district, the disease index was in the range of 28.66 per cent (Inachal) to 40.16 per cent (Nesargi). The disease index in Bellary was in the range of 22.51 per cent (Hampasagar) to 35.21 per cent (Masalwad). In Bidar, the disease index varied from 40.31 per cent (Janawad) to 61.80 per cent (Chitaguppa). In Bijapur district, the disease index ranged between 20.19 per cent (Golasar) to 30.06 per cent (Atharga). The disease index ranged between 30.56 per cent (Kannyanayakanakoppa) to 52.41 per cent (Hirenarti) in Dharwad district. In Gadag district, the disease index ranged between 38.43 per cent (Hulkoti) to 54.17 per cent (Chikkanaragund). In Gulbarga, the disease index varied from 38.91 per cent (Kerur) to 60.10 per cent (Nidagunda). In Haveri district, the disease index ranged between 36.75 per cent (Hosalli) to 46.19 per cent (Kodihalli), while in Koppal district the range was 29.27 per cent (Hanumasagar) to 40.10 per cent (Talkal). Similarly, in Raichur district, the disease index was in the range of 29.78 per cent (Gudanal) to 38.61 per cent (Matmari).

The consolidated district-wise observation on severity

is given in Table 3. The data indicated that, the disease appeared to be in severe form during both the years (*Kharif* 2007 and 2008). But, the severity during *Kharif* 2008 was more (38.34%) than *Kharif* 2007 (35.53%).

During *Kharif* 2007, highest disease severity was observed in Bidar district (48.35%) followed by Gulbarga (46.94%), Gadag (43.40%), Dharwad (41.32%), Haveri (38.74%), Koppal (31.88%), Belgaum (31.87%), Raichur (30.62%), Bagalkot (28.51%), Bellary (27.13%) and Bijapur (22.11%). Among the taluks, Humnabad of Bidar district recorded maximum severity (58.97%) followed by Chincholli (54.27%) of Gulbarga district. All other talukas recorded less than 51 per cent. Indi taluk of Bijapur district recorded the least severity (21.36%).

During *Kharif* 2008, the severity of anthracnose was more compared to *Kharif* 2007 in all surveyed talukas. Highest severity was observed in Bidar district (50.51%), followed by Gulbarga (49.30%), Gadag (45.78%), Dharwad (43.83%), Haveri (41.05%), Belgaum (36.02%), Raichur (34.57%), Koppal (33.81%), Bagalkot (32.31%), Bellary (29.00%) and Bijapur (25.60%) districts. Humnabad taluk of Bidar district recorded highest severity (60.07%) followed by Chincholli (56.80%) and Sedam (52.19%) talukas in Gulbarga district, Basavakalyan (51.68%), taluk of Bidar district and Naragund (51.49%) of Gadag district. All other taluks recorded less than 51 per cent severity. Indi taluka of Bijapur district recorded the least severity (24.67%).

In the present study, an intensive roving survey for anthracnose of greengram was carried out during Kharif 2007 and 2008 in major greengram growing areas of northern Karnataka to get precise information on the distribution and intensity of the disease. The data on survey revealed that the anthracnose severity varied from locality to locality, because of type of variety grown, environmental conditions, cropping pattern and build up of inoculum. The average disease severity varied in various locations in different districts owing to varied agro-climatic conditions and also different cultivars used. In northern Karnataka, the disease severity was found more in Bidar district (49.43%) followed by Gulbarga (48.12%) and Gadag (44.59%) and the least in Bijapur with 23.86 per cent. Such variations in anthracnose severity and wide spread nature have been reported by earlier workers (Saxena and Gupta, 1981; Madhusudhan, 2002 and Laxman, 2006). However, on an average, disease severity was higher during 2008 (38.34%) compared to 2007 (35.53%). The higher incidence of anthracnose during Kharif 2008 may be attributed to the low temperature and high relative humidity prevailing during the crop period which were favourable for disease development and spread.

With respect to individual talukas, Humnabad taluka (59.52%) of Bidar district recorded highest disease severity followed by Chincholli taluka (55.54%) of Gulbarga district, wherein conditions for development and spread of the disease

Table 1:	Table 1: Survey for the severity of anthracnose of greengram caused by <i>Colletotrichum truncatum</i> during <i>Kharif</i> 2007 in different villages on northern Karnataka					
Sr. No.	District	Taluk	Village	No. of fields	Stage of the crop (DAS)	Per cent disease index (PDI)
1.	Bagalkot	Bagalkot	Anagawadi	5	35	28.56
			Bevoor	6	45	37.25
			Halloor	5	35	30.16
			Kamatagi	7	35	29.22
			Sannapur	5	35	27.75
		Mean				30.59
		Bilagi	Amalzari	5	35	27.55
			Ballur	5	35	25.15
			Sunag	6	40	27.70
			Tumarmatti	5	38	26.15
			Yadahalli	6	40	28.25
		Mean				26.96
		Hungund	Amingad	6	40	28.75
			Ilakal	5	42	29.78
			Kandagallu	5	35	27.63
			Karadi	6	40	28.21
			Kesarwadi	5	32	25.55
		Mean				27.98
2.	Belgaum	Bailhongal	Belavadi	6	45	35.20
			Budarakatti	5	40	30.16
			Inchal	5	40	27.22
			Kenganur	5	41	32.15
			Nayanagar	5	45	34.60
		Mean				31.87
3.	Bellary	Hadagali	Hagarnoor	5	32	28.75
			Hirehadagali	6	35	30.25
			Holgundi	5	35	31.40
			Itagi	5	45	33.16
			Uattangi	6	30	25.81
		Mean				29.87
		Hagaribommanalli	Maratagi	6	35	21.85
			Morigeri	5	40	27.22
			Ramnagar	5	42	30.02
			Shivanandnagar	5	35	22.65
			Sonna	6	30	20.15
		Mean				24.38
4.	Bidar	Aurad	Kandagul	5	45	41.55
			Khanapur	5	40	40.61
			Kouta(B)	6	45	49.28
			Kouta (K)	5	45	45.16
			Santapur	6	48	50.23
	,	Mean	-,			45.37 Table 1: Contd

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	Basavakalyan	Dhanuur	5	50	50.12
		Kherda	5	50	60.11
		Rajeshwar	6	45	48.31
		Rajola	6	45	45.21
		Yarabag	5	50	49.75
	Mean				50.70
Bijapur	Bhalki	Byalhalli	5	50	49.98
		Chalkapur	6	45	43.11
		Halbarga	6	45	47.52
		Mehekar	5	45	44.67
		Nittur	5	48	45.29
	Mean				46.11
	Bidar	Chikpeth	6	45	41.34
		Janawad	5	40	39.75
		Kamthan	5	40	35.62
		Markhal	5	40	45.23
		Noubad	5	45	41.08
	Mean				40.60
	Humnabad	Alur	6	50	56.71
		Dhummansur	5	50	59.72
		Dubalgundi	5	52	60.54
		Hallikhed (B)	5	50	60.21
		Nimbur	6	45	57.65
	Mean	~	_		58.97
	Indi	Chadchan	5	35	20.15
		Halsangi	6	35	19.71
		Rodagi	5	40	22.10
		Salotagi	5	35	23.78
	24	Tamba	5	35	21.06
	Mean	A 1	6	45	21.36
	Sindagi	Almel	6	45	25.36
		Koralli Malashan	5	35	21.41
		Shiyonogi	5	33	19.73
		Sinvanagi	5	30	23.18
	Mean	Somajai	0	40	27.55
Dharwad	Dharwad	Garag	6	45	41.30
Dilai wad	Dhai wad	Lokur	6	50	48.21
		Narendra	5	50	46.53
		Neeralkatti	5	55	49.62
		Tadkod	5	45	39.28
	Mean		-		44.98
	Hubli	Byahatti	5	35	38.61
		Ingalahalli	6	45	46.33
		Manakod	5	45	40.15
		Sattur	5	48	39.75
		Unakal	6	35	35.82
	Mean		~		40.13
 *		· · · ·			Table 1. Contd

#### Table 1: Contd.....

	· ·			· · · · · ·		
		Khalaghatgi	Bgudihal	5	35	30.28
			Dumwad	6	40	34.26
			Emmatti	5	30	29.75
			Gambyapur	5	30	27.81
			Jammihal	6	35	38.15
		Mean				32.05
7.	Gadag	Kundagol	Gudageri	5	45	50.15
			Hirenarti	6	50	50.17
			Kalasa	5	50	48.35
			Ramankoppa	6	45	43.28
			Saunshi	5	45	48.70
		Mean				48.13
		Gadag	Advisomapur	6	40	35.16
			Beladadi	6	45	41.28
			Hirehandigol	5	35	39.11
			Hulkoti	5	40	37.39
			Papanashi	5	45	42.70
		Mean				39.13
		Naragund	Biranatti	5	45	45.16
			Chikknaragund	6	50	50.10
			Kalkeri	5	52	52.64
			Konnur	5	45	49.81
			Yaragal	6	40	48.78
		Mean				49.30
		Ron	Abbigeri	6	40	38.75
			Chikkamannur	5	45	41.65
			Doudi	5	50	45.18
			Mallapur	6	50	43.51
			Nidagundi	5	45	39.80
		Mean				41.78
8.	Gulbarga	Chincholli	Kodli	6	48	50.15
			Nidagunda	5	50	57.41
			Pechanpalli	5	55	60.19
			Ratakal	5	45	49.28
			Sulepeth	6	50	54.33
		Mean	L L			54.27
		Chittapur	Hirur	5	35	38.81
		1.	Kandagul	5	40	42.38
			Sugareddy	5	45	45.15
			Tengali	6	35	35.29
			Vatavatti	6	50	49.11
		Mean		-	~ *	42.15
	-,					Table 1: Contd

		Gulbarga	Firozabad	5	52	40.81
			Mahagaon	5	40	36.89
			Partabad	5	45	41.28
			Pattan	6	50	46.36
			Sannu	5	45	38.75
		Mean				40.82
	Haveri	Sedam	Gounalli	5	55	59.42
			Handaraki	6	45	42.38
			Kodla	5	48	45.60
			Namar	5	52	56.23
			Surawar	6	50	48.91
		Mean				50.51
		Bvadagi	Budapanhalli	6	45	38.51
		8-	Chikkhanii	5	40	37.90
			Hirehanii	5	35	36.63
			Kagenhalli	5	48	39.18
			Motebennur	6	45	40.34
		Mean		č		38.51
		Haveri	Basapur	6	35	32.18
			Guttal	5	45	40.75
			Hosaritti	5	45	39.63
			Kurugunda	5	40	35.03
			Neolur	6	40	38.06
		Mean	1105iui	0	UF	37 17
		Ranebennur	Antarvallli	5	50	37.17 A1 09
		Kanebellilul	Hullatti	5	50 45	41.00
			Itagi	5	40	17 22
			Ramaded	0	42 15	42.33
			Kamauuu	5	43	30.03
		Macr	Knundevu	5	43	40.91
	Vormal	Mean Kushtari	A rollh all:	C	40	40.54
J.	корра	Kushtagi	Arainain	0	40	55.10 25.01
			Gotagi	5	40	35.21
			Hanumsagar	6	35 25	28.56
			Kyadaguppi	5	35	30.16
			Yellogal	5	40	30.05
		Mean	D' 1	-	25	31.42
		Yalburga	Binnal	6	35	31.50
			Chikkenkoppa	5	40	27.33
			Karmudi	5	40	35.42
			Talkal	6	40	38.11
			Yerihanchinal	5	38	29.28
		Mean				32.33
1.	Raichur	Lingasugur	Guragunta	5	40	26.75
			Madkihal	5	45	30.23
			Maski	6	50	32.50
			Mudgal	6	40	29.78
			Santekallur	5	40	31.56
		Mean				30.16
		Raichur	Ashapur	5	40	32.36
			Chandrabanda	5	35	29.62
			Heerapur	6	45	35.22
			Kudlur	5	38	27.40
			Yaragera	5	40	30.78
		Mean				31.08

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Table 2:	Cable 2: Survey for the severity of anthracnose of greengram caused by Collectrichum truncatum during Kharif 2008 in different villages of northern Karnataka					
Sr. No.	District	Taluk	Village	No. of field	Stage of the crop (DAS)	Per cent disease index
1.	Bagalkot	Bagalkot	Anagawadi	5	35	30.15
			Bevoor	5	45	41.27
			Dodwad	6	45	40.35
			Kamatagi	5	35	31.23
			Lokapur	5	40	38.55
			Mannakatti	6	45	35.23
		Mean				36.13
		Bilagi	Amalzari	5	35	31.06
			Ballur	5	40	30.15
			Sunag	5	40	28.52
			Tumarmatti	6	45	30.23
			Yadahalli	5	35	29.75
		Mean				29.94
		Hungund	Amadihal	6	40	31.78
			Amingad	5	42	31.20
			Ilakal	5	35	32.11
			Kandagallu	5	40	29.23
			Karadi	5	32	30.62
			Nandawadgi	6	35	30.15
		Mean				30.85
2.	Belgaum	Bailhongal	Belavadi	5	45	38.20
			Budarkatti	5	40	32.75
			Inchal	5	40	28.66
			Kenganur	5	41	37.25
			Nayanagar	6	45	39.10
			Nesargi	5	45	40.16
		Mean				36.02
3.	Bellary	Hadagali	Hirehadgali	6	32	31.50
			Hirekolati	5	35	30.65
			Holgundi	5	35	33.25
			Itagi	5	45	30.23
			Masalwad	6	30	35.21
			Uttangi	5	32	29.45
		Mean				31.72
		Hagaribomm	Gaddikeri	5	35	32.50
		analli	Hampasagar	5	40	22.51
			Maratagi	6	42	23.65
			Morigeri	5	35	26.05
			Ramnagar	6	30	28.75
			Shivanand nagar	5		24.15
		Mean				26.27
4.	Bidar	Aurad	Ganeshpur	6	45	52.72
			Kamalnagar	5	40	48.51
			Kandagul	7	45	45.06
			Khanapur	6	45	47.15
			Kouta (K)	7	48	47.21
			Thanakushnoor	5		43.63
		Mean				47.38
						Table 2: Contd

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Table 2: Contd					
,	Basavakalyan	Dhannur	6	50	58.18
		Islampur	6	50	42.33
		Kherda	7	45	55.37
		Pandergera	5	45	49.76
		Rejeshwar	6	50	56.25
		Sadlapur	5		48.16
	Mean				51.68
	Bhalki	Byalhalli	5	50	50.15
		Halabarga	5	45	46.05
		Khatakchincholli	6	45	49.11
		Korur	7	45	43.91
		Mehakar	6	48	48.45
		Nidaban	6		48.50
	Mean				47.70
	Bidar	Basantpur	7	45	41.83
		Chickpeth	6	40	42.21
		Godmpalli	5	40	49.15
		Hokran	6	40	50.46
		Janawad	7	45	40.31
		Markhal	7	45	47.50
		Sultanpur	6		48.75
	Mean				45.74
	Humnabad	Alur	5	50	59.21
		Chitaguppa	6	50	61.80
		Dhummansur	5	52	60.05
		Dubalgundi	5	50	61.11
		Kabirabadwadi	5	45	59.30
		Kallur	6	50	58.75
		Kodambal	5		60.27
	Mean				60.07
5. Bijapur	Indi	Atharga	5	35	30.06
		Benakanhalli	5	35	23.28
		Chadachan	6	40	21.23
		Golasar	6	35	20.19
		Roogi	5	35	26.73
		Salotagi	6	35	25.11
		Tadawalaga	5	35	28.18
		Tamba	5	35	22.59
	Mean				24.67
	Sindagi	Almel	6	45	27.31
		Devaranavadgi	5	35	30.05
		Golageri	5	35	26.42
		Kannolli	5	30	29.10
		Koralli	5	40	23.15
		Rampur	6	35	28.38
		Somajal	6	38	25.27
		Yenkanchi	6	35	22.56
	Mean				26.53
					Table 2: Contd

## Table 2 : Contd.....

		,	· · ·			,
6.	Dharwad	Dharwad	Garag	5	45	42.17
			Kardigudda	5	50	40.28
			Lokur	5	50	50.17
			Mangalgatti	6	55	48.05
			Narendra	6	45	48.85
			Tadkod	5	52	45.51
		Mean				45.84
		Hubli	Agadi	5	35	45.83
			Byahatti	6	45	40.15
			Ingalhalli	5	45	48.21
			Manakod	6	48	41.33
			Palikoppa	5	35	39.75
			Sattur	5	40	40.10
		Mean				42.56
		Kalghatgi	Bgudihal	5	35	40.70
			Dumwad	5	40	35.62
			Emmatti	6	30	39.25
			Gambyapur	5	30	36.83
			Jammihal	5	35	38.11
			Kannyanayakankoppa	5	40	30.56
		Mean				36.85
		Kundagol	Hirenarti	5	45	52.41
			Hosanagar	6	50	51.22
			Jigalur	5	50	48.33
			Kalsa	5	45	49.78
			Kamadolli	5	45	50.10
			Ramanakoppa	5	50	48.65
		Mean				50.08
7.	Gadag	Gadag	Beladadi	5	40	42.16
			Hirehandigol	5	45	40.18
			Hulkoti	6	35	38.43
			Kurkoti	5	40	44.52
			Mulgund	5	45	43.20
			Papnashi	5	45	44.23
		Mean				42.12
		Naragund	Biranatti	5	45	48.11
			Chikkanargund	5	50	54.17
			Kalken	6	52	53.34
			Konnur	5	45	49.76
			Yaragal	5	40	52.08
		Mean				51.49
		Ron	Abbigeri	5	40	40.51
			Chikkamannur	5	45	45.10
			Doudi	5	50	48.05
			Mallapur	6	50	44.23
			Nidagundi	5	45	40.75
		Mean	-			43.73
					7	able 2 : Contd

Table 2	: Contd					
8.	Gulbarga	Chincholli	Inapur	5	48	51.16
			Kodli	6	50	57.28
			Nidagunda	6	55	60.10
			Pechanpalli	5	45	59.42
			Ratakal	6	50	54.51
			Sulepeth	6	50	58.33
		Mean				56.80
		Chittapur	Bimanhalli	5	35	49.23
			Kandagul	6	40	45.70
			Margol	5	45	44.61
			Ramtirth	6	35	40.32
			Satanur	5	50	39.75
			Vatavatti	5	52	50.15
		Mean				44.96
		Gulbarga	Firozabad	5	52	41.75
			Kadbur	6	40	45.32
			Kerur	5	45	38.91
			Partabad	6	50	46.15
			Pattan	5	45	47.50
			Sannur	5	40	39.81
		Mean				43.24
		Sedam	Handaraki	5	55	48.78
			Kodla	6	45	54.35
			Madana	5	48	44.52
			Namar	5	52	59.15
			Satapatanhalli	5	50	57.21
			Surawar	6	50	49.10
		Mean				52.19
9.	Haveri	Byadagi	Chikkahanji	5	45	39.23
			Hirehanji	6	40	38.75
			Kagenhalli	5	35	37.82
			Kodihalli	5	48	46.19
			Mallur	5	45	40.05
			Motebennur	6	45	42.50
		Mean				40.76
		Haveri	Guttal	6	35	41.08
			Hosalli	5	45	36.75
			Hosaritti	6	45	41.70
			Kabbur	5	40	42.19
			Kurugunda	5	40	37.52
			Negalur	6	45	40.10
		Mean	-			39.89
		Ranebennur	Antaravalli	5	50	43.27
			Asundi	5	45	41.70
			Hullatti	6	42	40.23
			Itagi	6	45	45.62
			Kamadod	5	45	44.38
			Yallapur	5	40	39.81
		Mean	1			42.50
					Т	able 2: Contd

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Table 2: Contd	····					
10.	Koppal	Kushtagi	Aralhalli	5	40	35.61
			Gotagi	5	40	36.17
			Hanumnal	6	35	30.75
			Hanumasagar	5	35	29.27
			Kyadaguppi	5	40	31.18
			Yellogal	5	40	32.05
		Mean				32.51
		Ylaburga	Bannikoppa	5	35	37.05
			Binnal	5	40	33.28
			Halligudi	5	40	38.46
			Hallikeri	5	40	29.87
			Karmudi	5	38	36.18
			Kuknur	5	40	30.75
			Talkal	6	45	40.10
		Mean				35.10
11.	Raichur	Lingasugur	Gudanal	5	40	29.78
			Hatti	5	45	35.61
			Kota	5	50	33.45
			Maski	6	40	36.70
			Mudagl	5	40	30.86
			Santekallur	5	40	36.10
		Mean				33.75
		Raichur	Ashapur	6	40	35.28
			Chandrabanda	5	35	32.54
			Kapagal	5	45	37.32.
			Kudlur	5	38	36.70
			Matmari	5	40	38.61
			Yargerra	6	35	31.85
		Mean				35.38

were prevailing during *Kharif* season. These observations are in agreement with the earlier reports of Varaprasad (2000) in chickpea blight and Laxman (2006) in anthracnose of greengram.

Maximum disease severity of 60.54 per cent recorded in Dubalgundi followed by Hallikhed (B) (60.21%) and Dhummansur villages (59.72%) of Humnabad taluka of Bidar district may be attributed to extensive and continuous cropping of greengram. While, lower disease severity (19.71%) recorded in Halsangi followed by Malaghan village (19.75%) of Bijapur district, wherein unfavourable environment conditions and less availability of infected seed and source of inoculum.

Further, the intensity varied to greater extent in different locations indicating the role of environment and/or existence of physiological races in the pathogen. In general, it is observed that the disease progress in natural conditions was in the second fortnight of July month which coincided with frequent rains with moderate temperature and high relative humidity. These results are in agreement with Kumar *et al.* (1999) in case of anthracnose of kidney bean and Thakur and Khare (1991) in anthracnose of greengram.

Considering the disease severity, the locations *viz.*, Bidar and Gulbarga districts are identified as 'hot spots' for

Precent disease index (PDI)Tatak207208AverageBagalkot20320,3133.36Bigat20,9629,9428,45Hungnd27,980.8829,42Mean25,132,3130,41BelgauronBallongal31,8736,0233,95Mean11,8736,0233,95BelguronBallongal29,8731,7230,80BelgauronAural29,8731,7230,80Balan42,8829,0028,07BidarAural45,3747,3846,38Balavi40,6045,7443,17Balar46,1147,7046,91Bidar40,6045,7443,92Bidar10,8446,1147,7046,91Bidar40,6045,7443,92Mean21,3650,5149,43BijapaIndi21,3623,66Bidar10,3142,5643,64Bijapa10,3142,5644,96Mean21,1125,6023,86Dharwad19,1342,1240,63Mean41,3243,8342,58Galag6alag19,1342,1240,63Mean12,1543,8445,84Mean41,3243,8445,84Mean41,3243,8445,84Mean41,3243,8445,84Mean41,7843,9342,76<	Karnata	ka	fulli caused by conclottentian at		
Indust         Interpretation         Interpretation         Interpretation           Bradkot         Bilag         Do.9         5.13         .3.56           Bilag         Do.9         2.94         2.84           Hongund         2.798         30.85         2.942           Mean         Sal.1         2.31         .0.11           Belgund         Baiblogal         3.187         5.602         .3.395           Mean         Totagat         .3.187         5.602         .3.395           Belgund         Hagarbornmalli         2.438         2.6.27         .2.5.33           Mean         Totagat         .4.537         .7.7.38         .4.6.38           Blar         Aurad         .5.70         .5.1.68         .5.1.9           Blar         .0.00         .5.7.74         .4.3.7         .4.3.7           Blar         .0.00         .5.7.74         .4.3.7         .4.3.7           Blar         .0.00         .5.7.74         .4.3.7         .4.3.7           Blar         .0.00         .5.7.74         .4.3.7         .2.3.02           Blar         .0.00         .5.7.74         .4.3.7         .2.3.02           Blar         .0.00 <th>District</th> <th>Taluk</th> <th>Per cent disease inc 2007</th> <th>dex (PDI) 2008</th> <th>Average</th>	District	Taluk	Per cent disease inc 2007	dex (PDI) 2008	Average
ImpantImpantNo.0No.0No.0Hingand20.969.08.59.42Mean27.983.08.59.42BelgarmBalborgal3.1873.023.357Mean31.873.023.355BellaryHadagali9.873.1723.080Hagarbommadii29.873.1723.080BidaryAural4.382.675.33Mean27.1320.002.807BidaryBasekalyan50.705.16.84.19BidaryBalaki4.61147.704.691BidaryBalaki0.604.5744.31BigaryBidary8.970.074.584BigaryIndi2.1362.534.64BigaryIndi2.1363.6514.94BigaryIndi2.1363.6514.94BigaryIndi2.1363.683.44BigaryIndi2.1363.683.44Mean2.135.083.244.51Mean4.1323.683.444.14Mean3.2053.6853.44Mean4.1325.083.54Mean4.325.983.54Mean4.324.3784.20Mean4.344.934.54Mean4.344.934.54Mean4.344.934.53Mean4.944.944.94Mean4.94 <t< td=""><td>Bagalkot</td><td>Bagalkot</td><td>30.59</td><td>36.13</td><td>33.36</td></t<>	Bagalkot	Bagalkot	30.59	36.13	33.36
basis         basis         basis         basis         basis         basis           Belgaum         Bailongal         351         32.31         30.41           Belgaum         Bailongal         31.87         36.02         33.55           Belgaum         Habgabi         31.87         36.02         33.55           Bellary         Habgabi         29.87         31.72         30.80           Bellary         Arnd         53.7         47.38         63.81           Bildar         Arnd         61.1         47.70         46.91           Bildar         61.01         60.07         30.21         30.21           Mean         Sindar         21.36         26.51         49.43           Bilgar         Algar         21.36         26.60         33.61           Bilgar         Jangad         20.5         34.51         30.42           Barbar         Ladagata         20.51         45.41	Dagaikot	Bilagi	26.96	29.94	28.45
Indigate         1.8.0         2.8.51         2.3.11         0.4.4           Belgaum         Builhongal         31.87         36.02         33.55           Maan         -         31.87         36.02         33.55           Belary         Hadgafi         29.87         31.72         0.80           Balary         -         71.3         20.00         28.77           Bidar         Aurad         53.70         47.38         6.88           Bidar         Aurad         61.01         47.70         46.91           Bidar         60.07         51.68         51.91         45.37           Bidar         10.60         45.74         31.71         45.92           Bidar         60.07         51.68         51.91         49.35           Bidar         10.60         25.74         31.72         49.35           Bidar         10.60         25.60         31.27         49.35           Bidar         2.85         50.51         49.35           Bidar         2.86         2.46.9         49.35           Mean         1.32         45.84         45.94           Dharwad         50.40         31.31         42.12 <td></td> <td>Hungund</td> <td>20.90</td> <td>30.85</td> <td>20.45</td>		Hungund	20.90	30.85	20.45
ManJahJahJahJahJahBelgumBalhongalJah	Mean	Hungund	27.56	30.85	20.41
Impand Impand ImpandJustJustJustJustJustMeanJastJastJastJastJastBellaryHadagali24.3826.272.33BellaryHagn'hommalli24.3826.272.33BidarJast47.3846.3846.38BidarJast47.3846.3845.37BidarJost47.3846.31Bidar40.6045.7443.17Bidar40.6045.7443.17BinpurBast'adajan50.7050.52MeanJast50.5140.67BipurIndi2.3650.5140.67BipurIndi2.3650.5140.67BipurIndi2.362.532.469MeanJast4.544.544.54Danwad40.134.2564.35MandyJast3.503.683.45MandyJast3.633.454.54Mandy4.934.534.544.54Mandy4.933.514.034.54Mandy4.934.534.544.54Mandy4.934.534.544.54Mandy4.944.544.544.54Mandy4.934.544.544.54Mandy4.934.544.544.54Mandy4.944.544.544.54Mandy4.934.544.544.5	Belgaum	Bailhongal	20.51	36.02	33.05
man       1.00       1.00       1.00       1.00         Bellary       Hagaribommalli       29.87       31.72       30.80         Mean       21.33       20.00       28.07         Bidar       Anad       50.70       25.33         Baswakalyan       50.70       51.68       51.19         Bhaki       46.11       47.70       46.91         Bidar       46.11       47.70       46.91         Bidar       60.07       59.52       49.43         Bigar       Indi       21.36       24.67       23.02         Mean       1.02       24.63       24.67       23.02         Bigar       Indi       21.36       24.67       23.02         Mean       21.16       24.63       24.63       24.64         Mean       21.13       26.60       23.86       24.99         Mean       1.02       43.31       24.56       24.51         Mean       1.02       36.85       34.45       34.51         Mean       Magaria       20.05       36.85       34.45         Mean       Magaria       40.30       51.49       50.40         Mean       Kangargar </td <td>Mean</td> <td>Bannongar</td> <td>31.87</td> <td>36.02</td> <td>33.95</td>	Mean	Bannongar	31.87	36.02	33.95
Brinny       Hatagain       25.97       11.2       25.03         Hean       27.13       29.00       28.07         Bidar       Avrad       45.37       47.38       46.38         Bidar       Avrad       45.37       47.38       46.38         Basavakalyan       60.07       51.68       51.19         Bidar       40.60       45.74       43.17         Bidar       40.60       45.74       43.17         Bindar       21.36       24.67       23.02         Bigapar       Indi       21.36       24.67       23.02         Bigapar       Indi       22.85       26.53       24.69         Mean       22.11       25.60       36.85       34.45         Dharwad       44.98       45.84       45.41         Hubi       40.13       42.56       41.35         Gadag       Jangatagi       30.13       42.12       40.63         Mean       1.22       43.83       42.56       41.35         Gadag       Jangatagi       39.13       42.12       40.63         Galag       Gadag       39.13       42.12       40.63         Gulag       Jangatagi	Pollory	Hadagali	20.87	30.02	33.95
regin r	венагу	Hacaribammaalli	29.87	26.27	50.60 25.22
Marial2.1.132.5.02.6.00BidarArard45.3747.3846.38BidarBasavakalyan50.7051.6851.19BidarBidar46.1147.7046.91BidarBidar40.0045.7045.31BidarBidar60.0759.5250.5149.43Mean1.3624.6723.0223.62Mean2.13624.6723.0223.66OharwadDharwad44.9845.8445.41Hubi2.21825.6023.86Dharwad44.9845.8445.41Hubi40.1342.5641.35Kalgatagi32.0536.8534.45MeanVandgol48.1350.0849.11Mean40.9345.8445.4145.41Mean40.9345.7844.59MeanMargand49.3051.41Mean41.3243.8342.58GalagGalag99.1342.1240.63Mean1.43.2043.7342.76Mean4.1445.7844.59GulbargaA0.8243.2443.04Gulbarga60.6152.1951.35Mean50.5152.1951.35Mean50.5152.1951.35Mean50.5152.1951.35Mean40.5442.5043.52Mean50.5152.1951.35Mean40.544	Maan	Hagariboinnnann	24.38	20.27	23.35
ButanAutrantAutrantAutrantAutrantAutrantBayanalaparan50,7051,6851,91Bialaki46,1147,7046,91Bidar40,6045,7443,17Bidar40,6045,7443,17BigarBidar88,9760,5149,43BijapurIndi21,3624,6723,02BigarIndi22,8526,5324,69Mean22,8526,5324,69Dharwad44,9845,8445,41Hubi40,1342,5641,35Kalagatagi22,0536,8534,45Kulagatagi22,0536,8534,45Kulagatagi39,1342,1240,63Mean41,3243,8342,58GadagGadag39,1342,1240,63Mean41,3243,8342,58GulagaGadag39,1342,1240,63Mean14,34045,7844,59GulbargaChicholli54,2756,8055,54GulbargaGulaga40,5152,1951,35Mean50,5152,1951,3534,51Haveri72,7039,8938,5336,53Mean50,5152,1951,5555,41Haveri73,7440,6339,6135,53Mean14,2223,6139,6135,51Mean14,9235,1035,5131,96Marin14,92 <td>Didon</td> <td>Assert</td> <td>27.15</td> <td>29.00</td> <td>26.07</td>	Didon	Assert	27.15	29.00	26.07
Basward $30.70$ $31.8s$ $1.19$ Bidar $60.70$ $45.74$ $43.17$ Bidar $40.60$ $45.74$ $43.17$ Humnabad $88.97$ $60.07$ $59.52$ Mean $48.35$ $50.51$ $49.43$ Bijapur       Indi $22.85$ $26.53$ $24.69$ Mean $22.85$ $26.53$ $24.69$ Mean $22.11$ $25.60$ $23.86$ Dhurwad       Dhurwad $44.98$ $45.84$ $45.14$ Hubi $40.13$ $42.56$ $43.51$ Mean $22.5$ $36.85$ $44.51$ Hubi $41.32$ $36.85$ $44.51$ Mean $41.32$ $43.83$ $42.58$ Gadag       Gadag $51.49$ $50.40$ $51.49$ $50.40$ Mean $41.78$ $43.73$ $42.76$ $44.56$ $44.56$ Mean $42.12$ $40.50$ $51.54$ $49.50$ $45.54$ Multi $42.16$ $44.96$ $49.30$ $48$	Biuai	Aurau Deserveleeleere	45.57	47.38	40.38
Initial46.1147.0046.91Bidar46.0145.7443.17Humabad58.9760.0759.52MeanInd21.3624.6723.02Sindji22.8526.5324.69Mean22.8526.5324.69Mean10.122.8526.5324.69Dharwad44.9845.8445.41Hubi40.1342.5641.35Kalagatagi32.0536.8534.45Mean13.243.8342.58GadagGadag39.1342.1240.63Mean43.3051.4950.40Mean43.3051.4950.40Mean43.8051.4950.40Mean43.6051.4950.40Roagund49.3051.4950.40Roagund49.3051.4950.40Roagund42.1544.9643.56GulbargaChicholli54.2756.80Gulbarga6.5143.5643.56Gulbarga6.5132.1951.35Mean5.5440.5045.74Haveri37.1739.8938.51Mean4.0539.6445.90Mean4.5442.0345.91Mean38.7442.0531.97Mean38.7443.6339.10Mean51.4833.8132.85Mean51.4935.1033.72Mean51.8435.		Basavakaiyan	50.70	51.08	51.19
htm       40.00       45.14       45.17         Humabad       8597       60.07       55.22         Mean       21.36       50.51       49.43         Bijapur       Indi       21.36       24.67       23.02         Mean       22.85       26.53       24.69         Mean       22.11       25.60       23.86         Dharwad       44.98       45.84       45.41         Hubi       40.13       42.56       41.35         Kalagatagi       52.05       36.85       34.45         Kandagol       48.13       50.08       49.11         Mean       41.32       43.83       42.58         Gadag       99.13       42.12       40.63         Mean       43.40       45.78       44.59         Gulbarga       Gadag       49.30       51.49       50.40         Mean       43.60       45.78       44.59         Gulbarga       Chincholli       54.27       56.80       55.54         Gulbarga       Gulbarga       40.82       43.24       42.03         Sedam       50.51       52.19       51.35       53.54         Haveri       37.17			40.11	47.70	40.91
Humana         58.97         00.00         39.22           Mean         48.35         50.51         49.43           Bijapur         Indi         21.06         24.67         23.02           Mean         22.85         26.53         24.69           Dharwad         Pharwad         44.98         45.84         45.14           Dharwad         Pharwad         44.98         45.84         45.14           Mean         20.05         36.85         34.45           Kalagatagi         20.05         36.85         34.45           Kundagol         48.13         50.08         49.11           Mean         41.32         43.83         42.58           Gadag         Gadag         39.13         42.12         40.63           Maragund         49.30         45.78         44.59           Gulbarga         Gadag         39.13         42.12         40.63           Gulbarga         Galag         49.30         45.78         44.59           Gulbarga         Gadag         40.82         43.24         42.03           Gulbarga         Gadag         40.82         49.30         48.12           Haveri         70.71		Bidar	40.00	45.74	43.17
Mean         48.55         90.51         49.43           Bijapur         Indi         21.36         24.67         23.02           Sindgi         22.85         26.53         24.69           Mean         22.11         25.60         23.86           Dharwad         Mean         44.98         45.84         45.41           Hubli         40.13         42.56         41.35           Kalagatagi         32.05         36.85         34.45           Mean         41.32         43.83         42.58           Gadag         39.13         42.12         40.63           Mean         49.30         51.49         50.40           Mean         49.30         51.49         50.40           Mean         49.30         51.49         50.40           Mean         42.12         40.63         55.54           Galbarga         6adag         59.13         42.76           Mean         42.15         44.96         43.56           Galbarga         6.01         51.49         55.54           Mean         50.51         52.19         51.35           Mean         50.51         49.30         48.12 <td></td> <td>Humnabad</td> <td>58.97</td> <td>60.07</td> <td>59.52</td>		Humnabad	58.97	60.07	59.52
Bigpur         Ind         21.50         24.67         24.50         25.50           Nadgi         22.85         26.53         24.69           Mean         22.11         25.60         23.86           Dharwad         44.98         45.84         45.41           Hubii         40.13         42.56         41.35           Kalagatagi         52.05         36.85         34.45           Kundagol         48.13         50.08         49.11           Mean         41.32         43.83         42.56           Gadag         Gadag         99.13         42.12         40.63           Gadag         Gadag         49.30         51.49         50.40           Mean         41.78         43.73         42.76           Mean         41.78         43.73         42.76           Mean         41.78         43.73         42.76           Mean         41.78         43.73         42.76           Mean         42.15         44.59         55.54           Gulbarga         6ulbarga         50.51         52.19         51.35           Mean         42.15         48.12         42.30         42.35	Mean	*	48.35	50.51	49.43
Mean       22.85       26.53       24.69         Mean       22.11       25.60       23.86         Dharwad       Hubi       40.13       42.56       41.35         Hubi       40.13       22.51       36.85       34.45         Kalagatagi       32.05       36.85       34.45         Kundagol       48.13       50.08       49.11         Mean       41.32       43.83       42.58         Galag       Gadag       39.13       42.12       40.63         Mean       41.78       43.73       42.76         Mean       41.78       43.40       45.78         Gulbarga       Chincholli       54.27       56.80       55.54         Gulbarga       6ubraga       40.82       43.24       42.03         Mean       50.51       52.19       51.35       51.49         Haveri       71.77       39.89       38.51         Mean       30	Bijapur		21.36	24.67	23.02
Mean         22.11         25.00         23.86           Dharwad         Phawad         44.98         45.84         45.41           Hubi         40.13         42.56         41.35           Kalagatagi         32.05         36.85         34.45           Kundagol         48.13         50.08         49.11           Mean         41.32         43.83         42.58           Gadag         Gadag         59.13         42.12         40.63           Naragund         49.30         51.49         50.40           Mean         43.40         45.78         44.59           Gulbarga         Chincholli         54.27         56.80         55.54           Gulbarga         Chincholli         54.27         56.80         55.54           Gulbarga         Chincholli         54.27         56.80         55.54           Mean         42.15         44.96         43.50         42.03           Mean         50.51         52.19         51.35         51.35           Mean         40.82         43.24         42.03         51.35           Mean         Stard         40.82         43.24         42.03           Mean		Sindgi	22.85	26.53	24.69
Dharwad         Dharwad         44.98         45.84         45.84           Hubli         40.13         42.56         41.35           Kalagatagi         32.05         36.85         34.45           Kundagol         48.13         50.08         49.11           Mean         41.32         43.83         42.58           Gadag         Gadag         49.00         51.49         50.40           Naragund         49.30         51.49         50.40           Mean         43.40         45.78         44.59           Gulbarga         Chincholli         54.27         56.80         55.54           Gulbarga         Gulbarga         45.91         42.03         42.03           Mean         52.19         51.35         42.03         42.03           Mean         50.51         52.19         51.35         43.64           Mean         40.94         49.30         48.12         45.91           Mean         52.19         51.35         34.91         45.92         45.91           Mean         30.41         40.54         40.76         39.64         45.91           Mean         31.42         32.31         31.92	Mean		22.11	25.60	23.86
Hubi       40.13       42.56       41.35         Kalagataji       32.05       36.85       34.45         Mean       41.32       43.83       42.12         Gadag       Gadag       39.13       42.12       40.63         Maragund       49.30       51.49       50.40         Mean       43.73       42.76         Mean       43.40       45.78       44.59         Gulbarga       Chincholli       54.27       56.80       55.54         Mean       40.82       43.24       42.03         Jacadari       50.51       52.19       51.35         Mean       40.82       43.24       42.03         Haveri       37.17       39.89       38.53         Mean       38.51       40.76       39.64         Koppal       Kushtagi       31.42       35.10       33.72      <	Dharwad	Dharwad	44.98	45.84	45.41
Kalagatagi         52.05         36.85         34.45           Kundagol         48.13         50.008         49.11           Mean         41.32         43.83         42.58           Gadag         Gadag         39.13         42.12         40.63           Naragund         49.30         51.49         50.40           Ron         41.78         43.73         42.76           Mean         -         43.40         45.78         44.59           Gulbarga         Chincholli         54.27         56.80         55.54           Gulbarga         Chincholli         50.51         52.19         51.35           Mean         40.82         43.24         42.03           Sedam         50.51         52.19         51.35           Mean         -         46.94         49.30         48.12           Haveri         37.17         39.89         38.53           Mean         -         36.42         35.10         33.72           Mean         -         38.74         41.05         39.90           Koppal         Kushtagi         31.42         32.51         31.97           Yalburga         32.33         35.10		Hubli	40.13	42.56	41.35
Mean       48.13       50.08       49.11         Mean       41.32       43.83       42.58         Gadag       Gadag       39.13       42.12       40.63         Naragund       49.30       51.49       50.40         Ron       41.78       43.73       42.76         Mean       43.40       45.78       44.59         Gulbarga       Chincholli       54.27       56.80       55.54         Gulbarga       Gulbarga       40.82       43.24       42.03         Sodam       50.51       52.19       51.35         Mean       40.82       43.24       42.03         Sodam       50.51       52.19       51.35         Mean       40.63       38.51       40.76       39.64         Haveri       38.74       41.05       39.90         Koppal       Kushtagi       31.42       32.51       31.97         Mean       31.88       33.81       32.85         Mean       31.88       33.81       32.85         Mean       31.08       33.81       32.85         Mean       31.08       33.81       32.85         Mean       31.08       33.8		Kalagatagi	32.05	36.85	34.45
Mean $41,32$ $43,83$ $42,58$ Gadag       Gadag $90,13$ $42,12$ $40,63$ Naragund $49,30$ $51,49$ $50,40$ Ron $41,78$ $43,73$ $42,76$ Mean $41,78$ $43,73$ $42,76$ Mean $43,40$ $45,78$ $44,59$ Gulbarga       Chincholli $54,27$ $56,80$ $55,54$ Gulbarga       Chintapur $40,82$ $43,24$ $42,03$ Sedam $50,51$ $52,19$ $51,35$ Mean       Kapagi $38,51$ $40,76$ $39,64$ Haveri $37,17$ $39,89$ $38,53$ Mean $40,54$ $42,50$ $41,52$ Mean $38,74$ $41.05$ $39,90$ Koppal       Kushtagi $31,42$ $32,51$ $31,97$ Mean $31,88$ $33,81$ $32,85$ Mean $11,88$ $33,81$ $32,85$ Mean $11,88$ $33,81$ $32,80$ Mean $31,08$		Kundagol	48.13	50.08	49.11
Gadag       39.13       42.12       40.63         Naragund       49.30       51.49       50.40         Ron       41.78       43.73       42.76         Mean       43.40       45.78       44.59         Gulbarga       Chincholli       54.27       56.80       55.54         Gulbarga       Chitapur       42.15       44.96       43.56         Gulbarga       Gulbarga       40.82       43.24       42.03         Badam       50.51       52.19       51.35         Mean       46.94       49.30       48.12         Haveri       38.51       40.76       39.64         Haveri       37.17       39.89       38.53         Mean       40.54       42.50       41.52         Mean       31.42       32.51       31.97         Koppal       Kushtagi       31.42       32.51       31.97         Mean       31.88       33.81       32.85         Raichur       Jingaugur       30.16       33.75       31.96         Raichur       Lingaugur       30.62       34.57       32.60         Mean	Mean		41.32	43.83	42.58
Naragund49,3051,4950,40Ron41,7843,7342,76Mean43,4045,7844,59GulbargaChincholli54,2756,8055,54GulbargaGulbarga40,8243,2442,03Gulbarga6ulbarga50,5152,1951,35Mean50,5152,1951,3544,96Haveri46,9449,3048,12Haveri37,1739,8938,53Mean40,5442,5041,52Mean38,7441,0539,90KoppalKushtagi31,4232,5131,97Yalburga32,3335,1033,72Mean11,0833,7531,96Raichur31,0835,3832,23Mean30,1633,7531,96Raichur30,6234,5732,60Grand mean35,5338,3436,94	Gadag	Gadag	39.13	42.12	40.63
Ron         41.78         43.73         42.76           Mean         43.40         45.78         44.59           Gulbarga         Chincholli         54.27         56.80         55.54           Culbarga         Chitapur         42.15         44.96         43.56           Gulbarga         Gulbarga         40.82         43.24         42.03           Sedam         50.51         52.19         51.35           Mean         46.94         49.30         48.12           Haveri         38.51         40.76         39.64           Haveri         37.17         39.89         38.53           Mean         40.54         42.50         41.52           Mean         38.74         41.05         39.90           Koppal         Kushtagi         31.42         32.51         31.97           Mean         31.88         33.81         32.85           Mean         31.88         33.81         32.85           Raichur         31.08         35.38         33.23           Mean         10.62         34.57         32.60           Guidarga         35.53         38.34         36.4		Naragund	49.30	51.49	50.40
Mean     43.40     45.78     44.59       Gulbarga     Chincholli     54.27     56.80     55.54       Chittapur     42.15     44.96     43.56       Gulbarga     Gulbarga     40.82     43.24     42.03       Sedam     50.51     52.19     51.35       Mean     46.94     49.30     48.12       Haveri     38.51     40.76     39.64       Haveri     37.17     39.89     38.53       Mean     40.54     42.50     41.52       Mean     38.74     41.05     39.90       Koppal     Kushtagi     31.42     32.51     31.97       Yalburga     32.33     35.10     33.72       Mean     31.88     33.81     32.85       Raichur     Jingasugur     30.16     33.75     31.96       Raichur     Jingasugur     30.16     33.75     31.96       Mean     31.08     35.38     33.23       Mean     Jingasugur     30.62     34.57     32.60       Grand mean     35.53     38.34     36.94		Ron	41.78	43.73	42.76
Gulbarga       Chincholli       54.27       56.80       55.54         Chittapur       42.15       44.96       43.56         Gulbarga       40.82       43.24       42.03         Sedam       50.51       52.19       51.35         Mean       46.94       49.30       48.12         Haveri       Byadagi       38.51       40.76       39.64         Haveri       37.17       39.89       38.53         Mean       40.54       42.50       41.52         Mean       38.74       41.05       39.90         Koppal       Kushtagi       31.42       32.51       31.97         Mean       31.88       33.81       32.85         Mean       31.88       33.81       32.85         Mean       31.08       33.81       32.85         Mean       31.08       33.81       32.85         Mean       31.08       33.81       32.85         Mean       31.08       35.38       33.23         Mean	Mean		43.40	45.78	44.59
Chittapur       42.15       44.96       43.56         Gulbarga       40.82       43.24       42.03         Sedam       50.51       52.19       51.35         Mean       46.94       49.30       48.12         Haveri       8yadagi       38.51       40.76       39.64         Haveri       37.17       39.89       38.53         Mean       40.54       42.50       41.52         Mean       38.74       41.05       39.90         Koppal       Kushtagi       31.42       32.51       31.97         Yalburga       32.33       35.10       33.72         Mean       11.88       33.81       32.85         Raichur       31.08       35.38       33.23         Mean       31.08       35.38       33.23         Mean       30.62       34.57       32.60	Gulbarga	Chincholli	54.27	56.80	55.54
Gulbarga       40.82       43.24       42.03         Sedam       50.51       52.19       51.35         Mean       46.94       49.30       48.12         Haveri       38.51       40.76       39.64         Haveri       37.17       39.89       38.53         Mean       40.54       42.50       41.52         Mean       38.74       41.05       39.90         Koppal       Kushtagi       31.42       32.51       31.97         Yalburga       32.33       35.10       33.72         Mean       11.88       33.81       32.85         Raichur       Jingasugur       30.16       33.75       31.96         Mean       31.08       35.38       33.23         Mean       Jingasugur       30.62       34.57       32.60         Mean       Jingasugur       30.62       34.57       32.60		Chittapur	42.15	44.96	43.56
Sedam         50.51         52.19         51.35           Mean         46.94         49.30         48.12           Haveri         Byadagi         38.51         40.76         39.64           Haveri         37.17         39.89         38.53           Ranebennur         40.54         42.50         41.52           Mean         38.74         41.05         39.90           Koppal         Kushtagi         31.42         32.51         31.97           Yalburga         32.33         35.10         33.72           Mean         31.88         33.81         32.85           Raichur         Jingasugur         30.16         33.75         31.96           Mean         31.08         35.38         33.23           Mean         Jingasugur         30.62         34.57         32.60           Mean         30.62         34.57         32.60         36.94		Gulbarga	40.82	43.24	42.03
Mean46.9449.3048.12HaveriByadagi38.5140.7639.64Haveri37.1739.8938.53Ranebennur40.5442.5041.52Mean38.7441.0539.90KoppalKushtagi31.4232.5131.97Yalburga32.3335.1033.72Mean31.8833.8132.85RaichurJi.0835.3833.23Mean30.6234.5732.60Grand mean55.3338.3436.94		Sedam	50.51	52.19	51.35
Haveri       Byadagi       38.51       40.76       39.64         Haveri       37.17       39.89       38.53         Ranebennur       40.54       42.50       41.52         Mean       38.74       41.05       39.90         Koppal       Kushtagi       31.42       32.51       31.97         Yalburga       32.33       35.10       33.72         Mean       31.88       33.81       32.85         Raichur       108       33.75       31.96         Raichur       30.16       33.75       31.96         Mean       30.16       33.75       31.96         Raichur       30.62       34.57       32.60         Mean       30.62       34.57       32.60         Grand mean       35.53       38.34       36.94	Mean		46.94	49.30	48.12
Haveri37.1739.8938.53Ranebennur40.5442.5041.52Mean38.7441.0539.90KoppalKushtagi31.4232.5131.97Yalburga32.3335.1033.72Mean31.8833.8132.85RaichurLingasugur30.1633.7531.96Raichur31.0835.3833.23Mean30.6234.5732.60Grand mean35.5338.3436.94	Haveri	Byadagi	38.51	40.76	39.64
Ranebennur     40.54     42.50     41.52       Mean     38.74     41.05     39.90       Koppal     Kushtagi     31.42     32.51     31.97       Yalburga     32.33     35.10     33.72       Mean     31.88     33.81     32.85       Raichur     Lingasugur     30.16     33.75     31.96       Raichur     31.08     35.38     33.23       Mean     30.62     34.57     32.60       Grand mean     35.53     38.34     36.94		Haveri	37.17	39.89	38.53
Mean $38.74$ $41.05$ $39.90$ KoppalKushtagi $31.42$ $32.51$ $31.97$ Yalburga $32.33$ $35.10$ $33.72$ Mean $31.88$ $33.81$ $32.85$ RaichurLingasugur $30.16$ $33.75$ $31.96$ Raichur $31.08$ $35.38$ $33.23$ Mean $30.62$ $34.57$ $32.60$ Grand mean $35.53$ $38.34$ $36.94$		Ranebennur	40.54	42.50	41.52
Koppal         Kushtagi         31.42         32.51         31.97           Yalburga         32.33         35.10         33.72           Mean         31.88         33.81         32.85           Raichur         Lingasugur         30.16         33.75         31.96           Raichur         Ji.08         35.38         33.23           Mean         30.62         34.57         32.60           Grand mean         35.53         38.34         36.94	Mean		38.74	41.05	39.90
Yalburga     32.33     35.10     33.72       Mean     31.88     33.81     32.85       Raichur     Lingasugur     30.16     33.75     31.96       Raichur     31.08     35.38     33.23       Mean     30.62     34.57     32.60       Grand mean     35.53     38.34     36.94	Koppal	Kushtagi	31.42	32.51	31.97
Mean         31.88         33.81         32.85           Raichur         Lingasugur         30.16         33.75         31.96           Raichur         31.08         35.38         33.23           Mean         30.62         34.57         32.60           Grand mean         35.53         38.34         36.94		Yalburga	32.33	35.10	33.72
Raichur         Lingasugur         30.16         33.75         31.96           Raichur         31.08         35.38         33.23           Mean         30.62         34.57         32.60           Grand mean         35.53         38.34         36.94	Mean		31.88	33.81	32.85
Raichur31.0835.3833.23Mean30.6234.5732.60Grand mean35.5338.3436.94	Raichur	Lingasugur	30.16	33.75	31.96
Mean         30.62         34.57         32.60           Grand mean         35.53         38.34         36.94		Raichur	31.08	35.38	33.23
Grand mean         35.53         38.34         36.94	Mean		30.62	34.57	32.60
	Grand mean		35.53	38.34	36.94

 Table 3 : Per cent disease index of anthracnose of greengram caused by Colletotrichum truncatum during Kharif 2007 and 2008 in northern

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anthracnose of greengram. Intensive cultivation of greengram crop year after year, use of infected seed materials, nonadoption of disease management practices, favourable weather conditions and also the cultivation of highly susceptible varieties of greengram could be the reasons for higher incidence of disease in different locations of Karnataka state.

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