

## **1671 Disease resistant genes for prevention of preharvest aflatoxin contamination in transgenic cotton**

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Aflatoxin contamination is an international food safety problem causing enormous economic losses in several crops, including corn, cottonseed, peanut, and tree nuts. Aflatoxins frequently contaminate agricultural commodities and thus pose serious health hazards to both humans and domestic animals. More than 50 countries have established or proposed regulations for controlling aflatoxins in foods and feeds, and at least 15 have regulations for levels of other mycotoxins. The most practical solution to this problem would be to prevent the contamination process in crops before harvest and one of the logical technologies to implement by growers would be to utilize germplasm that possess greatly enhanced resistance to aflatoxin contamination. However, there are no known cotton genotypes that offer natural resistance to aflatoxin producing fungus *Aspergillus flavus*. We have identified several resistance genes, natural and synthetic, for development of transgenic cottons with enhanced resistance to several phytopathogens including *A. flavus*. Significant advantages in developing transgenic cottons that are resistant to diseases and mycotoxin-causing fungal pathogens will be presented in this report.