

02

ZERO HUNGER



2018-2022 Publications

74



Course Units

60



Student Engagements with Units on SDG 2

1,154



2018-2022 Percentage of all Taiwan Publications

5%

Research

Promoting the Development of Smart Agriculture

In response to problems faced by the global agricultural industry, such as drastic climate changes, an aging workforce, labor shortages, and the overuse of pesticides, NYCU established the Center for Intelligent Photonics in Agricultural Robotics (CiPAR) to promote modularized innovative development and manufacturing of economical field robots suitable for different farmlands and farming needs. Through industry-academia promotion services, innovative prototypes are sent to partner enterprises to actually implement field robots and thereby promote agricultural transformation and sustainable operations through smart agriculture.

Food Risk Assessment Surveys

The research team of Associate Professor Yi-Jun Lin of NYCU's Institute of Food Safety and Health Risk Assessment found that the primary sources of nitrates in diet of Taiwanese people are Brassicaceae microgreens and cabbages, while white rice is the primary source of nitrites, far exceeding the amount from processed meat. Through toxicokinetics, the research team further simulated the human body's absorption, distribution, and metabolism, and found that the health risks of nitrates and nitrites consumed by Taiwanese people of all ages in their everyday diet are almost negligible. The team also discovered that the benefits of nitrates and nitrites in preventing cardiovascular disease far outweigh the health risks. The research findings confirmed that nitrates and nitrites are not only harmless to the human body, but can also have benefits and functions when taken in safe amounts.



Social Impact

Subverting Traditional Agricultural Production Models

Responding to the global trend of electric, smart, and unmanned agriculture, and to solve the agricultural industry's problem of an aging workforce and labor shortages, NYCU's College of Photonics established the "Agri-ICT Hub," using core technologies and resources such as information and communication technology, artificial intelligence, and optoelectronics to provide technical support and consultations on key technologies to traditional agricultural machinery manufacturers and operators, lowering the bar for technical expertise and reducing development costs and risks. Agri-ICT Hub currently has 20 members and collaborates with institutes like the Taiwan Agricultural Machinery and Supplies Association (TAMSA), Taiwan Agricultural Machinery Manufacturer's Association (TAMMA), and the "Agricultural Machinery Electrification Industry Strategic Alliance" of the Industrial Technology Research Institute.

Community Farm Field Trip

NYCU's Liberal Arts College organized the "NTHU Waldorf Education Farm Field Trip" event, taking students to community farms where they can reconnect with nature, the land, and the community, gaining a hands-on understanding of the Waldorf education philosophy. The trip involves harvesting produce, processing it into jam, and learning about the advanced farming technique of sheet mulching, showing students eco-friendly and natural farming techniques in hopes of inspiring them to apply the professional knowledge they've learned to the fields of food and farming.

Education & Cultivation

New Agricultural Innovation Technology and Industry Course

In response to climate, ecological, and environmental changes, changes in the population structure, free trade, and rising food safety awareness, new agriculture has become an important part of the new generation of bioscience and technology. NYCU's Department of Bioscience and Technology offers the course "New Agricultural Innovation Technology and Industry," which encompasses aspects of innovative value-added agriculture such as bio-based economy, circular agriculture, smart agriculture, green energy, value-added food, and food safety technology, guiding students to understand the development of new agricultural innovation technology and industry, strengthen their academic competency in the field, and increase the chances of them joining this emerging industry in the future.

Food Safety and Health Risk Assessment Course

Thanks to its science and medical foundation, NYCU's Institute of Food Safety and Health Risk Assessment supports food and health safety risk assessment mechanisms, planning comprehensive courses in food and health safety assessment and analysis, such as Food Processing and Manufacturing Management, Food Safety Laws and Management Science, Food Safety and Life, etc. The courses cover knowledge such as food analysis and food safety laws, enabling students to study fields such as food safety and health risk assessment, risk management, risk communication, and food safety and hygiene regulations according to their interests and needs.

Stewardship

Establishing a Healthy and Sustainable Food Environment

NYCU established the Food Management Committee and Food Task Force to supervise matters relating to food operations, food provider performance evaluations, food safety and health, etc. Food providers on campus not only provide calorie and nutritional information, but also offer discounted prices and occasional promotions to ensure that poor and disadvantaged groups do not suffer from hunger and have access to safe, nutritious, and sufficient meals. To reduce food waste, food providers on campus track the amount of food waste generated every month as a basis for subsequent meal production. NYCU conducts a user satisfaction survey every semester and regularly inspects the food served in restaurants on campus to ensure food safety. NYCU also encourages food providers to purchase traceable vegetables, certified organic agricultural products, and traceable eggs to help maintain ecosystems and sustainable food production policies.