End hunger, achieve food security and improved nutrition and promote sustainable agriculture

TEACHING AND STUDENTS

IFSTAL

There is a lack of workforce with skills in food systems thinking.
Across the world, one billion people are hungry, two billion lack sufficient nutrients and over two billion are overweight or obese. IFSTAL is an interactive training programme designed to improve post-graduate level knowledge and understanding of the food system.

The aim of IFSTAL is to provide students with knowledge and skills they can transfer to the workplace. The programme brings together the University of Warwick with the University of Oxford and the Leverhulme Centre for Integrative Research on Agriculture and Health. It uses a range of teaching methods, including a virtual learning environment. A research placement and internship programme are also being developed.

Teaching Courses

Postgraduate courses on Food Security and Sustainable Crop Production are taught in the university's School of Life Sciences, ranked 2nd in the UK for Agriculture. The Food Security MSc course analyses the critical factors influencing global food security including the contributions of climate change, biodiversity, land use, labour, diet, and urbanisation.

Sustainable Crop Production: Agronomy for the 21st Century MSc provides students with knowledge and practical skills in crop management and crop improvement. Students learn the principles of crop production, including the latest advances in plant pathology, integrated pest management and soil health.

RESEARCH

UK Vegetable Gene Bank

The Wellesbourne Campus hosts the UK's Vegetable Gene Bank. It was built as a result of an OXFAM fund-raising campaign and it is currently funded by Defra. The Genebank manages a collection of approximately 14,000 samples of vegetable crops such as cauliflower, carrot, kale, and onions which are essential for a balanced and healthy diet. Our conservation work means that seed from wild species related to crops, farmer-developed landraces and other varieties remain available for use. This enables plant breeders and researchers to access the widest range of diversity possible.

Vegetable Genetic Improvement Network

The Vegetable Genetic Improvement Network was initiated with funding from Defra. It involves collaboration between the University, Harper Adams University and industrial partners. The Network brings together research focused on key vegetable crops and encourages collaborations between industry and researchers to address how genetic improvement of crop varieties can contribute to a sustainable increase in food production to meet the twin challenges of food security and climate change.

AMBER

Biopesticides are safe crop protection products based on micro-organisms, plant extracts and other natural compounds. In addition to their ability to control pests and diseases, biopesticides produce little or no toxic residue, and partly for this reason they are usually considered to be minimal risk products for human health.

AMBER (Application and Management of Biopesticides for Efficacy and Reliability) is a research project involving members of Warwick Crop Centre to identify practical ways for growers to improve the performance of these products in their crop protection programmes. AMBER is funded by the UK Agriculture and Horticulture Development Board and sees members of the university collaborate with RSK ADAS Ltd, Silsoe Spray Applications Unit Wrest Park and Rob Jacobson Consultancy Ltd.

FlyIPM

Several important vegetable crops grown outdoors in temperate climates can be damaged by the root-feeding larvae of flies. Insecticidal control options are limited and overall, there is a European ambition to reduce pesticide use, articulated in the new EU Biodiversity and Farm to Fork Strategies.

FlyIPM is a European project coordinated by Warwick Crop Centre, funded in the UK by Defra. It focuses on the tools and approaches that might be part of an Integrated Pest Management strategy for these pests. The project has focused particularly on biocontrol, physical barriers to exclude pests, and combinations of attractants and repellents to manage them.

Crop yield in Ethiopia (GCRF)

Enhancing agricultural productivity to contribute to sustainable food security is Ethiopia's major focus. Ethiopia is the Africa's second most populous country and enset, or false banana, provides year-round food to 20% of the population. The crop yields a large starchy corn, is highly drought tolerant and can survive for more than a year without water. However, enset is virtually impossible to breed.

Researchers from the University led a project designed to understand which parts of the enset genome play a role in making a better crop. These parts can then be selected by molecular techniques. These studies will contribute to increasing yields, and improving tolerance to disease and drought, which is crucial in order to make the country more self-sufficient and help alleviate hunger.

Child nutrition in Mauritius (GCRF)

The Republic of Mauritius in the Indian Ocean is a country with little or no quality data on the prevalence of malnutrition in children under five. The country has a paper-based child nutrition surveillance system which collects weight data amongst children up to the age of five from growth monitoring clinics. This system faces challenges of very poor data quality and long delays between data collection, analysis, and presentation. The surveillance system's limitations pose a threat to the country's ability to plan for and respond to current and future nutrition problems.

Improving surveillance of childhood nutrition in the Mauritius was the focus of a project by researchers. The project involved developing a mobile-based child nutrition surveillance system, data is collected on a mobile app and dashboard to enable near real-time monitoring.

OPERATIONS

RAWKUS

RAWKUS is a project that aims to save surplus food and equipment from student kitchens across campus at the end of term/year. Over 35 Tonnes of food and other items have been saved from ending up in the bin and have been given to local charities and food banks.

PUBLIC ENGAGEMENT

Bake it Up!

Bake It Up! aims to improve the self-esteem of young people by allowing them to get creative in the kitchen and achieving something they can be proud of. Student volunteers are responsible for planning and running the two after school clubs, which enable participants to develop new skills, learn to work as a team and gain knowledge about various ingredients and foods. The clubs take place at Sydenham Primary School in Leamington Spa for 7-11 year olds and at Westwood Academy in Coventry for 11-13 year olds.