



Phone: 0129-2413985  
E-mail:-ppa@nic.in

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**भारतसरकार/ Government of India**

कृषि एवं किसान कल्याण मंत्रालय / Ministry of Agriculture & Farmers Welfare

कृषि एवं किसान कल्याण विभाग / Department of Agriculture & Farmers Welfare

वनस्पति संरक्षण, संगरोध एवं संग्रहनिदेशालय / Directorate of Plant Protection, Quarantine & Storage

एनएच4, फरीदाबाद(हरियाणा) – 121 001/ NH-IV, Faridabad (Haryana) – 121 001

Dated: 27.07.2022

To

The Directors of Agriculture  
Andhra Pradesh, Telangana, Odisha, Tamil Nadu, Karnataka, Kerala  
West Bengal, Punjab, Haryana, Uttarakhand and Chattisgarh

**Sub: Advisory on Brown Plant Hopper (*Nilaparvata lugens*) on rice crop -reg.**

Sir,

I have the honor to bring to your notice that Brown Plant hopper is the major pest in rainfed and in irrigated wetland rice environments and also occurs in the areas with continuous cultivation, submerged conditions in the fields, high shade, use of chemical fertilizers /pesticides and humidity. It is a typical vascular feeder primarily sucking phloem sap leading to hopper burn. At early infestation, circular yellow patches appear which soon turn brownish due to the drying up of the plants. The patches of infestation then may spread out and cover the entire field. The grain setting is also affected to a great extent. During sustained feeding, it excretes a large amount of honeydew

Keeping in view the current crop stage and prevailing favourable weather conditions for the pest the rice crop should be monitored regularly for pest build up and adopt Integrated Pest Management techniques. AESA based IPM Package of practices of rice and pest specific package of practices of Brown Plant Hopper are available at DPPQ&S website in the link <http://ppqs.gov.in/ipm-packages>. Important IPM practices are listed below

- Maintain field sanitation. Main fields and bunds must be kept free from weeds which harbour the BPH population.
- Synchronous planting (planting neighbouring fields within 3 weeks) in an area and maintaining a rice free period is effective in BPH management.
- Alley formation after each 8 or 10 rows in east-west direction in endemic areas helps in minimizing the population and provide congenial environment for BPH.
- Alternate wetting & drying the field in which the field should be atleast drained for 3-4 days when heavy infestations occur. This will reduce the infestation of BPH.
- Reduce the excess use of nitrogenous fertilizers. split application of nitrogenous fertilizer along with split application of appropriate dose of potassium fertilizers should be followed to reduce chances of plant hopper out breaks.
- In situ conservation and augmentation of natural enemies viz.,Egg parasitoid like *Anagrus oligosita* spp, Larval parasitoids such as *Haplogonatopus* sp., *Pseudogonatopus* spp., Larval and pupal parasitoids like *Xanthopimpla flavolineata* *Brachymeria lasus*, and Predators such as Coccinellid beetles, Ground beetle, Rove beetle, Lynx spider, Long-jawed and Orb spider and an important egg-feeding predator is the mirid bug, *Cyrtorhinus lividipennis*.
- Use of neem oil @ 5 ml/L with 2 ml liquid detergent as spray covering both the foliage and the base of the plants can act as an insect growth regulator and reduce the egg laying capacity of females.

... To be continued

- Extract of the Water Pepper leaf (*Polygonum hydropiper*) @ 20 gm/L with 2 ml liquid detergent as an ITK can manage BPH effectively.
- If infestation is below ETL application of Bio-insecticides like 5% Neem seed kernel extract (NSKE) or commercial neem formulation containing Azadirachtin 1500 ppm @ 2.5ml/ litre of water or *Metarhizium anisopliae* 1.15% WP with spore count of  $1 \times 10^8$  cfu/gm (1 Kg/acre) @ 2-5 g/litre may be applied aiming base of the plants.
- Pesticide must be used as per label claim approval by the Registration Committee. Detailed information is available at directorate website. <http://ppqs.gov.in/divisions/cib-rc/major-uses-of-pesticides>. Further the list of RC approved pesticides against BPH are attached as Annexure-I

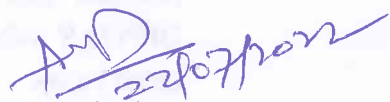
Further the following strategies should be adopted for spreading awareness among farmers

- Continual monitoring and accurate forecasting of pest population during the crop growing period could be useful in protecting rice crops against BPH. Accurate and timely forecasting of the pest incidence would support in planning effective mitigation.
- Mobilization of extension functionaries at grass route level for regular monitoring of pest status.
- Awareness among farming community through newspapers, printing and electronic media, KisanGosthi, leaflet and pamphlets.
- The concerned officials at the district/ division/ block level may be advised to take the suitable plant protection measures immediately

The detailed information on pest incidence may also be sent to the directorate through email [ppa@nic.in](mailto:ppa@nic.in) or [appa.ipm-dppqs@gov.in](mailto:appa.ipm-dppqs@gov.in) urgently to apprise the same to Department of Agriculture & Farmers' Welfare.

Yours faithfully

**Encl: as above**

  
(Dr. J.P.Singh)

Plant Protection Adviser

Copy for information:

1. PPS to Joint Secretary(PP), DA & FW, Krishi Bhawan, New Delhi- I 10001
2. The Directors of Agriculture of other rice growing states with the request to keep close watch on pest build up & take appropriate measures as indicated above
3. PPS to PPA for information
4. Officer In-charges, CIPMCs Bengaluru, Hyderabad, Vijayawada, Trichy, Ernakulum, Bhubaneshwar, Kolkata, Faridabad, Jalandhar, Dehradun and Raipur with directions to conduct regular survey in the area to ensure and necessary follow-up with the state authorities.

## Annexure-I

Approved registered Pesticides for Brown Plant Hopper (*Nilaparvata lugens*) of Rice

Chemical	Pest	Dosage/ha			Waiting period (Days)
		a.i (gm) Formulation (gm/ml) Dilution in Water (Liter)	a.i (gm) Formulation (gm/ml) Dilution in Water (Liter)	a.i (gm) Formulation (gm/ml) Dilution in Water (Liter)	
Acephate 95 % SG	BPH	562.50	592	500	30
Acetamiprid 20 % SP	BPH	10 – 20	50 – 100	500 – 600	07
Benfuracarb 03 % GR	BPH	1000	33000	-	20
Benzpyrimoxan 10% SC	BPH	75-100	750-1000	500	31
Buprofezin 25 % SC	BPH	200	800	400 – 500	20
Buprofezin 70 % DF	BPH	175	250	500	24
Carbofuran 03 % CG	BPH	750 - -	25000	-	-
Carbosulfan 25% EC	BPH	200 – 250	800 – 1000	500 – 1000	14
Clothianidin 50 % WDG	BPH	10 – 12	20 – 24	500	12
Dinotefuran 20 % SG	BPH	30 – 40	150 – 200	500	21
Ethofenprox 10 % EC	BPH	50 – 75	500 – 750	500	15
Fenobucarb (BPMC) 50 % EC	BPH	250 – 750	500 – 1500	500	30
Fipronil 05 % SC	BPH	50 – 75	1000 – 1500	500	32
Fipronil 18.87 % w/w SC	BPH	50	250	500	46
Fipronil 00.30 % GR	BPH	50 – 75	16670 – 25000	-	32
Flonicamid 50 % WG	BPH	75	150	500	36
Flupyrimin 2% GR	BPH	100-150	5000-7500	NA	77
Imidacloprid 70 % WG	BPH	21 – 24.5	30 – 35	300 – 375	07
Imidacloprid 30.50 % m/m SC	BPH	21 - 26.25	60 - 75	500-750	37
Imidacloprid 17.80 % SL	BPH	20 - 25	100 - 125	500 - 700	40
Imidacloprid 17.1 % w/w	BPH	60	300	500	39

SL					
Monocrotophos 36 % SL	BPH	500	1250	500 - 1000	-
Pymetrozine 50 % WG	BPH	150	300	500	19
Quinalphos 25 % Gel	BPH	250	1000	500 - 1000	-
Quinalphos 20 % AF	BPH	250 - 300	1250 - 1500	750 - 1000	40
Quinalphos 25 % EC	BPH	375	1500	500 - 1000	40
Quinalphos 01.50 % DP	BPH	300	20000	-	40
Thiamethoxam 75 % w/w SG	BPH	113	150	Dissolve in 500 ml water and mix with 20 kg sand/ha	60
Thiamethoxam 25 % WG	BPH	25	100	500 - 750	14
Acephate 50 % + Fipronil 5% WDG	BPH	500 + 50	1000	500	27
Acephate 50 % + Imidacloprid 01.80 % SP	BPH	10 + 500	2.50	500 - 800	10
Buprofezin 09 % + Acephate 24 % w/w WP	BPH	54 + 144	600	500	20
Buprofezin 15 % + Acephate 35 % w/w WP	BPH	187.5 + 437.5	1250	500	20
Buprofezin 20 % + Acephate 50 % w/w WP	BPH	200 + 500	1000	500	20
Buprofezin 20 % + Acetamiprid 2% w/w WP	BPH	176	800	400	15
Buprofezin 22.0% + Fipronil 3 % SC	BPH	110 + 15	500	400 - 500	32
Buprofezin 23.10 % + Fipronil 03.85 % w/w SC	BPH	173.25 + 28.88	750	500	30
Cartap Hydrochloride 50 % + Buprofezin 10 % w/w WP	BPH	480	800	500	20
Deltamethrin 00.72 % + Buprofezin 05.65 % w/w EC	BPH	0.78 + 62.50- 0.94 + 75.00	1250 + 1500	500	30
Dinotefuran 4 % + Acephate 50% w/w/ SG	BPH	35 + 400	500	500	28
Dinotefuran 15 % + Pymetrozine 45% WG	BPH	200	333	500	24

Ethiprole 40% + Imidacloprid 40 % WG	BPH	37.50 + 37.50	93.75	375	15
Fenobucarb 20 % + Buprofezin 05 % w/w SE	BPH	400 + 100	2000	500	30
Fipronil 5% + Buprofezin 20% SC	BPH	25 + 100	500	500	20
Flubendiamide 04 % + Buprofezin 20 % w/w SC	BPH	35 + 175	175 + 700	500	30
Fipronil 04 % + Thiamethoxam 04 % w/w SC	BPH	44 + 44	1100	500	45
Fipronil 15% + Flonicamid 15% WDG	BPH	60 + 60	400	500	33
Phenthoate 45% + Cypermethrin 6% EC	BPH	450+60	1000	500	At the end of the Harvest
Acetamiprid 00.40 % + Chlorpyriphos 20 % EC	BPH	10 + 500	2.5	500 -800	10
Chlorantraniliprole 00.50 % + Thiamethoxam 01 % w/w GR	BPH	30.0 + 60.0	6 kg/ha	-	60
Sulfoxaflor 21.8 % w/w SC	BPH	90	375	500	14