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The Spread of Ginger Blast Disease in Wayanad and Disease Dynamics

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Abstract

Ginger blast is a fungal disease that caused by *Pyricularia* spp., which causes yellowing and olive-green spots in leaves. It leads to the rhizome rot and eventually causes drying of entire plant. This article explores the origin of disease proliferation, epidemiology and management measures based on field observation. The study emphasizes how to reduce the devastating loss of the ginger crop due to *Pyricularia* infection in the future.

Introduction

Ginger is a spice and revenue generating crop. In June 2025, ginger cultivation in Kalpetta, Wayanad suffered severe damage due to an outbreak of the fungal pathogen *Pyricularia*. It affects the commercial cultivation of ginger. The blast disease previously known to affect monocot crops like rice. It is the first time that *Pyricularia* blast reported on ginger. This article provides an insight into the cause of ginger blast and its remedial measures.

Disease overview and field observation

The rapid spread of ginger leaf blast, caused by the fungal pathogen *Pyricularia*, has become a major concern for farmers in Wayanad. Initially the disease was observed in Karnataka, then it has rapidly moved into Wayanad, severely affecting ginger cultivation. The primary mode of transmission is through windborne conidia, which allows the pathogen to spread quickly within hours across the field. The presence of collateral host plants such as Echinochloa and *Panicum repens*, which act as reservoirs for the fungus is another major reason. These grasses provide a primary source of inoculum, enabling the disease to establish itself early in the cropping season. Environmental conditions further accelerate the outbreak. The months from May to August, typically marked by frequent rains and high humidity in Wayanad offer ideal conditions for the pathogen. Low night temperatures combined with moisture create a perfect environment for infection and disease progression. The yellowing of leaves and the appearance of olive-green to black spots were the initial symptoms. As the disease advances, it leads to premature yellowing and drying of the foliage. This not only weakens the plant but also affects rhizome development due to insufficient leaf canopy, ultimately reducing yield and quality.

Figure 1: Initial symptom of ginger blast disease
(Source: Field photograph by Author)

Figure 2: After severe infection in ginger crop
(Source: Field photograph by Author)

Control measures for ginger blast

An Integrated Disease Management (IDM) approach is an effective method for controlling the blast disease in ginger. As a Prophylactic measure, select healthy rhizome for planting and treat the rhizome with *Trichoderma harzianum,* a fungal pathogenic biocontrol agent. It is usually available in both liquid and powder formulation. The rate of application for rhizome treatment is 10 grams of Trichoderma in one litre of water. Dip the rhizome in Trichoderma mix for 30 minutes before planting. Weeding should be done properly. Appropriate drainage measures should be provided. If the symptoms are visible in the field chemical management measures should be followed. Spectrum is an effective fungicide can be applied for this disease. The content is Azoxystrobin 11% and tebuconazole 18.3%. The dosage of this fungicide is 1-1.5 ml per litre of water. Other than spectrum Propiconazole (Tilt) and Hexaconazole (Contaf) can also be applied. The dosage should be 1-1.5 ml per litre of water. Carbendazim (Bavistin) were also good at initial stage of infection.

Conclusion

The ginger is a revenue generating spice crop that widely cultivating in Wayand. The ginger blast disease will ruin the entire crop and cause 30 % crop loss. The disease should be addressed and managed properly to avoid crop loss. Identifying the symptoms of this disease will aid farmers to take the appropriate control measures. By adopting integrated disease management measures this disease can be controlled effectively.

References

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