

Expert talks about immune response of plants

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Chandigarh: On Monday, the foundation day of IISER Mohali, a keynote lecture on “How do plants ward off pathogens?” was delivered by Prof Ramesh Sonti at IISER Tirupati.

The professor and his group have been studying how plants mount immune responses and how microbial pathogens modulate host innate immunity using the interaction between rice and the bacterial pathogen, *Xanthomonas oryzaepv, oryzae* (Xoo), which causes a serious rice disease. By understanding the population structure of Xoo, they have identified rice resistance genes that are effective against Xoo strains in India. Three of these resistance genes have been pyramided into a commercially important rice cultivar, which is now resistant to Xoo and is in commercial cultivation in farmers’ fields in our country.

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The team of researchers had developed an improved rice variety which was resistant to the bacterial blight which is commonly found in Punjab. “We developed resistance genes which are a fine layer of the plant immune system. This work was in collaboration with the Indian Institute of Rice Research. With that institute, we set out to understand genetic diversity of pathogens in India. We collected bacteria from different parts of India. Three resistance genes were found to be effective against Indian strains of Xoo which were introduced into Samba mahsuri--a rice variety-- and we came up with these high-yielding blight resistance varieties,” said Prof Ramesh.