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Leading Biologist of CUHK Plans for a Plant Gene Centre at CUHK

"The major challenges facing the world in the next 50 years are to feed and shelter its rapidly growing population, projected to reach 9 -10 billion by the year 2040. Hong Kong people consume large amounts of foods each day, nearly all of them imported. Are we secure from food shortage in the future?" Prof. Samuel Sun, Department of Biology at **The Chinese University of Hong Kong**, raised the question.

Prof. Sun is the first biologist to isolate a plant gene in the world in 1980. He has since been working and known in the field of plant genetic engineering, through inserting useful genes into plants to improve their nutritional quality; their resistance to insect, virus, and herbicide; and thus their yields.

Prof. Sun pointed out that adequate food supplies or solving the eat problem of China is very important. Rapid growth in economy and industrialization in China has brought about shrinking farm lands and decreasing farm hands, and stagnant agricultural productivity. Maintaining food security for one quarter of the world's population is an urgent matter, and China has recently placed agriculture the first priority among its heavily invested (10 billion RMB) 15 science and technology development projects in the next 5 years.

"The land in Hong Kong is of course sparse, expensive, and not suitable for agricultural development, but Hong Kong can serve as a biotechnology supporting district, Hong Kong is capable of and will do well in generating what I will call 'intellectual agricultural products', such as superior genes, high quality seeds, seedlings, and cell lines, and novel techniques through high technology approach, which does not need large land areas but laboratories and greenhouses," Prof. Sun said.

In fact, Prof. Sun has been teaching and collaborating with institutes and universities in China to develop better crops since 1980. Recently, he set up cooperation with the Institute of Botany, Academia Sinica, the National Engineering Research Center for Vegetables, and the Chinese Academy of Agricultural Sciences, to clone and insert the lysine-rich protein gene from winged bean into grains for

increased nutritional value. He also joined forces with the Beijing Vegetables Research Center, with the support of Beijing Science and Technology Commission, to establish a Germplasm Improvement Laboratory, to collect wild plant species for identification and isolation of useful genes for crop improvement.

Prof. Sun has applied for and will continue to seek supports from HK government agencies and private sources to develop a plant molecular biotechnology programme in the Department of Biology of CUHK. He hopes to establish a **Plant Gene Center** in **The Chinese University of Hong Kong**, to advance the biotechnology industry in Hong Kong.

Prof. Sun also said that the Biology faculty of **CUHK** will continue to emphasize and work on other areas of biotechnology including marine, environmental, food, animal, and microbial, so as to provide, through training and cooperation, the latest knowledge and technologies in biology to HK, China, Taiwan, and the region.

Prof. Sun received his B.Sc. cum laude degree from the **Chinese University of Hong Kong**, B.Sc. (Special Hon.) and M.Sc. degrees from the **University of Hong Kong**, and Ph.D. degree from the **University of Wisconsin-Madison**. He stayed on as a Postdoctoral Fellow and then an Assistant Scientist from 1975 to 1979. He was the Principal Scientist and Director of Molecular Biology at the **ARCO Plant Cell Research Institute**, U.S.A., from 1980 to 1987, and Professor of the Department of Plant Molecular Physiology at the **University of Hawaii** at Manoa in 1987 - 1994, before joining the Department of Biology at **CUHK** in December last year.

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* The photo of Prof. Sun will be distributed via G.I.S. box.