Parasitoid *Trichogramma* sp. nr *kalkae* Schulten & Feijen (Hymenoptera: Trichogrammatidae) caused 50–65% mortality in SEF eggs deposited on seedlings in nursery beds.

Management implications are that egg parasitization in nursery beds should be assessed before any treatment. No treatment is needed if deadhearts are visible—the damage is already done. Applying insecticides may actually be detrimental because parasitoids are highly susceptible to them. □

Effect of high temperatures on the survival and fecundity of brown planthopper (BPH) *Nilaparvata lugens* Stål

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High midsummer temperatures affect the survival and fecundity of BPH. Averages of 31 °C during mid-Jul to early Aug usually cause the highest BPH mortality in subtropical rice areas such as Hangzhou and Xiaoshan, China.

We observed survival of BPH nymphs and fecundity of adults at 31, 35, 38, and at check 26 °C, under a light/dark = 12/12 h, and 70–85% relative humidity in LRH-250-G illuminating incubators.

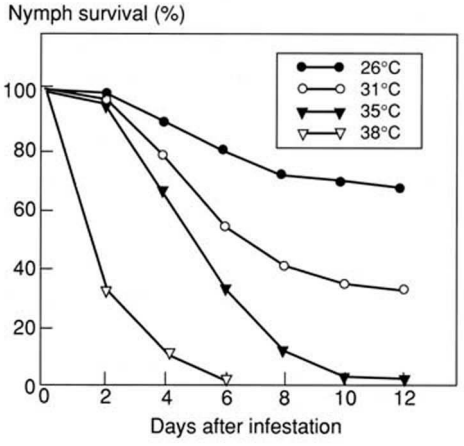
Guangliuai No. 4 seedlings were transplanted (one plant/pot) 30 d after sowing. Each pot was infested I5 d after transplanting with ten 5th-instar nymphs. BPHs were counted every 2 d after this.

To determine number of eggs laid, a pair of newly emerged BPHs was placed in open-ended glass tubes that stood in 2 cm of water and contained one plant each. Tube ends were covered with nylon mesh. Plants were replaced every 4 d. Eggs were counted by dissecting the plants.

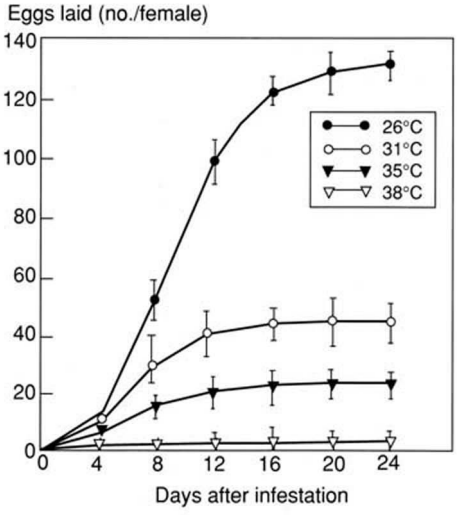
Survival of BPH nymphs at 31, 35, and 38 °C was significantly lower than that at 26 °C (Fig. I). The longer the time after infestation, the higher were the differences in survival at various temperatures.

BPH females laid up to 140 eggs after 12 d at 26 °C. Fecundity decreased rapidly as temperature increased (Fig. 2).

Results indicate that average ricefield temperatures of more than 31 °C would have obvious inhibitory effects on the survival and fecundity of BPH. □



1. Survival of 5th-instar BPH nymphs at various high temperatures, Hangzhou, China, 1990.



2. Number of eggs laid by BPH adults at various high temperatures, Hangzhou, China, 1990.

Rice brown planthopper (BPH) immigrants in Japan change biotype

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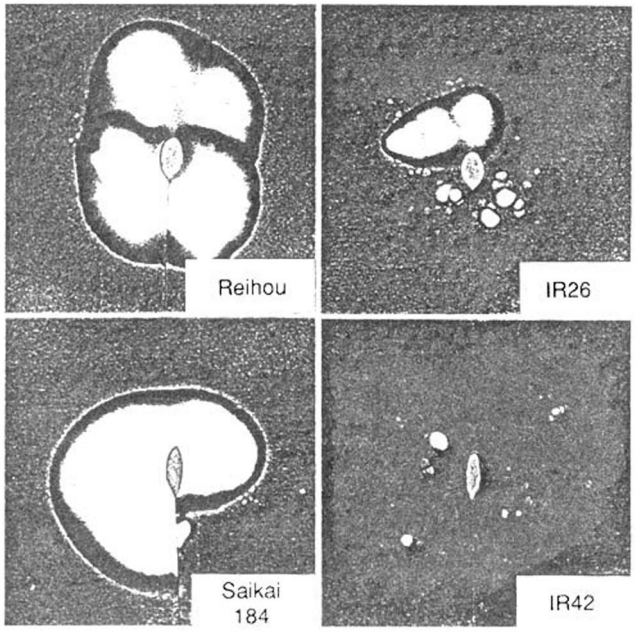
BPH immigrates to Japan annually from tropical and subtropical breeding habitats by monsoonic wind systems. These immigrant BPHs did not infest resistant rice varieties until recently.

Hopperburn symptoms were observed for the first time on japonica type, BPH-resistant rice breeding line Saikai 184 in experimental fields of Kyushu National Agricultural Experiment Station, Chikugo, Fukuoka, in 1990. Saikai 184 has the *Bph 1* gene from IR2061-214-3.



Relative amounts of honeydew excreted on Reihou (susceptible japonica variety), Saikai 184 (resistant japonica breeding line. *Bph 1* gene), IR26 (*Bph 1* gene), and IR42 (*bph 2* gene) by female immigrants in Japan in 1990. Honeydew was collected on the BCG-impregnated pH indicator paper.