Original research article

Mitigating pearl millet blast (*Pyricularia grisea*): Effective Fungicidal treatments

ABSTRACT

A field experiments was conducted with different ten treatments including control during *kharif* 2021, 2022 and 2023 *at Pearl Millet Research Station, JAU, Jamnagar*. In pooled data for 60 DAS, treatment Azoxystrobin 11% + Tebuconazole 18.30% SC, 0.05% recorded minimum (30.20%) blast intensity and which was at par with treatment Tebuconazole 50% + Trifloxystrobin 25% WG, 0.05% (31.65%). Maximum blast intensity (54.96%) recorded in control. In context to grain and fodder yield, highest grain yield (2135 kg/ha) and fodder yield (44.38 q/ha) recorded in treatment Azoxystrobin 11% + Tebuconazole 18.30% SC, 0.05% which was at par with Tebuconazole 50% + Trifloxystrobin 25% WG, 0.05% (2054 kg/ha), Azoxystrobin 11% + Tebuconazole 18.30% SC, 0.625% (1940 kg/ha) and Tebuconazole 50% + Trifloxystrobin 25% WG, 0.0375% (1851 kg/ha).

Keywords: Pearl millet Blast, Azoxystrobin + Tebuconazole, disease intensity, Yield

Introduction

During 2023-24, pearl millet area in India was 7.36 million ha with an average production of 10.67 million tons and 1449 kg/ha productivity (DA&FW, 2024). The major pearl millet growing states are Rajasthan, Maharashtra, Uttar Pradesh, Gujrat and Haryana contributing to 90% of total production in the country. Rajasthan contributes nearly 45% followed by Uttar Pradesh (19%), Haryana (9%), Gujarat (9%), Maharashtra (6%) and Tamil Nadu (2%). Most of pearl millet in India is grown in rainy (kharif) season (June/July-September/October). Pearl millet is also cultivated during summer season (February-May) I parts of Gujarat, Rajasthan and Uttar Pradesh; and during the post-rainy (rabi) season (November-February) at a small scale in Maharashtra and Gujarat. In Gujarat it is grown in 26 out of 33 districts covering an area of 2.03 lakh ha in *kharif* with an average production 3.04 lakh tonnes and average yield 1787 kg/ha (DA&FW, 2024). In 2023, Hon'ble prime minister of India rebranded millets as "Shree Anna" for their climate resilience and nutritional superiority and declared ICAR-IIMR, Hyderabad as "Global Centre of Excellence for Millets". In order to mainstream and exploit nutritionally superiority of millets and promote their cultivation, Govt. of India declared Year 2018 as the "Year of Millets" and after declaration of FAO Committee on Agriculture (COAG) forum in 2021, Year 2023 was celebrated as "International Year of Millets" (Anon., 2024). Among the diseases of pearl millet, blast caused by *Pyricularia grisea* (Cooke) Sacc. [Teleomorph: Magnaporthe grisea (Herbert) Barr], a dis- ease of minor importance in past years, has gained status of major constraint to pearl millet production in India (Lukose et al., 2007). Bajra blast also referred as leaf spot caused by *Pyricularia grisea (Cooke) Sacc.* [Teleomorph: *Magnaporthe grisea* (Herbert) Barr.] has emerged as a serious disease affecting both forage and grain production

in pearl millet (Kaurav *et al*., 2018), resulting economic loss. Recently intensity of blast increased at alarming rate in commercial hybrids cultivation (Thakur *et al*., 2009) In view of these, chemical control is taken to manage this disease. *Magnaporthe grisea* is externally seed borne and also survives as chlamydospores or as free saprophytic mycelium in the soil/leaf debris which serves as a source of primary inoculum (Singh and Pavgi, 1977)

MATERIALS AND METHODS

Three-year field experiments were conducted during *kharif* 2021, *kharif* 2022 and *kharif* 2023 at Pearl Millet Research Station, JAU, Jamnagar to find out the bio efficacy of different fungicidal compounds against the minimized blast disease intensity at natural condition.

Experiment conducted with randomized block design (RBD), each having three replications. The plot size was 4.2 m × 2.4 m and distance between row to row and plant to plant was 60 cm and 10 cm, respectively. Four row were maintained in each treatment (plot) during all experimental season. Total ten fungicide and fungicidal combination (Table 1) including control was used as treatment for management of pearl millet blast disease intensity.

Foliar application of different fungicides was carried out management of pearl millet blast. The first spray was given just after appearance of the disease and subsequent spray given after 15 days of first spray.

For observation, ten plants were selected randomly and labeled from each plot for scoring the disease intensity. These labeled plants were observed for disease intensity from upper, middle and lower leaves using disease rating scale of 0-9. Observations on disease intensity was recorded at 30, 45 and 60 DAS.

Table 1: Treatments details:

Tr. No.	Treatment	Con. (a. i.)	Quantity in g or ml in 10 liter of water	a. i g/ha	Quantity of formulation kg or l/ha
1.	Iprobenphos (Kitazin) 48 EC	0.075	15.63 ml	375	0.800 l
2.	Iprobenphos 48 EC	0.1	20.83 ml	500	1.000 l
3.	Iprobenphos 48 EC	0.125	26.04 ml	625	1.302 l
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0375	5.0 g	188	0.250 kg
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.05	6.67 g	250	0.333 kg
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0625	8.33 g	313	0.417 kg
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0375	12.80 ml	188	0.640 l
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.05	17.06 ml	250	0.853 l
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0625	21.33 ml	313	1.000 l
10.	Untreated (Control)	-	-	-	-

Per cent disease intensity (PDI) will be calculated by using the following formula (Wheeler, 1969).

$$\text{Disease intensity (\%)} = \frac{\text{Sum of total rating}}{\text{Total number of leaves observed}} \times \frac{}{\text{Maximum disease rating}} \times 100$$

Blast disease rating scale (0-9)

Scale		Description	Scale		Description
0	:	No lesions	5	:	Typical blast lesions infecting 2-10% of the leaf area
1	:	Small brown specks of pinhead size without sporulating center	6	:	Blast lesions infecting 11-25% leaf area
2	:	Small roundish to slightly elongated, necrotic grey spots, about 1-2 mm in 8diameter with a distinct brown margin, lesions are mostly found on the lower leaves	7	:	Blast lesions infecting 26-50% leaf area
3	:	Lesion type is the same as in scale 2, but significant number lesions are on the upper leaves	8	:	Blast lesions infecting 51-75% leaf area
4	:	Typical sporulating blast lesions, 3 mm or longer, infecting less than 2% of the leaf area	9	:	More than 75% leaf area affected

Grain and fodder yield will be recorded from net plot area at harvest and data obtained was analyzed statistically.

RESULTS AND INTERPRETATION

A field experiments was conducted with different ten treatments including control during *kharif* 2021, 2022 and 2023. The three year pooled result of all parameters presented in Table 2 to 6. All the treatment found effective to suppress blast disease intensity significantly.

Looking to results of blast disease, three year pooled observation on 30 DAS (Table 2) stated that the treatment Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05% found effective for minimize (10.81%) blast disease intensity and which was at par with treatment Tebuconazole 50 + Trifloxystrobin 25 WG, 0.05% (11.85%), Tebuconazole 50 + Trifloxystrobin 25 WG, 0.0375% (12.11%), Iprobenphos 48 EC, 0.075%, (13.29%) and Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.0625% (13.88%).

Results of 45 DAS (Table 3) stated that treatment Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05% found effective for minimize (19.05%) blast disease intensity and which was at par with treatment Tebuconazole 50 + Trifloxystrobin 25 WG, 0.05% (20.47%), Iprobenphos 48 EC, 0.075% (23.07%) and Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.0625% (23.31%).

Three year pooled data (Table 4) for 60 DAS showed same as previous, treatment Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05% recorded minimum (30.20%) blast intensity and which was at par with treatment Tebuconazole 50 + Trifloxystrobin 25 WG, 0.05% (31.65%). Maximum blast intensity (54.96%) recorded in control.

Grain and fodder yield:

Three year pooled result (Table 5) for grain yield indicated that the highest grain yield (2135 kg/ha) found in treatment spray Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05% and which was at par with Tebuconazole 50 + Trifloxystrobin 25 WG, 0.05% (2054 kg/ha), Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.625% (1940 kg/ha) and treatment Tebuconazole 50 + Trifloxystrobin 25 WG, 0.0375% (1851 kg/ha).

For fodder yield data presented in Table 6 revealed that maximum fodder yield (44.38 q/ha) same as grain yield in treatment Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05% and which was at par with Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.0375% (41.74 q/ha),

Tebuconazole 50 + Trifloxystrobin 25 WG, 0.05% (41.25 q/ha) and treatment Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.0625% (39.66 q/ha). Minimum grain yield (1229 kg/ha) and fodder yield (29.58 q/ha) recorded in control.

Economics:

Looking to the economics of different fungicidal treatments (Table 7), the highest additional income ₹25610/ha, highest net realization of ₹23075/ha and maximum ICBR 1: 10.10 was obtained in the treatment Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05%.

Conclusion:

It can be concluded from the above results that the spraying of Azoxystrobin 11 + Tebuconazole 18.30 SC, 0.05% (17.06 ml/10 l of water) or Tebuconazole 50 + Trifloxystrobin 25 WG, 0.05% (6.67 g/10 l of water) in pearl millet against blast disease were found effective to minimize blast intensity, higher grain and fodder yield and additional income also.

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Conflict of interest: Nil

Table 2: Efficacy of different fungicides on blast disease intensity at 30 DAS

Sr. No.	Treatment	Con. (a. i.)	Quantity in g or ml in 10 liter of water	Blast intensity (30 DAS)			
				2021	2022	2023	Pooled
1.	Iprobenphos (Kitazin) 48 EC	0.075	15.63 ml	22.33^{bc} (14.43)	23.81^{bcd} (16.29)	18.00^{e} (9.55)	21.38^{bcd} (13.29)
2.	Iprobenphos 48 EC	0.1	20.83 ml	23.52^{b} (15.92)	24.07^{bc} (16.64)	18.42^{de} (9.98)	22.00^{bcd} (14.04)
3.	Iprobenphos 48 EC	0.125	26.04 ml	21.60^{bcd} (13.55)	26.30^{ab} (19.63)	22.33^{ab} (14.44)	23.41^{b} (15.78)
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0375	5.0 g	19.60^{cd} (11.25)	21.41^{de} (13.32)	20.10^{c} (11.81)	20.37^{bcd} (12.11)
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.05	6.67 g	18.44^{d} (10.00)	24.31^{bc} (16.94)	17.67^{e} (9.21)	20.14^{cd} (11.85)
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0625	8.33 g	20.78^{bcd} (12.59)	25.20^{bc} (18.13)	20.71^{c} (12.50)	22.23^{bcd} (14.31)
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0375	12.80 ml	21.68^{bcd} (13.65)	25.21^{bc} (18.14)	21.05^{bc} (12.91)	22.65^{bc} (14.83)
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.05	17.06 ml	19.09^{cd} (10.70)	20.41^{e} (12.16)	18.07^{e} (9.62)	19.19^{d} (10.81)
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0625	21.33 ml	23.22^{b} (15.54)	22.63^{cde} (14.81)	19.77^{cd} (11.44)	21.88^{bcd} (13.88)
10.	Untreated (Control)	-	-	29.87^{a} (24.80)	28.36^{a} (22.56)	23.20^{a} (15.51)	27.14^{a} (20.81)
	S. Em. ±			**1.06**	**0.82**	**0.51**	**0.92**
	C. D. at 5%			**3.16**	**2.44**	**1.50**	**2.74**
	C. V. %			**8.36**	**5.88**	**4.39**	**6.51**
	Y						
	S. Em. ±						**0.26**
	C. D. at 5%						**0.74**
	Y×T						
	S. Em. ±						**0.83**
	C. D. at 5%						**2.35**

Figures in parenthesis are retransformed arc sine values. Data were transformed (angular transformed) before analysis.
Treatment means with letters(s) in common are at par as per DNMRT at 5% level of significance.

Table 3: Efficacy of different fungicides on blast disease intensity at 45 DAS

Sr. No.	Treatment	Con. (a. i.)	Quantity in g or ml in 10 liter of water	Blast intensity (45 DAS)			
				2021	2022	2023	Pooled
1.	Iprobenphos (Kitazin) 48 EC	0.075	15.63 ml	32.03^{b} (28.13)	28.63^{cs} (22.96)	25.45^{def} (18.52)	28.70^{bc} (23.07)
2.	Iprobenphos 48 EC	0.1	20.83 ml	32.46^{b} (28.80)	29.36^{bcd} (24.04)	26.56^{bcde} (20.00)	29.46^{b} (24.19)
3.	Iprobenphos 48 EC	0.125	26.04 ml	31.79^{b} (27.74)	33.18^{ab} (29.95)	25.20^{def} (18.15)	30.05^{b} (25.08)
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0375	5.0 g	29.62^{bcd} (24.43)	30.58^{bc} (25.88)	27.34^{bcd} (21.11)	29.18^{bc} (23.77)
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.05	6.67 g	26.82^{d} (20.36)	31.00^{bc} (26.52)	22.88^{f} (15.19)	26.90^{bc} (20.47)
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0625	8.33 g	29.85^{bc} (24.78)	32.00^{abc} (28.09)	28.29^{bc} (22.59)	30.05^{b} (25.08)
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0375	12.80 ml	31.80^{b} (27.76)	30.59^{bc} (25.90)	28.58^{ab} (22.96)	30.32^{b} (25.49)
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.05	17.06 ml	28.12^{cd} (22.22)	25.47^{d} (18.50)	24.04^{ef} (16.67)	25.88^{c} (19.05)
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0625	21.33 ml	32.03^{b} (28.13)	28.83^{cd} (23.25)	25.74c^{def} (18.89)	28.87^{bc} (23.31)
10.	Untreated (Control)	-	-	39.87^{a} (41.10)	35.69^{a} (34.04)	31.07^{a} (26.67)	35.54^{a} (33.80)
	S. Em. ±			**0.85**	**1.19**	**0.84**	**1.02**
	C. D. at 5%			**2.52**	**3.52**	**2.50**	**3.02**
	C. V. %			**4.68**	**6.73**	**5.49**	**5.71**
	Y						
	S. Em. ±						**0.31**
	C. D. at 5%						**0.87**
	Y×T						
	S. Em. ±						**0.97**
	C. D. at 5%						**NS**

Figures in parenthesis are retransformed arc sine values. Data were transformed (angular transformed) before analysis.
Treatment means with letters(s) in common are at par as per DNMRT at 5% level of significance.

Table 4: Efficacy of different fungicides on blast disease intensity at 60 DAS

Sr. No.	Treatment	Con. (a. i.)	Quantity in g or ml in 10 liter of water	Blast intensity (60 DAS)			
				2021	2022	2023	Pooled
1.	Iprobenphos (Kitazin) 48 EC	0.075	15.63 ml	42.02^{b} (44.81)	40.51^{b} (42.20)	36.32^{b} (35.09)	39.62^{b} (40.66)
2.	Iprobenphos 48 EC	0.1	20.83 ml	42.87^{b} (46.29)	40.09^{b} (41.47)	33.85^{bc} (31.03)	38.94^{b} (39.50)
3.	Iprobenphos 48 EC	0.125	26.04 ml	41.14^{bc} (43.29)	38.34b^{cd} (38.48)	34.30^{b} (31.76)	37.93^{b} (37.78)
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0375	5.0 g	39.40^{c} (40.28)	42.22^{b} (45.16)	34.94^{b} (32.80)	38.85^{b} (39.35)
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.05	6.67 g	35.65^{d} (33.96)	35.24^{cd} (33.29)	29.12^{c} (23.68)	34.23^{c} (31.65)
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0625	8.33 g	38.79^{c} (39.24)	39.44^{bc} (40.35)	33.83b^{c} (30.99)	37.35^{b} (36.81)
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0375	12.80 ml	40.51^{bc} (42.20)	40.25^{b} (41.76)	35.01^{b} (32.92)	38.59^{b} (38.91)
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.05	17.06 ml	36.12^{d} (34.75)	33.66^{d} (30.72)	32.93^{bc} (29.55)	33.33^{c} (30.20)
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0625	21.33 ml	40.93^{bc} (42.92)	40.50^{b} (42.18)	35.90^{b} (34.39)	39.11^{b} (39.80)
10.	Untreated (Control)	-	-	48.85^{a} (56.70)	48.19^{a} (55.56)	46.49^{a} (52.60)	47.85^{a} (54.96)
	S. Em. ±			**0.75**	**1.48**	**1.52**	**0.75**
	C. D. at 5%			**2.22**	**4.40**	**4.51**	**2.13**
	C. V. %			**3.19**	**6.44**	**7.46**	**5.83**
	Y						
	S. Em. ±						**0.41**
	C. D. at 5%						**1.17**
	Y×T						
	S. Em. ±						**1.30**
	C. D. at 5%						**NS**

Figures in parenthesis are retransformed arc sine values. Data were transformed (angular transformed) before analysis.
Treatment means with letters(s) in common are at par as per DNMRT at 5% level of significance.

Table 5: Efficacy of different fungicides on grain yield

Sr. No.	Treatment	Con. (a. i.)	Quantity in g or ml in 10 liter of water	Grain yield (kg/ha)			
				2021	2022	2023	Pooled
1.	Iprobenphos (Kitazin) 48 EC	0.075	15.63 ml	1596de	1242de	1505^{cd}	1448de
2.	Iprobenphos 48 EC	0.1	20.83 ml	1674^{cde}	1367^{cd}	1540^{cd}	1527^{cde}
3.	Iprobenphos 48 EC	0.125	26.04 ml	1667^{cde}	1729^{ab}	1675^{bcd}	1690^{bcd}
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0375	5.0 g	1871^{bcd}	1637^{abc}	2046^{ab}	1851^{abc}
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.05	6.67 g	2045a^{bc}	1895^{a}	2221^{a}	2054^{ab}
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0625	8.33 g	1804^{bcde}	1415^{cd}	2055^{ab}	1758^{bcd}
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0375	12.80 ml	1980^{bc}	1471^{bcd}	1773^{abc}	1742^{bcd}
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.05	17.06 ml	2401^{a}	1913^{a}	2090^{ab}	2135^{a}
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0625	21.33 ml	2144^{ab}	1766^{ab}	1911^{abc}	1940^{ab}
10.	Untreated (Control)	-	-	1413^{e}	1021^{e}	1254^{d}	1229^{e}
	S. Em. ±			**114.95**	**93.03**	**137.87**	**114.74**
	C. D. at 5%			**341.51**	**276.41**	**409.64**	**340.92**
	C. V. %			**10.71**	**10.42**	**13.21**	**11.64**
	Y						
	S. Em. ±						**36.91**
	C. D. at 5%						**104.72**
	Y×T						
	S. Em. ±						**116.73**
	C. D. at 5%						**NS**

Treatment means with letters(s) in common are at par as per DNMRT at 5% level of significance.

Table 6: Efficacy of different fungicides on fodder yield

Sr. No.	Treatment	Con. (a. i.)	Quantity in g or ml in 10 liter of water	fodder yield (q/ha)			
				2021	2022	2023	Pooled
1.	Iprobenphos (Kitazin) 48 EC	0.075	15.63 ml	40.50^{ab}	31.90^{de}	31.75^{bcd}	34.72^{cd}
2.	Iprobenphos 48 EC	0.1	20.83 ml	38.15^{ab}	37.65^{bcde}	29.76^{cd}	35.19^{cd}
3.	Iprobenphos 48 EC	0.125	26.04 ml	37.60^{ab}	35.27^{cde}	33.65^{abcd}	35.51^{c}
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0375	5.0 g	42.30^{ab}	40.85^{abcd}	32.30^{bcd}	38.49^{bc}
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.05	6.67 g	36.61^{ab}	46.03^{ab}	41.11^{a}	41.25^{ab}
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	0.0625	8.33 g	39.86^{ab}	41.14^{abcd}	35.32^{abcd}	38.77^{bc}
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0375	12.80 ml	43.39^{ab}	44.06^{abc}	37.78^{abc}	41.74^{ab}
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.05	17.06 ml	46.88^{a}	47.38^{a}	38.89^{ab}	44.38^{a}
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	0.0625	21.33 ml	44.57^{a}	40.06^{abcd}	34.36^{abcd}	39.66^{abc}
10.	Untreated (Control)	-	-	32.79^{b}	28.57^{e}	27.381^{d}	29.58^{d}
	S. Em. ±			**3.17**	**2.90**	**2.61**	**1.68**
	C. D. at 5%			**NS**	**8.62**	**7.77**	**4.76**
	C. V. %			**13.64**	**12.80**	**13.22**	**13.26**
	Y						
	S. Em. ±						**0.92**
	C. D. at 5%						**2.61**
	Y×T						
	S. Em. ±						**2.90**
	C. D. at 5%						**NS**

Treatment means with letters(s) in common are at par as per DNMRT at 5% level of significance.

Table-7: Economics of various treatments for the management pearl millet blast

Tr. No.	Treatment	Yield (kg/ha) Pooled		Yield increase over control (kg/ha)		Income (₹)		Additional income (₹)	Cost of treatment (fungicides, labour charge, etc.) (₹/ha)	Net realization (₹)	ICBR
		Grain	Fodder	Grain	Fodder	Grain*	Fodder**				
1	2	3	4	5	6	7	8	9	10	11 (9-10)	12 (9/10)
1.	Iprobenphos (Kitazin) 48 EC	1448	3472	219	514	5475	1028	6503	1800	4703	1: 3.61
2.	Iprobenphos 48 EC	1527	3519	298	561	7450	1122	8572	2000	6572	1 :4.29
3.	Iprobenphos 48 EC	1690	3551	461	593	11525	1186	12711	2302	10409	1 :5.52
4.	Tebuconazole 50 + Trifloxystrobin 25 WG	1851	3849	622	891	15550	1782	17332	3000	14332	1 :5.78
5.	Tebuconazole 50 + Trifloxystrobin 25 WG	2054	4125	825	1167	20625	2334	22959	3664	19295	1 :6.27
6.	Tebuconazole 50 + Trifloxystrobin 25 WG	1758	3877	529	919	13225	1838	15063	4336	10727	1 :3.47
7.	Azoxystrobin 11 + Tebuconazole 18.30 SC	1742	4174	513	1216	12825	2432	15257	2152	13105	1 :7.09
8.	Azoxystrobin 11 + Tebuconazole 18.30 SC	2135	4438	906	1480	22650	2960	25610	2535	23075	1 :10.10
9.	Azoxystrobin 11 + Tebuconazole 18.30 SC	1940	3966	711	1008	17775	2016	19791	2800	16991	1 :7.07
10.	Untreated (Control)	1229	2958	-	-	-	-	-	-	-	-

* Price of bajra grain: ₹25/kg, ** Price of bajra fodder: ₹2/kg

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