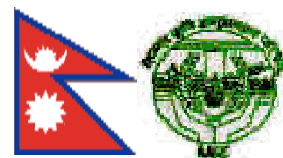


Management of rice blast in Nepal



What is blast disease?

Blast, caused by *Pyricularia grisea* Sacc., is the most destructive disease of rice in Nepal. This was recorded in 1966 in Nepal for the first time. The disease is more devastating in valleys, river basins, foot-hills and hills of Nepal, although it is prevalent throughout the rice growing areas in the country.

What are the major symptoms for identification?

The blast fungus attacks all aboveground parts of the rice plant. The most conspicuous symptom is leaf spot, elliptical or boat-shaped, with a brown margin and gray center. The number of spots ranges from few to so many that all leaves are killed and the plant dies. After flowering stage, the fungus attacks all parts of the panicle, producing brownish lesions- called 'neck blast' or 'neck rot'. The symptom also appears on the nodes, which turn black and break while drying up.

Why do we need to manage the disease?

Under epidemic condition, the disease causes seedling loss in the seedbed. The rice growers become compelled to use diseased seedlings for transplanting- that serve as sources of inoculum for further outbreak of the disease. Panicles infected near the base (neck) may break causing complete yield loss. In general, the disease causes 10-20 per cent yield loss, but in epidemics, loss may go up to 80 per cent. The disease also deteriorates the quality of grains and straw. In Nepal, its epidemic occurs after every 3 successive years.

What are the management methods/ measures?

- **Use of resistant varieties:** Chandannath 1, Chandannath 3, Machhapuchhre 3, Chhomrong dhan and Palung 2 for high hills; Khumal 4, Khumal 5, Khumal 7, Khumal 9 and Khumal 11 for warm temperate region (mid-hills); Hardinath 1, Chaite 2, Chaite 4, Chaite 6, Laxmi and Bindeswari as early rice in the double cropped rice areas; Hardinath 1, Rampur Masuli, Radha 4, Radha 12, Makwanpur 1, Sabitri, Janaki and Laxmi for main season in sub-tropical areas of Nepal.
- **Cultural practices:** Use of wet seedbed whenever possible, selection of quality and healthy seeds, application of balanced doses of N, P, K fertilizers, practice of recommended plant-spacing, timely weed management and application of irrigation water in time reduce blast.
- **Chemicals:** Seed treatment with Bavistin 50 WP @ 3.0 g/kg or Beam 75 WP @1.0 g/kg of seed – protects seedlings from blast for 30-40 days, - produces healthy seedlings; foliar spray with Hinosan 50 EC @ 1.5 ml/L at tillering stage if leaf spots are observed, another spray at panicle initiation stage if susceptible varieties are grown to reduce neck blast.

Others: Use of salt-sorted seeds (15% solution) for seedling raising – promising with respect to blast and yield, Radha 32 is a promising genotype with respect to blast and grain yield in upland areas of Nepal; NR 1487 is another promising genotype for foot-hills and river basin areas with respect to blast and grain yield; BPI 3-2 is also a blast resistant and high yielding genotype with fine grain type for Terai and inner-Terai as main season rice.



Plants grown from salt-sorted seeds

For more information visit Rice Knowledge Bank www.knowledgebank.irri.org

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