Scientific Progress

The increase in human population coupled with decreasing land area for growing food, make for one of the biggest problems facing humanity. In combination with a warmer, arid, and less predictable climate, hundreds of millions are facing severe hunger risks.

Prof. Zvi Peleg and Dr. Ittai Herrmann (Robert H. Smith Faculty of Agriculture, Food and Environment) are collaborating with Dr. Reut Barak Weekes (Faculty of Social Sciences and the Glocal International Development Program) on OptiWheat, a research project that aims to maximize food security in a changing climate by bringing together cutting-edge plant science, remote sensing, and community assessment tools to increase food security in developing countries. Dedicated to optimizing crop-use efficiency by applying genetics, physiology, and remote sensing methods alongside socio-economic approaches, OptiWheat lays the foundation for optimizing crop-use efficiency and for promoting climate-resilient wheat cultivars.

Different solutions for climate adaptation are required in different regions of the world. In the Middle East, drought is the major source of food insecurity. In international cooperation with Al-Balqa' Applied University in Jordan, HUJI researcher Prof. Henryk Hanokh Czosnek (The Robert H. Smith Faculty of Agriculture, Food and Environment) have developed a virus that enables tomatoes to better cope with periods of drought. Further research with potatoes, lettuce, and other foods is being carried out by additional teams from HUJI, to increase food security.

Community Impact

HUJI consistently strives to solve real-world problems by applying ideas generated through scientific research. Kinoko Tech, an innovative food-tech company, is producing the next generation of protein-rich food through fungi and fermentation. HUJI alumnae Drs. Dalia Feldman, Jasmin Ravid and Hadar Shohat, founders of Kinoko Tech, won the 2022 HUJI Asper Prize for Emerging Startups. Kinoko Tech's protein-rich food possesses ideal characteristics: it can grow in varied environments, produces zero waste, demands almost no energy and very minimal water needs.
Finding substitutes for food from unsustainable sources, particularly those that can feasibly be adopted by the popular consumer, is a crucial task.

In cooperation with the American Friends of the Hebrew University, HUJI organized a webinar with Prof. Nurit Argov-Argaman (Biomilk), (Robert H. Smith Faculty of Agriculture, Food and Environment) and Prof. Yaakov Nahmias (FutureMeat) (Grass Center of Bioengineering at the Faculty of Natural Sciences). They shared their scientific work which led to the creation of alternative food products that provide sustainable and nutritional alternatives to current energy-consuming foods.

Studies and Learning Initiatives

The Robert H. Smith Faculty of Agriculture, Food and Environment offers B.A. degrees in Biochemistry, Food Sciences, Agricultural Biotechnology, Nutrition, Agroecology, Plant Health, Plant Science in Agriculture, and many more. As such, the faculty is a major contributor to Israel's remarkable achievements in agriculture, and their global impact, through its groundbreaking research and education of generations of students. Hebrew University is the only institute of higher education in Israel that offers academic degrees in agriculture. It is also home to the only schools of Nutritional Sciences and of Veterinary Medicine in Israel.

Prof. Oren Froy, head of Hebrew University's Institute of Biochemistry, Food Science, and Nutrition, cooperated with the Israel 70+ project to create "What's on the Menu? The Future of Food," an engaging, futuristic video discussing the source of our future food, plant-based nutrition, and other burning questions.

Actions on Campus

Faculty members of the Robert H. Smith Faculty of Agriculture, Food and Environment provide an agricultural farm that is free for use by experienced Israeli farmers that come from Ethiopia. The farmers grow produce by traditional Ethiopian methods and participate in a "practical agriculture" course, sharing their knowledge and experience in sustainable farming with students through this inspiring scientific and social project. In 2016, Hebrew University Prof. Alon Samach offered plots to eight farmers, and now, in 2022, there are 40 farmers. Each week, after tending to the crops, everyone – from experienced elderly farmers to young students – comes together for an intergenerational workshop combining scientific and social takeaways.

The Student Union on the Rehovot campus collects fresh, perfectly edible food that is about to be discarded and distributes it to people in need.