

## Rice Research Receives \$10 Million Grant



Supported by a generous grant of up to S\$10 million by Singapore's National Research Foundation (NRF) over five years, National University of Singapore (NUS) and Temasek Life Sciences Laboratory (TLL) researchers will be working on a new rice research programme. Collaborating with the International Rice Research Institute (IRRI), the researchers will look into the most pressing concerns faced by rice farmers in Asia, especially how rice farming can become better adapted to climate change.

Led by Prof Prakash Kumar of the NUS Department of Biological Sciences and Dr Naweed Naqvi of TLL, the research team aims to develop new rice varieties with built-in protection against diseases, find efficient means to regulate water and fertiliser needs, and basically, devise smarter ways to sustain rice production and ensure long-term food security.

Said Prof Kumar: "This grant from the National Research Foundation will enable our teams to help improve yield and disease resistance in rice, and to adapt the crop to rapidly changing environmental conditions." He added that an integrated research approach will be adopted to develop rice varieties with environmental stress tolerance and disease resistance, but without decline in yield.

On the aims of the research, Prof Kumar said: "We have three broad aims: First, to adapt selected high yielding rice varieties for the environmental changes. The second aim is to identify molecular mechanisms of disease development and generate rice varieties with enhanced resistance to key fungal and bacterial diseases. Thirdly, we will study the molecular mechanisms of yield enhancement – including better seedling vigor, better water and fertilizer use efficiency. As part of this we

will also study the molecular regulation of flowering time that affects seed set.

"We are delighted to see Singapore stepping up as a regional leader with this investment in international rice research. We need to be thinking beyond national borders to help tackle food supply issues, and Singapore is showing real leadership within Asia by doing just that," said IRRI's Deputy Director General for Research Dr Achim Dobermann.

Singapore is a place of choice to carry out such research as the country relies entirely on imported rice and is thus subjected to the fragility of rice supplies and price escalations in international markets. Rice remains a staple food for more than half the world's population. In Asia, rice cultivation is done over 140 million hectares with 600 million tons of rice produced annually.