

# Identification of Bacterial Panicle Blight of Rice

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Bacterial panicle blight is caused by a seed- and possibly residue-borne bacterium called *Burkholderia glumae*, and probably a couple of related species. While only identified during the late 1990s in the southern U.S., the disease has likely been here for many years without being recognized. It is called bacterial grain rot in Asia.

The disease is strongly favored by hot summers with very warm nights, and other factors that increase severity are not well understood.

Most varieties are susceptible under favorable conditions, with the exception of Jupiter and the hybrid rices.



**Figure A.** Panicles in a heavily affected field of CL-151 during 2010 in Arkansas. Note upright panicles with mixture of tan and greenish kernels.



**Figure D.** A closeup of a basal kernel lesion.



**Figure B.** As affected panicles mature, they appear progressively more damaged as seen on these in a Bengal field.



**Figures E-F.** Opening heavily infected kernels reveals aborted seeds with a dark basal rot.



**Figure C.** Closer examination of affected panicles earlier in the disease show brownish to gray-brown lesions at the BASE of some kernels. Lesions at the top of kernels are something else.



**Figure G.** A few tillers may develop a dark brown lesion on the flag leaf sheath. Often, this is the only lesion on the tiller. In contrast, sheath blight lesions will be spreading up from the bottom of the tiller. The bacterial panicle blight lesion will gradually become lighter colored in the center but retain a dark brown to dark purple border.



**Figure H.** As the flag leaf sheath lesion matures, a fungus called *Fusarium proliferatum* often colonizes the tissue and covers it with numerous white to pinkish white spores that appear as a powder on the surface of the tissue.



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