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Assess the overall performance fungicides are used to combat sheath blight, a disease caused by (*Rhizoctonia solani*) of rice in Eastern Uttar Pradesh

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Abstract

Rice sheath blight, caused by the fungal pathogen *Rhizoctonia solani* Kuhn (sexual stage: *Thanatephorus cucumeris* (Frank) Donk), is a major problem in rice-producing countries worldwide. When conditions are favorable, it can lead to a significant loss of up to 50% in grain yield. While fungicides can be used for control, their cost and the potential for pathogen resistance make plant genetic resistance a more desirable approach. Through various biotic or abiotic stresses, plants can be locally and systemically induced to enhance their resistance against diseases. Systemically induced resistance, known as SAR (systemic acquired resistance), is a sign pathway that is highly effective in providing protection against a wide range of pathogens. It is triggered by localized infections caused by necrotizing pathogens. SAR is characterized by the activation of specific proteins and its reliance on salicylic acid (SA). Several chemical compounds have been identified that can influence different stages of these defense activation networks, mimicking the natural process of resistance. These compounds offer farmers an additional tool to enhance disease resistance, complementing genetic resistance and the use of fungicides. When incorporated effectively into plant fitness management packages, they have the potential to extend the useful lifespan of both resistance genes and the currently employed fungicides. Thifluzamide belongs to the carboxamide group of fungicides, specifically functioning as a single-site inhibitor of the succinate ubiquinone reductase or succinate dehydrogenase (Sdh) complex in the respiratory chain. By inhibiting succinate dehydrogenase in the tricarboxylic acid cycle, these fungicides disrupt fungal respiration. This information aims to provide knowledgeable readers with an informative overview of the role and potential benefits of including such strategies in plant fitness management. (O'Reilly 1995). Rice sheath blight, which is primarily caused by *Rhizoctonia solani* Kühn (also known as *Thanatephorus cucumeris* (A.B. Frank) Donk), poses a significant challenge to rice cultivation, second only to rice blast. This fungal disease, prevalent in lowland tropical regions of Asia, leads to yield losses ranging from 5% to 10%. (Willoquet *et al.*, 2004). The pathogen demonstrates a broad spectrum of hosts, capable of infecting over 32 plant families and 188 genera, often affecting legume crops that are commonly rotated with rice. Thifluzamide has been identified as an effective solution for managing rice sheath blight, making it suitable for integration into resistance management strategies by incorporating it into spray schedules in potential rice-growing regions.

Keywords: Sheath blight, disease incidence, fungicide, SAR

Introduction

Rice sheath blight, caused by the pathogen *Rhizoctonia solani*, is a significant economic concern in rice cultivation. It is associated with the intensified rice cropping systems, characterized by the use of new quick-growing, high-yielding varieties, higher plant densities, and increased use of fertilizers and other inputs. These factors contribute to the spread of the disease by creating favorable microclimatic conditions, such as dense leaf canopies and increased contact between leaves and sheaths. The impact of the disease is particularly severe in seedlings compared to mature plants. The more established plants are gone after in overflowed circumstances and damp rice fields. The disease and spread of turmoil sooner than the banner leaf level figured out 20% grain misfortune. Further, areas of strength for an among the seriousness of side effect and yield markdown transformed into said among cultivars. Sheath curse might be effectively controlled with the utility of foundational fungicides. Notwithstanding, bio-fungicides and safe assortments are different choices of oversee the executives be that as it may, aren't at standard with compound control. These fungicides are exceptionally well known and are at the level of its usage which could likewise bring about diminished leftover period and viability because of duplicated harmfulness of *R. Solani*.

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Materials and Methods

The gift examination named "Assessment of late fungicide against *R. Solani* in rice." become led on the in Research center of NBAIM-ICAR Kushmaur, Mau and discipline of Krishi Vigyan Kendra. Potato dextrose agar was utilized for keeping up with the lifestyle of *Rhizoctonia solani*. Before apply the glass products had been cleaned with labolin, flushed with refined water. The dried glass products had been sanitized in warm air broiler at 100 and eighty °C for 2 hours. The forceps, inoculums needle and other metal instrument have been cleaned through dunking them in liquor and warming over the fire of strip at some stage in seclusion, augmentation and different examinations. Media transformed into sanitized through autoclaving at 121 °C and 15 psi for 30 min.

Cleaning and sterilization of materials

At the point when required, the dishes have been cleaned off with cleanser powder, in the end washed via purifying response and flushed with spigot water or refined water. The dried dishes have been disinfected in warm air stove at one hundred eighty °C for 2 hours. The forceps and different metal apparatus have been disinfected by warming over the soul light fire in the wake of plunging them in liquor. Disinfection of the media was finished in standard by means of autoclaving at 1.40 kg/cm² for 20 min. All substances, other than contagious custom, are to be sanitized or completely clean with ethanol sooner than use.

Media used

For each arrangement of treatment, 3 replications were kept up with in all *in vitro* research. In wellknown, 15 to twenty ml of potato dextrose agar (PDA) medium transformed into poured in a petriplates and enhanced with Streptomycin sulfate in order to test the bacterial disease. Creation of PDA is as per the following. Potato Dextrose Agar (Riker and Riker, 1936) with the accompanying creation become utilized.

Table 1: Chemical Composition of Fungicide

S. No	Ingredient	Content
1.	Pealed potato	200 gm
2.	Dextrose	20 gm
3.	Agar- Agar	20 gm
4.	Distilled water	1000 ml

The immunized Petri plates were hatched in the Body hatchery at 27 + 20 -0 °C for max length of 12 days.

Collection of disease specimen

Rice blossoms showing indications of sheath scourge, diverted into gathered from the ranch of Krishi Vigyan Kendra. The sick examples were safeguarded for detachment and purging in earthy colored paper baggage.

Isolation of the fungus

A multinucleate very much matched disconnect of *R. Solani* segregate Rice, having a place with the AG-1 IA anastomosis bunch diverted into got from normally contaminated rice plant and changed into kept up with on potato dextrose agar in the Research center NBAIM-ICAR, Kushumaur, Mau. The unhealthy examples were washed with faucet water. Little parcels of tainted parts containing healthy as well as unhealthy tissues had been cut with the help of disinfected surgical tool edge. These pieces have been floor sanitized

with 1 in sync with penny Sodium hypochlorite reply for 1 moment with 3 next changes in disinfected water to dispose of types of the compound. The pieces were then moved aseptically to petridishes containing PDA and were hatched at 28±2 °C. The petri-plates have been inspected at customary spans for parasitic increment transmitting from the tainted pieces and have been refined on PDA inclines. In all the immunization studies, until or generally alluded to, new sclerotia/mycelial mat of seven-nine days old practice transformed into utilized. Culture changed into kept up with on potato dextrose agar (PDA) (Difco) at 25 °C.

Pathogenicity of *R. solani* field isolates

The defilement examines were done inside the glass home on rice range Swarna which had been brought up in earthen pots generally through August, 2021, where amiable temperature and mugginess have been kept up with for the advancement of the side effect. Pots have been watered frequently. Field segregate become better on PDA at 27±1 °C in petri dish until the arrangement of sclerotia. The 21-day old seedlings had been vaccinated by utilizing embedding sclerotia underneath sheath (in the event of rice). The vaccinated seedlings have been put away individually and were outfitted sufficient dampness for the inoculum for contamination. Perceptions were recorded at 7 days and 10 days after vaccination through estimating the sore length or percent of leaf region tainted. Plants vaccinated with descendants with fine response were splashed with liquor prior to disposing of.

Fungicide used during the present investigation

Nine fungicides (Taqat, Captaf, Contaf Also, Pulsor, Propiconazole, Sick Hexacarb, Hexaconazole, Bavistin, and Folicur) have been utilized to survey the viability against sheath scourge jumble. The uncommon fungicide at supported mindfulness (certain another spot in outcome and exchange) in water (Taqat, Captaf, Contaf Besides, pulsor, Propiconazole, Hexacarb, Hexaconazole, and bavistin, Hexaconazole, Folicur) became splashed with the help of hand sprayer. Plant of reach swarna were vaccinated first and a midday after the immunized blossoms have been showered with fungicides.

S. No.	Fungicide	Chemical composition
1	Taqat	Captan 70% +Hexaconazole 5% WP
2	Captaf	Captan 50% WP
3	Contaf	Plus Hexaconazole 5% SC
4	Pulsor	Thifluzamide 24% SC
5	Propiconazole	Propiconazole 25% EC
6	Iil-Hexacarb	Hexacarb
7	Hexaconazole	Hexaconazole 25% EC
8	Bavistin	Carbendazim 50% WP
9	Folicur	Tebuconazole 25.9% EC

Inoculum Production

Multinucleate similar disengage of *R. Solani* disengage Rice, having a place with the AG-1 IA anastomosis become developed on potato dextrose agar at 28±1 °C for six days for mass duplication. Rice grain changed into without issues got from rice factories. Rice grain enhanced with dextrose (@ 17 g/kg), transformed into saturated, very much blended and filled to a couple/fourth the degree of glass bottles. These have been then sanitized at 121.6 °C for 45 mins. Little pieces of PDA blocks containing effectively developing mycelium of *R. solani* changed into immunized in bottles containing pre-

sanitized cooled rice wheat and brooded at 250±1 °C. Development of R solani respected for the time being and the parasite totally colonized the rice wheat in something like multi week at 250±1 °C. No sclerotia have been created inside the colonized rice grain. R solani colonized rice grain become gathered and pooled in a plate. Clusters in rice grain were formed because of colonization of R solani and were what's more crushed via passing them through a twine network. This came about inside the breaking of the mycelium into little pieces. Each molecule of the crushed rice wheat happen to uniform length and contained colonized mycelial pieces of R solani and in this way filled in as inoculum.

Plant materials

Plant materials for fungicide evaluation

The analysis transformed into laid in randomized block design with 3 replications. 21 days old seedlings of the investigate assortment (Swarna) were relocated in five x 2 Sq meter plots with a dividing of 60 c.M. Between plot to devise and replication to replication. The compost become applied on the expense of N120 P50 K0 kg/ha.

Inoculation Procedure

The strategy of inoculum statement in our current examination emulates high contact recurrence between tissues fundamentally expected for sheath curse pandemics. Taking into account the accommodation of safeguarding consistency of inoculum, the immunization technique was followed for assessment of new fungicide atom on Swarna assortment and for QTL character utilizing RIL planning people. Immunization strategy is extraordinary as follows: Thirty-5 days classic plants were showered with water and the pounded rice grain containing colonized mycelial pieces of R solani have been kept consistently through sieving over the wet leaf surface. The inoculum moreover were given saved near the foundation of the leaf contiguous the leaf sheath or close to the foundation of the plant. Wet plant surface now not just assisted the inoculum with gluing anyway additionally immediately splashed it. The brooding length (IP) was imagined as the period from immunization to look of around half water-drenched sores (Yeh and Bonman 1986). The length of sores became surveyed 96 h after immunization. At arbitrary 35 plant were surveyed for jumble frequency (through visual comment) and seriousness (estimating the injury length and generally speaking sheath period). Illness seriousness changed into determined as:

$$\text{Disease severity \%} = \frac{\text{Total lesion length}}{\text{Total sheath length}} \times 100$$

Result and discussion

Rice sheath curse, as a result of the contagious microbe *Rhizoctonia solani* Kuhn [Sexual stage: *Thanetophorus cucumeris* (Straightforward) Donk] is one of the first assembling limitations in rice developing countries of the field. Under circumstances inclining toward affliction, really much lost. Control can be performed with fungicides (Groth 2008) [6], but expense and the capacity for development of microbe obstruction make plant hereditary opposition top of the line. Assuming consolidated well in plant wellbeing the board bundles, they can extend the helpful existence of each the opposition qualities and the fungicides by and by utilized. By the by, the issue set off us to explore Viability of fungicide

programming on sheath scourge advancement in rice,

1. Inoculation method

Rice wheat is industrially modest and healthfully well off supplier particle, and might be effectively colonized through R solani and in this way might be utilized for mass augmentation. Colonized rice grain can store between the turners of rice slopes no sweat by means of passing the inoculum through sifter. Rice grain showed an extraordinary element that once wet will become light and holds dampness for longer term and prompts mycelia increment and keeping in mind that dry the colonized mycelium in rice wheat stays torpid and thus mirrors the normal way of sclerotial germination. Three lines of each rice germplasm had been relocated, which become 1 meter broad (5 rice slopes/1 M column) with 20cm x 20 cm plant to plant and line to push distance. Plants at greatest tillering degree have been immunized with the inoculum (R solani colonized rice grain) by utilizing passing through a strainer (networks length of sifter: 3 mm x 3 mm). A square sifter (internal size (L x W x H) 15" x 10" x 1") become loaded with modest bunch of inoculums and was held over each rice slope. By somewhat scouring movement the inoculum inside the strainer outperformed through the matrices of the sifter. Roughly 2-3 gram of inoculum in accordance with slope become sieved. Since the sifter changed into held over the rice slope the inoculum got kept/caught among the turners/at the base. Pummeled rice grain containing colonized mycelial pieces of R solani bypassing through sifter brought about uniform particulate dissemination of colonized inoculum inside the rice slope. Covering the immunized vegetation with plastic shed net (90% thickness) is contingent and changed into achieved best if the sun powered gentle transformed into outrageous. The inoculum were given consistently kept at the dirt, close to the foundation of the turners/in among turners and furthermore got caught close to the collar place (roundabout collar joins the leaf cutting edge and the leaf sheath/place joining leaf sharp edge and leaf sheath and from in which ligule and auricles starts). Wet plant floor helps with connection of the inoculum (R solani colonized rice grain) on the plant surface and also result in mycelial development. Mycelial increment of R. Solani from the vaccinated rice wheat was apparent inside 24 hours of brooding. The mycelial blast from the colonized rice wheat copy's the development from number one stockpile of inoculum underneath normal circumstances (Sclerotia, etc). The more youthful mycelial blast starting from the colonized rice grain also unfurl to the abutting turner and changed into found as sprinter hyphae. All the connecting turners of rice slope have been ensnared by means of sprinter hyphae. Development of sprinter hyphae beginning from inoculum set off sores on the floor of rice tissue, mounted entrance designs to deliver number one injury. Development of sprinter hyphae beginning from this injury on the floor of rice tissues, lays out infiltration designs to supply a new (girl) sore and conventional side effects of sheath scourge which have been noticed 96 hrs after vaccination. This alludes back to the advancement of tainting along a turner, from its base to its top leaves ('vertical unfurl' named by utilizing) via extending sores or via fast reach progress of, and pollution via, mycelial designs of the growth. Not long after 48 hours of vaccination the plots (4 x four meter) containing immunized vegetation had been splashed with particular fungicides (Table four.1) and the oversee plots

were showered with water. Perception on disease improvement (Complete injury term scope of turners aroused by slope, sheath period) become recorded seven days after vaccination.

1.1 Adequacy of fungicides (in various focus) on sheath course illness advancement Viability of fungicide on sheath scourge rate (no. of tainted plants/35 noticed)

It was found that vaccinated vegetation inside the control plots showed higher recurrence of excited turners in accordance with slope when contrasted with immunized and fungicide showered vegetation. 35 vegetation/slopes had been found for sheath scourge tainting (Table 1). Unsprayed verdure showed one hundred% sheath scourge predominance. Fungicide showered plots in the request for their developing recurrence of number of vegetation aroused out of 35

blossoms noticed are as per the following: Thifluzamide (Pulsor S) (42 µl/l), Thifluzamide (Pulsor S) (52 µl/l), Thifluzamide (Pulsor S) (62 µl/l), Propiconazole (42 µl, Taqat (6 g/l), Thifluzamide (Pulsor S) (21 µl/l), Thifluzamide (Pulsor S) (31 µl/l), Hexacarb (1200 µl/l), Hexacarb (2400 µl/l). Hexaconazole containing fungicides (Taqat) as resolved successful at a totally exorbitant fixation 6 g/l. The recurrence of vegetation showing event of sheath scourge went from 3 to 8 out of 35 noticed. It was found that Hexaconazole (1300 µl/l), Hexaconazole (Contaf) (1.5 ml, 1 ml, 2 ml/l) and Hexaconazole containing fungicides (Taqat) (1 g, 1.5 g and 3 g/l) had awful oversee over sheath scourge rate. Percent event of sheath scourge in those fungicides splashed plots went from eight. Fifty three to ninety seven.20 (Table 2). Also captan (2.10 and 1.34 g/l) and Hexacarb 800µl showered plots moreover affirmed higher occurrence of sheath scourge.

Table 2: Efficacy of different fungicide affecting the rice sheath blight incidence (no. of plants /35 observed)

S. No.	Fungicide	No. of Plant		
		Observed	Infected	Incidence (%)
1	Thifluzamide (Pulsor S) 42 µl	35	3	8.43
2	Thifluzamide (Pulsor S) 52 µl	35	3	8.43
3	Thifluzamide (Pulsor S) 42 µl	35	4	11.52
4	Propiconazole 42 µl	35	4	11.52
5	Taqat 6 g	35	4	11.52
6	Thifluzamide (Pulsor S) 21 µl	35	5	14.81
7	Thifluzamide (Pulsor S) 31 µl	35	5	14.81
8	Hexacarb 1200 µl	35	7	22.83
9	Hexacarb 2400 µl	35	8	25.75
1	Hexacarb 1000 µl	35	12	37.16
2	Carbendazim (bavistin) 1000 µl	35	13	40.50
1	Hexaconazole 1300 µl	35	16	48.53
2	Hexaconazole (Contaf) 1.5 ml	35	33	97.20
3	Hexaconazole (Contaf) 1 ml	35	31	88.30
4	Hexaconazole (Contaf) 2 ml	35	32	94.35
5	Tebuconazole 1000 µl	35	30	85.71
6	Taqat 1 g/l	35	33	97.20
7	Taqat 1.5 g/l	35	32	94.42
8	Taqat 3 g/l	35	31	88.30
1	Captan 2.10 g	35	32	94.42
2	Captan 1.34 g	35	33	97.20
3	Hexacarb 800 µl	35	22	62.82
1	Control-1	35	35	100.00
2	Control-1	35	35	100.00
3	Control-1	35	35	100.00

1.2. Efficacy of fungicide on sheath blight incidence (no. of infected tillers)

Slopes showing sheath scourge tainting were also assessed for the wide assortment of turners contaminated per slope. (Table four.2). Quantitative realities became created by counting the wide assortment of turners showing sheath scourge signs and side effects predictable with slope. (Table 3). Fungicide splashed plots inside the request for their rising recurrence of assortment of turners contaminated out of broad wide assortment of turners/vegetation decided are as per the following: Thifluzamide (Pulsor S) (62 µl/l), Propiconazole (42 µl/l), Thifluzamide (Pulsor S) (31 µl/l), Hexacarb (1200 µl/l), Thifluzamide (Pulsor S) (42 µl/l), Hexacarb (1000 µl/l),

Thifluzamide (Pulsor S) (21 µl/l), Thifluzamide (Pulsor S) (52 µl/l), Taqat (6 g/l), Hexacarb (2400 µl/l). Recurrence sheath scourge pollution changed into gentle (11.57% to 22. Thirteen %) in fungicide splashed plot in the request for developing recurrence for % of sheath scourge event is as per the following: Taqat (3 g/l), Captan (2.10 g/l), Carbendazim (bavistin) (1000 µl/l), Taqat (1.5 g/l), Hexacarb (800 µl/l), Hexaconazole (Contaf) (1 ml/l), Captan (1.34 g/l), Hexaconazole (Contaf) (1.5 ml/l), Taqat (1 g/l, Hexaconazole (1300 µl/l). Sheath scourge predominance transformed into exceptionally extreme in Tebuconazole (1000 µl/l), Hexaconazole (Contaf) (2 ml/l) splashed plot with forty. 84 and 41.58% aggravated turners.

Table 3: Efficacy of different fungicide affecting the rice sheath blight incidence (no. of infected tillers /hill)

S. No.	Fungicide Treatment	No of plants infected /35	No of tillers	No of infected tillers infected	%
Low sheath blight incidence					
1	Thiﬂuzamide (Pulsor S) (62 µl/l)	3	98	4	4.08
2	Propiconazole (42 µl/l)	4	78	4	5.13
3	Thiﬂuzamide (Pulsor S) (31 µl/l)	5	86	5	5.81
4	Hexacarb (1200 µl/l)	8	162	11	6.79
5	Thiﬂuzamide (Pulsor S) (42 µl/l)	3	58	4	6.90
6	Hexacarb (1000 µl/l)	159	280	20	7.14
7	Thiﬂuzamide (Pulsor S) (21 µl/l)	5	83	6	7.22
8	Thiﬂuzamide (Pulsor S) (52 µl/l)	3	53	4	7.55
9	Taqat (6 g/l)	28	571	49	8.58
10	Hexacarb (2400 µl/l)		154	16	9.63
Moderate sheath blight incidence					
1	Taqat (3 g/l)	31	700	81	11.57
2	Captan (2.10 g/l)	33	730	85	11.64
3	Carbendazim (bavistin) (1000 µl/l)	14	244	34	13.93
4	Taqat (1.5 g/l)	32	687	103	14.99
5	Hexacarb (800 µl/l)	22	512	81	15.82
6	Hexaconazole (Contaf) (1 ml/l)	31	721	121	16.78
7	Captan (1.34 g/l)	33	684	134	19.59
8	Hexaconazole (Contaf) (1.5 ml/l)	35	510	142	20.29
9	Taqat (1 g/l)	35	510	142	20.29
10	Hexaconazole (1300 µl/l)	17	348	77	22.13
High sheath blight incidence					
1	Tebuconazole (1000 µl/l)	30	595	243	40.84
2	Hexaconazole (Contaf) (2 ml/l)	33	671	279	41.58
3	Control	35	780	446	57.17
4	Control	35	708	432	61.02
5	Control	35	721	585	81.14

1.3. Efficacy of fungicide on sheath blight severity (lesion length)

Development of sprinter hyphae beginning from inoculum incited sores at the floor of rice tissue, introduced infiltration designs to give number one injury. Development of sprinter hyphae beginning from this sore on the floor of rice tissues, lays out entrance designs to supply a shiny new (little girl) injury and normal signs and side effects of sheath scourge which had been resolved 96 hrs after immunization. This alludes to the advancement of disease close by a turner, from its base to its higher leaves ('vertical spread' named through) via growing sores or via brief-range progress of, and contamination by means of, mycelial designs of the growth. Quantitative realities become created for the extending sore by means of estimating the full injury length and width and character injury length and width. Sheath curse seriousness

transformed into determined regarding injury length and sheath length (Table four.3). No varieties still up in the air for the sore width (records as of now not introduced). It become found that plots splashed with Thiﬂuzamide (Pulsor S) (31 µl/l), Thiﬂuzamide (Pulsor S) (52 µl/l), Thiﬂuzamide (Pulsor S) (42 µl/l), Thiﬂuzamide (Pulsor S) 62 µl/l, and Hexacarb 2400 µl/l impacted the sheath curse improvement with the guide of bringing down the full injury term (negligible and greatest % sheath place aggravated went from min 2.21 to 6.18 and 13.65 to twelve.55 individually) influencing the upward spread of the illness (Table 4). Rest of different fungicides in exceptional fixations splashed on the yield transformed into not strong in diminishing the upward spread of the illness through decreasing the sore period (Table 4.Three).

Table 4: Efficacy of different fungicide affecting the lesion length of sheath blight of rice.

S. No.	Treatment	% Sheath area infected		
		Minimum	Maximum	Average
1	Thiﬂuzamide (Pulsor S) (31 µl/l)	2.71	13.65	8.55
2	Thiﬂuzamide (Pulsor S) (52 µl/l)	2.21	11.10	9.15
3	Thiﬂuzamide (Pulsor S) (42 µl/l)	6.11	12.55	9.25
4	Thiﬂuzamide (Pulsor S) 62 µl/l	5.32	22.70	13.25
5	Hexacarb (2400 µl/l)	4.43	22.10	14.15
1	Hexacarb (800 µl/l)	4.10	50.10	19.05
2	Taqat (1.5 g/l)	5.50	62.40	22.85
3	Carbendazim (bavistin) (1000 µl/l)	6.18	33.35	17.55
4	Hexaconazole (Contaf) (1 ml/l)	6.64	77.75	36.10
5	Tebuconazole (1000 µl/l)	8.56	44.45	21.70
6	Taqat (3 g/l)	8.88	45.10	20.85
7	Captan (1.34 g/l)	8.88	41.65	21.10
8	Taqat (6 g/l)	8.88	55.55	22.50
9	Hexaconazole (1300 µl/l)	9.07	36.35	19.50

10	Propiconazole (42 µl/l)	9.07	41.65	22.10
11	Captan (2.10 g/l)	9.07	59.10	27.55
12	Hexacarb (1000 µl/l)	9.37	30.10	19.45
13	Control	10.10	55.55	23.60
14	Hexaconazole (Contaf) (2 ml/l)	10.10	78.55	37.85
15	Control	11.60	66.65	30.40
16	Hexaconazole (Contaf) (1.5 ml/l)	11.65	50.10	25.85
17	Control	12.54	63.65	28.20
18	Taqat (1 g/l)		61.10	34.40
19	Hexacarb (1200 µl/l)	13.25	30.70	21.25
20	Thifluzamide (Pulsor S) 21 µl/l	14.28	20.10	16.90

Thifluzamide is an individual from the carboxamide heavenliness of fungicides which is single-site inhibitors of the succinate ubiquinone reductase or succinate dehydrogenase (Sdh) complex in the respiratory chain (FRAC 2007) [4] disrupt contagious breathing by means of their inhibitory effect on succinate dehydrogenase inside the Krebs cycle. This compound became proposed viable against Basidiomycete parasites explicitly along the edge of adequacy on certain Ascomycetes and Rhizoctoniasolani. This atom is enlisted to be utilized in rice, turf, potatoes, espresso and strawberries in Brazil, Mexico, Colombia, Venezuela, Japan, Korea, China and Vietnam. Since, no fungicide has been enrolled with this specific methods of movement for the oversee of sheath curse of paddy, Thifluzamide can in shape into opposition the executives machine via coordinating in shower plans for potential rice developing parcels. In a rice environment, in each season, more than one disorder is found and in this way new fungicidal organizations like oryzastrobinQol are acquiring importance as they are broadspectrum fungicides providing viable control against rice sheath curse and impact (Stammler *et al.* 2007) [11]. Nonetheless, the broad range fungicides won't give adequate insurance when the sickness seriousness could be extremely inordinate. At gift the decision synthetic substances *viz* Hexaconazole, Propiconazole, Validamycin, Carbendazim which are essentially utilized for the administration of sheath scourge affliction (Das and Mishra 1990) [3]. Further, lab research on segregates of *R. Solani* from rice and potato affirmed critical adaptation in light of explicit centralizations of fungicides (Carbendazim, carboxin, pencycuron, Propiconazole and Validamycin) (Thind and Aggarwal 2005) [12]. Assessed and expressed adequacy of new fungicide Pencycuron (Moncern 250 EC) contrary to rice sheath scourge in Punjab and West Bengal. End Viability of fungicide programming on sheath curse improvement in rice 1. Vaccinated blossoms inside the plots have been showered with the fungicide Thifluzamide (Pulsor S) (31 µl/l), Thifluzamide (Pulsor S) (52 µl/l), Thifluzamide (Pulsor S) (42 µl/l), Thifluzamide (Pulsor S) 62 µl/l, and Hexacarb 2400 µl/l impacted the sheath curse improvement through diminishing the quantity of blossoms, turners showing sheath scourge pervasiveness. These fungicides had been furthermore powerful in diminishing the sore period and thusly perceived as best fungicide in decreasing the sheath curse contaminations. Use of Captan, Carbendazim, Hexaconazole, Tebuconazole did now not diminished sheath scourge frequency and thus not reasonable for the control of sheath curse of rice.

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