

Rice

PesT Trivia





Figure 1. Brown spot on rice leaves.

Common Name:

Brown Spot

Causal Organism:

Bipolaris oryzae

Growth Stages Affected:

All crop stages

Brown spot – is a fungal disease affecting the coleoptile, leaves, leaf sheath, panicle branches, glumes, and spikelets of rice.

Did you know?

Brown spot disease can cause 5% yield loss across all lowland rice production in South and Southeast Asia on the average. Severely infected field can have as high as 45% yield loss.



Signs and symptoms of brown spot in rice



Figure 2. Spots and lesions on rice leaves.

- **Seedlings** - have small, circular, yellow brown or brown lesions found on coleoptile, distorts primary and secondary leaves.
- **Tillering stage** - lesions are small, circular, and dark-brown to purple-brown.
- **Fully developed lesions** - circular to oval with light brown to gray center, having reddish brown margin originating from the fungi's toxin.

Fact:

Heavily infected seeds may lead to seedling blight. Thus, resulting to 10-58% seedling mortality. Likewise, it affects the quality and the number of grains per panicle, and reduces the kernel weight.

During the Great Bengal Famine in 1943, brown spot was the major root of this threat of this particular event.



PEST MANAGEMENT RECOMMENDATIONS

For soil fertility improvement to manage the disease:

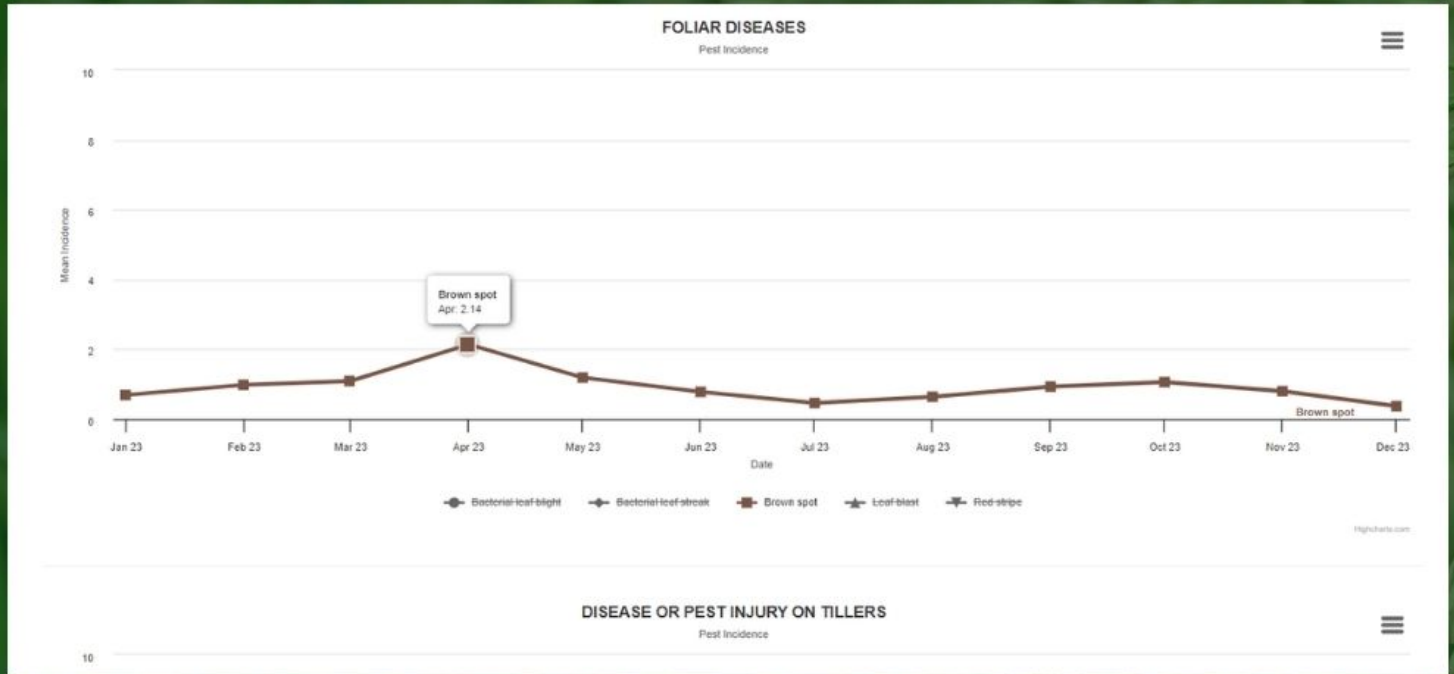
- Regular monitoring of soil nutrient.
- Application of required fertilizer.
- Low silicon soil - apply calcium silicate slag before planting.

Economical management options:

- Use of resistant variety.
- Seed treatment - use of fungicide such as iprodione, propiconazole, azoxystrobin, trifloxystrobin, and carbendazim.
 - a. Primary infection at seedling stage - treat seeds with hot water at 53-54 degree celsius for 12 minutes before planting.
 - pre-soak seeds in cold water for eight hours.



INCIDENCE TREND OF BROWN SPOT ON PRIME PEST SURVEILLANCE DATA FOR JANUARY TO DECEMBER 2023



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References:

- <http://www.knowledgebank.irri.org/training/fact-sheets/pest-management/diseases/item/brown-spot#:~:text=Brown%20spot%20is%20a%20fungal,or%20discolored%20seeds%20are%20formed.>

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- <http://www.knowledgebank.irri.org/training/fact-sheets/pest-management/diseases/item/brown-spot#:~:text=Brown%20spot%20is%20a%20fungal,or%20discolored%20seeds%20are%20formed.>
- https://www.google.com/search?sca_esv=599664238&sxsrf=ACQVn0-CKMOwD9QEXO-utWxhWAFmuP91xQ:1705631196983&q=rice&tbm=isch&source=lnms&sa=X&ved=2ahUKEwjyqvSss-iDAxUyk1YBHdYTARwQ0pQJegQIERAB&biw=1707&bih=830&dpr=1.13#imgsrc=fKqjN38glAY1uM
- App.pestrisk.da.gov.ph.

