

Rice blast disease

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Why in news?

Researchers from ICAR-National Rice Research Institute (NRRI), Odisha have mapped out the diverse genes in rice that help in disease resistance.

Diseases and findings:

- **Magnaporthe grisea** also known as **rice blast fungus**, **rice rotten neck**, **rice seedling blight**, **blast of rice**, oval leaf spot of graminea, pitting disease, ryegrass blast, and Johnson spot, is a **plant-pathogenic fungus** that causes a serious disease affecting rice
- By characterising over 150 rice varieties from nine States across the country researchers have identified new markers associated with blast resistance.
- The present study showed that the **rice landraces collected from north-eastern states of India had the highest resistance.**
- The rice varieties also have different resistant/susceptible behaviors under specific ecological conditions.
- Fungicides are very expensive, environmentally harmful and may cause health problems due to unsuitable application.
- The rapid changes in pathogenic virulence represents a constant challenge to the production of current rice immune to blast.
- The fungus causes injuries to the leaves, stems, peduncles, panicles, seeds and even the roots.
- Thus, new generic blast-resistant genes / alleles in rice germplasm such as landraces, wild rice, etc. are always needed.
- The potential threat of crop failure from this disease

is very high.

- Other herbs, including **crabgrass** are infected by closely related fungi, that cause their respective hosts almost identical symptoms.