

## MEDIA RELEASE

Embargo: 9am AEDT 13 December 2021

**Media are welcome to attend.** Interviews can be prearranged for Mon, 13 or Tues, 14 December. All media releases will be available [here](#) and the full program is [online](#).

### FUTURE PROOFING AGRICULTURE: Tools and Technologies Essential to Reduce Risks

New innovative tools and technologies are essential to mitigating the major harm from biosecurity and other risks threatening the ongoing contributions of agriculture to human health and wellbeing. Their development and deployment will have significant impacts on poverty, food security and trade by future-proofing agriculture.

This is the focus of the overview address by Dr Robert B. Horsch, Advisor for the Global Commission on Adaptation at World Resources Institute in his overview address on 14 December to the 2021 Crawford Fund annual conference, titled *Food & Nutrition Security – The Biosecurity, Health, Trade Nexus*.

"Existing and emerging tools and technologies are vital if agriculture is to reach its potential in boosting human health and wellbeing," said Dr Horsch, who was formerly Deputy Director, Ag R&D at the Bill & Melinda Gates Foundation.

"When looking at the risks to agriculture, it is extreme poverty and ineffective policies for development, trade and regulations that are the largest risk multipliers, and abiotic/biotic stresses are major risk drivers."

"To mitigate these multipliers and drivers, prevention, effective responses, and innovation are essential."

"Tools and technology for monitoring, modelling and predicting risk emergence; deploying, tracking and optimizing existing solutions, and on-going innovations for better tools and solutions are keys to future proofing our agricultural system," said Dr Horsch, who is a leader in the effort to create agricultural technologies that help improve yields and incomes for farmers around the world.

"I understand that much of Australia is open to the importance of using every tool in the toolbox. Certainly, there are many solutions that can only be achieved with GMO's, for example," he said.

Dr Horsch will present examples of successful technologies of interest to both Australia and our neighbours around key issues needing to be addressed - water-use efficiency, soil fertility and plant virus and diseases.

"Poor soil fertility, pests and disease-causing pathogens are the major limitations on agriculture using existing best practices."

"While Australia faces significant soil issues, I would argue that soil fertility can be readily solved. So, the future will be limited primarily by pests, pathogens and increasing abiotic stresses, particularly under climate change," he said.

"New strains of wheat rust, of particular concern in Australia, have emerged in eastern Africa and spread around most of the world. Deployment of single resistance genes have led to progressive loss of their effectiveness, complicating efforts to build a more durable resistance package. Molecular efforts to splice together multi-gene packages and using synthetic biology to create new resistance genes, not found in germplasm collections, promise a more robust and durable solution."

Other speakers at the event include:

- **Dr Agnes Kalibata**, UN Secretary General's Special Envoy to the 2021 Food Systems Summit
- **Su McCluskey**, Special Representative for Australian Agriculture
- **Professor Prabhu Pingali**, Founding Director, Tata-Cornell Institute for Agriculture and Nutrition

