

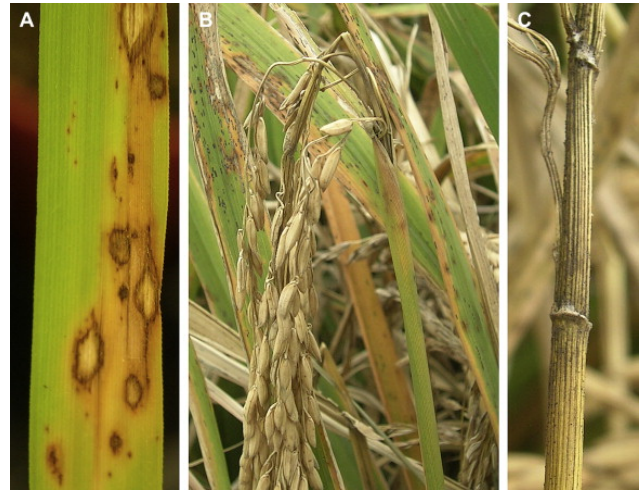
Are You Eating My Crops? 8: Rice blast

Rice blast (*Magnaporthe oryzae*-*Triticum* pathogen), sometimes also referred to as wheat blast, has been reported in 85 countries around the world, where rice is grown. We are passed the halfway mark with the eighth headliner in our 12-month series called 'Are you eating my crops?' Individual pests chosen for this series have not yet been reported in Texas, but are on the 'Watch List' due to their high level of pest importance or risk due to host availability. During this series, we have covered several different crop pests, and what they look like.

Rice blast is caused by a fungus and is one of the most devastating cereal diseases worldwide, resulting in 10-30% losses of the global yield of rice. It can be identified by characteristic oval or diamond shaped spots with dark borders that occur on the leaves, collar – junction of the leaf blade and leaf sheath, nodes, neck, and panicle. These spots develop quickly under moist conditions, can seriously impair grain development, and develop large numbers of spores on both sides of the leaves. The spores infect leaf sheath, stem, and panicle, and cause rot. There are several different types of rot that can occur, such as collar rot, neck rot, panicle rot, and node rot. Approximately 20,000 spores are produced from one lesion. Spore release is triggered by a 1–2 hr period of darkness. The fungus can sporulate repeatedly for around 20 days. The disease has multiple infection cycles in a growing season (polycyclic) with 7 days between spore germination and production of conidia (an asexual reproductive spore of fungi).

This disease is particularly serious in areas that experience frequent and prolonged showers, with temperatures in the range of 75-82° Fahrenheit. The pathogen has jumped hosts to wheat, and is now an urgent problem in South America. The most preferred and cost-effective way of managing rice blast disease is by growing high yielding cultivars with dominant resistance genes. Over 70 blast resistance (R) genes have been identified, however, the problem with single-locus resistance is that it often only lasts for a few years.

If you have question or concerns regarding the headliners, OR you believe you have identified a rice blast infestation, contact invasives@shsu.edu for further instructions.



Rice blast disease symptoms. A. Small necrotic lesion in rice seedling. B. The disease spread to the neck and panicle. C. Neck blast symptoms in which sporulation can be observed at nodes and the neck region. Credit: Galhano and Talbot, 2011. The biology of blast: Understanding how *Magnaporthe oryzae* invades rice plants.



Appressorium formation by the rice blast fungus *Magnaporthe oryzae*. Credit: Galhano and Talbot, 2011. The biology of blast: Understanding how *Magnaporthe oryzae* invades rice plants.