

BUILDING PROGRAM UNDER WAY —

A USAID building grant was made available March 31 and the IFDC Phase A construction contract was formally awarded April 12. Brasfield and Gorrie, Incorporated, were low bidders and initiated clearing and excavation work as soon as the contract was signed.

Phase A of the 3-phase building program includes a greenhouse and headhouse, 4 laboratories, and 12 offices to be ready for occupancy October 1976. Earthworks and foundations and part of the structural steel installation for the main office-laboratory building are included in Phase A.

The pilot-plant building—with associated laboratories and offices—is Phase B and will be contracted in June 1976 with a completion target date of February 1977.

Phase C will include the completion of the main laboratory-office buildings and total landscaping. The Phase C contract will be let in September 1976 with completion and occupancy targeted for March 1978.

IFDC's current staff of 40 people is housed temporarily at two locations. The Agro-Economic Division and the Fertilizer Technology Division occupy 14 offices and 5 laboratories in TVA's renovated old medical building. The Outreach Division and corporate management and staff are in rented offices in Florence, Alabama.

Phase A structures will be occupied by Agro-Economic personnel and a limited number of Technology Division personnel, and Phase B facilities will be filled with the remaining Technology Division staff members. However, due to staff expansion plans, temporary facilities now occupied will be retained until the total building program is completed in March 1978.



Dr. Don McCune explains the new IFDC building plans at a building site visit during the board meeting. From left to right are D. L. McCune, J. A. Hannah, Moise Mensah, S. K. Mukherjee, John Malcolm of AID/Washington, Webster Pendergrass, and F. P. Cardoso.

IFDC BOARD MEETS

Dr. John Hannah, Chairman, convened the full IFDC Board at Florence, Alabama, USA, on March 25 and 26. The business agenda included:

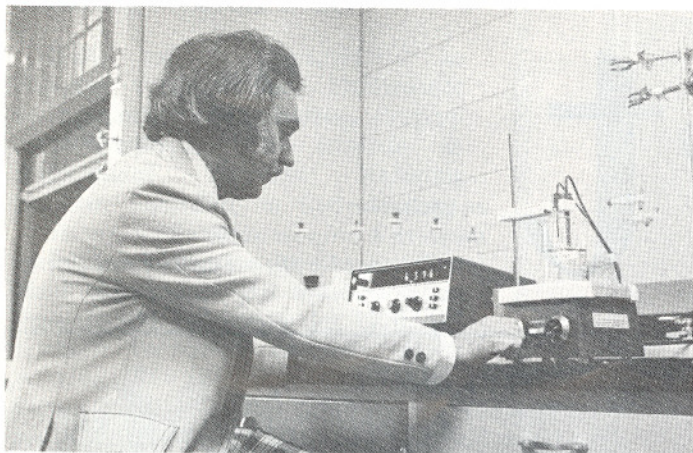
- * Review of current program activities, operational program plans for CY 1976, and long-term program objectives and plans.
- * Discussion and approval of the auditor's report through CY 1975.
- * Approval of Brasfield and Gorrie, Incorporated, of Birmingham, Alabama, as prime contractor for Phase A of the IFDC building program at \$1,789,000.
- * Review and approval of reimbursable program contracts totaling approximately ¼ million dollars.
- * Formation of a three-member executive committee of the Board to meet as necessary to conduct urgent business between regularly scheduled full Board meetings. Executive committee members are Chairman John Hannah, Vice Chairman Webster Pendergrass, and Mr. Moise Mensah.

Mr. Lynn Seeber, General Manager of TVA, resigned his position as IFDC Secretary-Treasurer. He cited the necessary close working relationship between IFDC and TVA as the reason for his resignation from the IFDC Board. Mr. Seeber assured the Board at their request that he or a person designated by him would attend future Board meetings as an observer or advisor. Dr. Pendergrass assumed the responsibilities of secretary-treasurer along with his vice chairman responsibilities.

The next full Board meeting was scheduled for the first week of October 1976; the executive committee will meet in early July.



IFDC Phase A buildings come out of the ground. View taken looking southwest in the management area basement. Underground parking area is in right center of picture. Headhouse basement shown in rear center of picture. Outreach/training and main lab wings to be above ground at right center of picture. The construction work continues.



Owen W. Livingston is a native of Alabama. He is a chemical engineering graduate of Auburn University. During 1955-1960, he worked at TVA as a Co-op student of Auburn. He served as chemical engineer in TVA's Applied Research Branch from 1960-1972. During 1972-1975, he was chemical engineer for TVA's International Fertilizer Development Staff. In that position, he completed assignments in Paraguay, Brazil, Guatemala, Spain, Portugal, Saudi Arabia, Indonesia, Philippines, Japan, and the People's Republic of China. He joined IFDC in 1975 and is currently Director of the Fertilizer Technology Division.

FERTILIZER TECHNOLOGY RESEARCH AND DEVELOPMENT

"An immediate major thrust of IFDC's fertilizer technology research and development work is to help developing countries exploit indigenous phosphate sources to supply a portion of their phosphate needs," Owen W. Livingston, Director of IFDC's Technology Division, explained at the recent Board of Director's meeting.

Current research work emphasizes beneficiation tests to determine potential uses for ores: (1) high in chloride content; (2) high in reactive and nonreactive silica; (3) high in calcium carbonate; (4) high in iron and aluminum; (5) low grade due to impurities such as clay, quartz, and mica; (6) high in magnesium; (7) high in organic matter; and (8) that are less reactive. These ores will be compared with Florida rock for use in production of phosphoric acid and single and triple superphosphate.

Fundamental studies will be conducted on eight different phosphate rocks to determine their behavior in reagents and soil solutions. Rock sources are Tapira, Brazil; Huila and Pesca, Colombia; Sechura, Peru; Gafsa, Tunisia; and Florida, North Carolina, and Tennessee, USA. Laboratory tests on some of these rocks will be correlated with agronomic results from Centro Internacional de Agricultura Tropical (CIAT).

IFDC is contracting work with TVA that includes production of supergranule urea, production of single and triple superphosphate, direct fixation of nitrogen, effectiveness of phosphate rock for direct application, rock characterization, improving physical condition of rock for direct application, thermal treatment of phosphate rock, and sealants for sulfur-coated urea.

Facilities under construction for IFDC will provide laboratories and pilot plants to expand research programs. Phase B facilities to be completed in early 1977 will have equipment to conduct bench-scale and small pilot-plant work. This will expand phosphate work and allow nitrogen work to begin.

A major effort will be to develop methods to improve the efficiency of nitrogen fertilizers under tropical conditions.

By 1978, long-range projects such as nitrogen fixation and alternate hydrogen sources can begin.

Accelerating Agricultural Development

"IFDC will develop and disseminate agronomic and economic information to leaders in developing countries that they must have to create sound policies and priorities in using fertilizer to speed agricultural development. We will conduct research in soil fertility, soil chemistry, agronomy, economics, sociology, and related areas," says Per Pinstrup-Andersen, Director of IFDC's Agro-Economic Division.

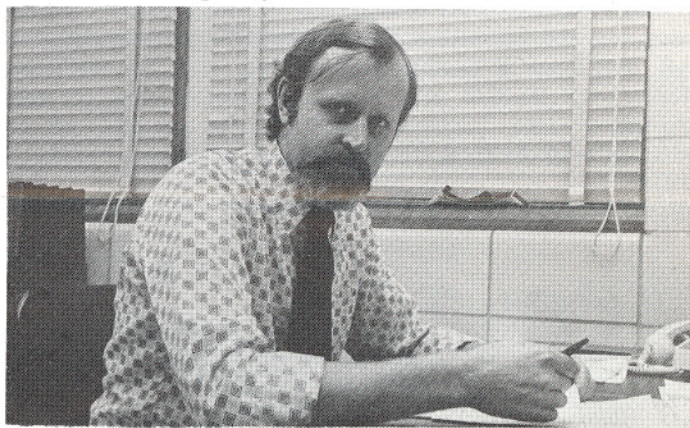
Studies to determine the feasibility of direct application of phosphate rock in tropical soils are being conducted. Laboratory and greenhouse projects are under way in Alabama (USA) and the Middle East. Field projects are also being established, particularly in Latin America.

Work is being done to identify factors that determine fertilizer use among small farmers and possible means of modifying those factors to help expand fertilizer use and thus increase food production.

Scientists will soon begin research on nitrogen/soil/plant interactions to discover why nitrogen losses occur in the soil and help develop ways to reduce losses.

A series of country case studies will be initiated to assess the effect of selected public policy measures aimed at expanding fertilizer usage. Social benefits and costs will be estimated. Selected fertilizer sector issues with important international implications will be analyzed. Examples are recent drastic fertilizer price changes and current efforts to increase self-sufficiency in fertilizer production in developing countries.

Dr. Pinstrup-Andersen says IFDC will work to improve methods of forecasting fertilizer supply and demand. Efforts are already started in Colombia, for example, to improve fertilizer marketing analysis.



Per Pinstrup-Andersen is a native of Bislev, Denmark. He holds a B.S. degree from Royal Veterinarian and Agricultural University, Copenhagen, Denmark, and the M.S. and Ph.D. degrees from Oklahoma State University. He has served in various research and teaching positions at Oklahoma State University and the University of Valle in California. From 1969 to 1976, he was agricultural economist and head of the economics unit of the Centro Internacional de Agricultura Tropical (CIAT). His primary research emphasis has been on the economic implications of new agricultural technology and expected impact of alternative public policy measures and agricultural research strategies. He joined IFDC in February 1976 and is presently Director of the Agro-Economic Division.



Paul J. Stangel is a native of Wisconsin. He earned the B.S., M.S., and Ph.D. degrees from the University of Wisconsin. He has served on the faculty of the Soils Department, University of Wisconsin, as a field representative in TVA's Test and Demonstration Program, and as director of TVA's International Fertilizer Development Staff. He has also worked as agronomist with the International Minerals & Chemicals Corporation. During 1972-1974, he was on loan to Indonesian and Philippine governments as their chief advisor for directing development in fertilizer production and marketing. He has also completed international assignments in Ghana, Zaire, India, Japan, Taiwan, Iran, South Korea, Malaysia, Bangladesh, Sri Lanka, Israel, and Pakistan. He joined IFDC in July 1975 and is presently Director of the Outreach Division and Acting Assistant Managing Director.

OUTREACH EFFORTS

"Adequate fertilizer use in the tropics and subtropics is a key practice required to produce needed food supplies. IFDC's mission is to help fill that need," says Paul J. Stangel, Director of IFDC's Outreach Division.

Transfer of existing or new technology to help assure that fertilizer will be efficiently produced, distributed, and used in developing nations is an IFDC objective. Three methods are used to reach this objective: (1) problem identification; (2) technical assistance; and (3) training.

Current programs use all three methods and plans are to expand and strengthen them in the future.

An IFDC team is helping identify fertilizer use problems in west Africa at the request of AID/Washington. The team

will develop an overall plan for the orderly development of a fertilizer industry in that part of the world. The team consists of engineers, economists, agronomists, and a marketing specialist. Team members are studying the present capacity of west African nations to produce, distribute, and consume fertilizers. They are also identifying constraints to fertilizer production, marketing and use, and developing recommendations to overcome or neutralize these constraints.

Several technical assistance projects are under way. Engineers are advising the Taiwan Fertilizer Corporation in the startup of an NPK granulation plant located at Nankong in the northern tip of Taiwan.

A TVA engineer on contract to IFDC has just returned from Barranquilla, Colombia, where he assisted Monomeros Colombo-Venezolanos, S.A. (MONOMEROS)—a fertilizer company—in improving its fertilizer quality control program. Another example of technical assistance was recently completed in Brazil when an IFDC consultant advised on renovation and use of an electric furnace phosphoric acid pilot plant.

Training is an important part of the Outreach function and is discussed on page 4.

"These projects are examples of current and future work to help transfer needed fertilizer technology to the developing world. We will be looking for newer, more innovative projects in 1977 and beyond to help accomplish the IFDC mission," Stangel said.

TWX JOINS IFDC —

Worldwide direct dial teletypewriter-to-teletypewriter exchange service is being added to IFDC's communication system in early June 1976. *IFDEC* will be the abbreviated firm name for the International Fertilizer Development Center. The next *IFDC Report* will carry the complete information for contacting IFDC by TWX.

IFDC FAMILY GROWS

Peter Chien, born March 13, 1976, is the first baby born to an IFDC family since the organization was formed. Peter's father and mother are Dr. and Mrs. S. H. Chien. Dr. Chien is a Research Chemist in IFDC's Fertilizer Technology Division.



Don Waggoner, Chemical Engineer with IFDC's Outreach Division, poses with the first bag from the ship unloading operation at Port Tema.

Bulk Fertilizer for Ghana

Port Tema near Accra, Ghana, was busy with activity in late January and early February when IFDC's Don Waggoner helped the Ghana Fertilizer Company (GFC) prepare for and receive its first shipment of bulk fertilizer. The purpose was to demonstrate the technical and economic benefits of receiving bulk fertilizers.

The first ship carrying bulk fertilizer to Ghana also carried unloading and bagging equipment which had to be assembled and set in place for use. Don Waggoner assisted with the project, including the training of the people necessary to unload the ship, bag the fertilizer, load the bags onto trucks, and transport the bagged fertilizer to storage. Robert D. Grisso, TVA Agricultural Economist assigned to the USAID mission in Ghana, assisted with the project.

GFC will receive IFDC assistance in preparing layout designs for mixing facilities and bid specification preparation for a storage building conveyor system and mixing equipment.

Requests by GFC for assistance in engineering, marketing, distribution, and demonstration work are under consideration.

Publications Available From IFDC

- * "Granular Urea—Advantages and Processes" published by IFDC.
- * "The Potential for Regional Cooperation in Fertilizer—A Methodology Study of the ASEAN Group" published by IFDC.
- * "Supplying Fertilizers for Zaire's Agricultural Development" published by TVA.

Training Program Plans

IFDC has firmly scheduled an intensive Fertilizer Plant Maintenance and Instrumentation Training Program and is prepared to schedule an International Fertilizer Marketing Seminar, according to Carl Amstrup, Training Coordinator.

Formal instruction for the Fertilizer Plant Maintenance and Instrumentation Program will begin June 14, 1976, and continue for nearly one year. Major sections of the program include: management of the maintenance function; execution of the maintenance function; technical aspects of preventive maintenance; inventory control of materials and parts; and organization development to man the maintenance and instrumentation functions. The course is flexible enough to accommodate individual specialties of participants.

Those enrolling in the maintenance and instrumentation program have or will have responsibilities to do or manage maintenance and instrumentation work.

The International Fertilizer Marketing Seminar will have three sections, each three weeks long, for a total of nine weeks. Participants can enroll in the total seminar or in each section separately. The sections are: (A) Fertilizer Marketing: Its Role in Meeting World Food Needs; (B) Moving Fertilizer Along the Market Path; and (C) Organization Development to Fulfill the Marketing Mission.

Scheduling of the Marketing Seminar will depend on commitments for enrollment. Individuals and organizations interested in either the maintenance and instrumentation program or the marketing seminar can indicate their interest by completing the accompanying form.



Mr. B. R. Singh (left), General Manager, Indian Farmers Fertilizer Cooperative Limited (IFFCO) studies international fertilizer distribution economics with Harold Walkup, Supervisor, Distribution Economics Section, TVA. Mr. Singh was at IFDC and TVA as part of an international study trip.

To: Carl R. Amstrup, Training Coordinator, Outreach Division
International Fertilizer Development Center, 402 First Federal Building
Florence, Alabama 35630, U.S.A.

Please supply information as requested below:

- I. Fertilizer Plant Maintenance and Instrumentation Program starting June 14, 1976.
 - Send the course outline, schedule, and cost for our review.
 - We cannot arrange to attend at this date but are interested in future courses.
- II. International Fertilizer Marketing Seminar.
 - The earliest date we can arrange to attend is _____
 - Best date for us is _____
 - Please send the seminar outline and estimated cost.
 - Please make _____ reservations for our organization.
- III. Questions about the above programs or other training program suggestions.

Organization: _____

Address: _____

City: _____ Country: _____

Signed by: _____ Title: _____



Published Quarterly by the
International Fertilizer Development Center

402 First Federal Building
Florence, AL 35630
USA

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