FRENCH AND AMERICAN SCIENTISTS ESTABLISH LABORATORY TO DEVELOP DISEASE-RESISTANT, HEALTHIER CROPS FOR DEVELOPING NATIONS

Five-Year Agreement Between ORSTOM And The Scripps Research Institute

LA JOLLA, CALIF. Aug. 21, 1991 -- Institut Français de Recherche Scientifique pour le Développement en Coopération (ORSTOM), and The Scripps Research Institute (TSRI), have signed a renewable five-year cooperative agreement to establish a laboratory for research and training dedicated to the development of disease-resistant, healthier crops for developing nations.

ORSTOM, which is a French public research institute, will provide support for a team of five ORSTOM scientists (approximately $3 million in the first five year period) to participate in the International Laboratory for Tropical Agricultural Biotechnology (ILTAB), located at TSRI in La Jolla, Calif.

This is the first time that ORSTOM has collaborated with an American institution to formally establish a research program in the United States. With 800 researchers and more than 2,000 employees, ORSTOM operates in more than 50 countries throughout the world to help developing nations increase their scientific expertise in such areas as the biological sciences, earth and soil sciences, water and ocean sciences, and human sciences.
TSRI is the world's largest private, non-profit biomedical research facility not affiliated with a university. With more than 1,000 staff members, TSRI conducts basic research in cell biology, chemistry, immunology, molecular biology, molecular and experimental medicine, and neuropharmacology.

During the formal signing of the agreement, Richard Lerner, M.D., TSRI's president, noted that both "ORSOM and Scripps have the same mandate, which is the harmonious development of mankind." And, Michel Levallois, ORSTOM's chairman, added that "as a cosponsor of ILTAB, ORSTOM is very proud to launch this project with an institute as famous as Scripps for the benefit of humanity in developing countries."

Lerner and Levallois added that the agreement is a demonstration that scientists are conscious of the increasing problems of developing countries, that programs should be undertaken to help these countries, and that ORSTOM and TSRI are prepared to share facilities and technologies in establishing these programs.

Under the direction of Roger N. Beachy, Ph.D., head of TSRI's Division of Plant Biology, and ORSTOM's Claude Fauquet, Ph.D., ILTAB will concentrate on improving crop resistance to pathogens (such as viruses, fungi and bacteria), improving the nutritional value of specific crop plants, and designing plants with tolerance to salt and drought stresses. Among the crops to be investigated are the cassava plant, rice and sweet potatoes, with scientific activity including plant tissue culture, transformation and regeneration, and studies in molecular biology, including gene
expression and virology. Future research may include other vegetables, root and tuber crops, and fruit crops.

As part of its expansion in plant sciences, TSRI plans to build a transgenic plant facility that will include glasshouses, growth chambers, and tissue culture laboratories.

Under the ORSTOM-ILTAB agreement, ILTAB will provide training for scientific staff from developing nations. Among the 25 ILTAB researchers will be representatives from the United States, France, Germany, China, Peru, Columbia, Egypt, India, Cameroon, Ivory Coast, Togo and other developing nations.

When research results in improved crops, the new technology will be transferred to the developing nations through universities or national and international agricultural research centers within each country. During the past three years, collaborations between the scientific staff at several of these centers have determined how the needs and challenges they face can be tackled in a cooperative manner, according to ORSTOM officials.

A network for Tropical Plant Biotechnology will be established to link major laboratories in the developed countries that are involved in the transfer of technology to developing nations. European, Australian and American laboratories from both public and private sectors will be partners in the network that will interconnect existing networks in South America, Africa and Asia.

ILTAB is an extension of informal collaborative work between Beachy and Fauquet at Washington University in St. Louis during the past three years.

Beachy, who joined the TSRI Department of Cell Biology in MORE
July, said that he came to TSRI because "so much of what we do in genetic engineering requires full knowledge of structural molecular biology and chemistry, two of the strengths at TSRI. We'll draw on the technical and intellectual resources here to alter plant traits and develop new uses for plants. The agreement with ORSTOM and the establishment of ILTAB will make it possible to extend some aspects of the fundamental research to the needs of developing countries."

Beachy's research combines his training in plant pathology and molecular biology. In the early 1980s, he realized that scientific advancements involving genetic transfer could be applied to plant production and protection against plant pests and diseases. His work has been considered the cornerstone that may provide new varieties of pest- and disease-resistant crops for the world's population of the late 20th and early 21st centuries.

Fauquet, with the sponsorship of ORSTOM, initiated the International Cassava-Trans Program at Washington University; the program will represent a major component of the ongoing research in ILTAB. Fauquet has extensive experience in tropical agriculture as a result of 14 years in the Ivory Coast (West Africa) as a plant virologist. His insight into the problems of tropical agricultural and his familiarity with international and national research institutes are important components of ILTAB.

The research programs of ILTAB are currently sponsored by ORSTOM, the Rockefeller Foundation, IFAR/USAID (International Fund for Agricultural Research, funded by a grant from the U.S. Agency for International Development), and governmental research agencies in Germany and the Netherlands. It is anticipated that other
agencies, foundations, individuals and institutions will support ILTAB programs and training activities, according to ORSTOM officials. Beachy and Fauquet hope to establish a pool of research fellowships dedicated to ILTAB through donations from private individuals, companies and foundations.

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