IRU In Asia: Meet The Researchers

Food Security and Production in Australia and China

Project

Context
China grows sufficient food to meet the needs of a fifth of the world’s population from less than one tenth of its arable land. China is now the world’s number one wheat growing nation and wheat production has supplied from 92% to 102% of domestic demand in recent years. The Government of China has a national food security strategy that aims to increase grain production by protecting China’s arable land, reducing food waste, and investing in agricultural research. China wastes at least 35 million metric tons of grain every year due to poor storage and transportation methods - these losses could feed 200 million people for a year. Research that delivers outputs for enhancing food security is a priority for the region. Providing healthy and clean food, reducing postharvest losses, improving grain quality during storage, and managing pests and diseases that affect the food supply are challenges for international research programs. In addition, changing human diets (e.g. shift to more animal protein), climate variation (e.g. increased drought frequency and severity), further population growth and other factors affect China’s dependence on international markets for agricultural products. China buys more of Australia’s agricultural produce than any other market. In 2013-14, this market was worth $9 billion to Australian farmers and the broader agricultural sector and this is predicted to grow under ChAFTA.

To address food security and trade between China and Australia, Murdoch University and lead research laboratories in China are building five joint research centres which will:

» Work to develop multiple stress-tolerant crops and production systems in China and Australia,

» Work to develop new wheat cultivars with superior grain quality for food processing in China,

» Work with the key end grain users on solving national issues in Australia and China relevant to postharvest grain biosecurity and quality.

Benefits
SOCIAL
» Enhancing regional food security
» Delivering clean and green food to international markets
» Improving human nutrition

ECONOMIC
» Improving and sustaining market access for agricultural and horticultural products
» Reducing loss of food during postharvest

ENVIRONMENTAL
» Reducing risks from invasive species
» Developing new stress-tolerant crops
» Reducing impact of animal disease outbreaks
» Advancing technologies

The Future
Since its beginning, Murdoch University has been a strong contributor to agriculture in WA and internationally. It is Murdoch’s vision to continuously contribute to the greater Australia-China relationship via its ongoing engagement with China’s key national research academies and universities. The joint research hubs will address issues that are of national significance to both Australia and China in the important fields of food production, food security, biosecurity and trade. Complimentary work is being undertaken by the Second Murdoch Commission, Food security, trade and partnerships: Western Australia in regional food systems, which is enquiring into the technical and scientific as well as the economic and policy dimensions of the food security challenges in the region. The Commission’s work supports the broader strategic research focus of the University in areas related to food security and biosecurity. In addition to deepening and adding value to the Western Australia’s relationships with the Asian region and beyond. In addition, from 2016 Murdoch will offer a new major in Crop and Pasture Science to complement the University’s existing undergraduate and postgraduate qualifications in Veterinary Science, Animal Science, Food Security, and Biosecurity, and this will complement the China-Australia partnerships being established.