

The Francis New Medal—

Dr. Donald L. McCune Receives Award

Dr. Donald L. McCune, IFDC Managing Director, recently traveled to London, England, to receive the Francis New Medal from The Fertiliser Society. Dr. McCune was honored "for his valuable contributions to the scientific and technical aspects of the production, use, and application of fertilizers."

Francis New, a world-renowned fertilizer technologist, was one of the first organizers of the Fertiliser Society, composed of more than 500 chemists, engineers, agronomists, and economists from throughout the world. The Society was organized in 1947 to provide a forum for discussion of scientific, technical, and economic aspects of the production, use, and application of fertilizers and to promote the interchange of views and dissemination of information to its members.

The Society holds 6 to 8 meetings per year in London. Papers given at these meetings have an unusually high standard of excellence, and many members who seldom have the opportunity to attend the meetings value their membership as a source of timely and authentic information.

As part of the Society's award ceremonies, Dr. McCune delivered the Francis New Memorial Lecture on "Fertilisers for Tropical and Subtropical Agriculture." Dr. McCune said that "agriculture in the tropics and subtropics must become much more efficient and productive if the food, fiber, building materials, and energy needs of developing countries are to be met. Increasing amounts of the right kinds of fertilizers must be physically and economically available to farmers of these areas if these agricultural goals are to be attained." He noted that fertilizers commonly used in temperate climates were not always well suited for tropical agriculture.

Dr. McCune also noted that the world population has doubled within his lifetime, and much of this increase is



Dr. Donald L. McCune is shown holding the Francis New Medal which he received from The Fertiliser Society of London.

in tropical and subtropical areas. Fortunately, many of these areas have great potential for more intensive agriculture because the climate permits multiple cropping—two or three crops per year. To take full advantage of this potential, much larger quantities of fertilizer must be used. He stressed that the conventional

IFDC Headquarters—

Fertilizer Marketing Management Training Program

From August 17 through September 25, 1981, four of the estimated 30 participants attending IFDC's annual Fertilizer Marketing Management Training Program will assume the role of managing "Tiger Fertilizer Company." "Tiger" is one of the 10 fertilizer marketing companies in the hypothetical country of Alpha, the setting for IFDC's Alpha fertilizer marketing simulation game.

"Tiger's" new management team will make decisions not only on the marketing objectives that their company will seek to achieve but also on the specific line of

"major" nutrient approach (nitrogen, phosphorus, and potassium) is often inadequate in developing countries. More attention must be paid to supplying sulfur in particular as well as other nutrients that will become important in multiple cropping in the tropics.

Upon receiving the award, Dr. McCune credited the entire IFDC team when he said, "Although I am honored, I feel that the award is more a tribute to IFDC than to me. IFDC is committed to seeing that the fertilizers for increasing agricultural productivity in the developing countries become a reality."

Dr. McCune is one of only three Americans who have received the award since its inception in 1959. Mr. Travis P. Hignett, Special Consultant to the Managing Director of IFDC, received the award in 1969.

Dr. McCune is a native of Ohio. He received a B.S. and M.S. in Agronomy from Ohio State University and a Ph.D. in Plant Physiology and Nutrition from Purdue University. He served as Head of the Forage Crops and Animal Nutrition Program with the Rockefeller Foundation in Chile and Director of the International Fertilizer Development Staff with the Tennessee Valley Authority before becoming Managing Director of IFDC.

fertilizer products that the company will market in Alpha. The success of "Tiger" in meeting the fertilizer requirements of Alpha's farmers will also depend on making the right decisions regarding the company's overall marketing strategy. This strategy will also include a mix of decisions on sales promotion, advertising, incentive plans, market research, pricing, and the number of retail outlets.

The Alpha game is a unique learning experience that makes it possible for the participant to perceive immediately the consequences of his marketing decisions.

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Marketing concepts learned by participation in the Alpha game will be supplemented by a series of lectures and workshops on the development of marketing strategies and program implementation. A broad range of other program activities, including updates on the world fertilizer situation, fertilizer production, and fertilizer product knowledge, will be presented. Another highlight of the program is a shortcourse on leadership effectiveness training.

To provide a practical view of fertilizer marketing, participants will take several field trips. These trips will include visits to Farmland Industries, a large U.S. cooperative, in Kansas City, Missouri, and to the University of Missouri, including their research farm. Participants will observe shipping and handling of phosphate rock at the Tampa port facilities. At the Phosphate Rock Export Association (Phosrock) in Tampa, they will learn about Phosrock's involvement in the international phosphate rock industry. In Lakeland, Florida, the participants will visit the International Minerals and Chemicals phosphate mine, beneficiation plant, and chemical fertilizer facility. Other phases of the Florida field trip will be a visit with a fertilizer dealer that serves farmers and a stop at a vegetable or citrus farm.

Throughout the program, participants will be able to consult with IFDC staff members whose expertise covers the broad range of industrial, agricultural, and marketing activities essential to the successful development of a country's fertilizer sector.

On completing this program, the participant will have acquired improved technical knowledge, a broadened perspective on the marketing requirements of a developing fertilizer sector, and a range of skills and experiences. This knowledge and experience will enhance the participants' ability to contribute to the fertilizer marketing program of their organizations.

Interested individuals can acquire additional information by writing to the IFDC training coordinator.

IFDC Staff Update

Arrivals

Dr. Douglas C. Godwin—Agricultural Systems Modeler—from the Department of Agronomy and Soil Science at The University of New England, Armidale—now with the Agro-Economic Division for 2 years.

Keeping Fertilizer in Perspective—

One of Many Factors in the "Green Revolution"

Ram Sinha, a small farmer in India, still could not understand. Of all the rice fields in his village, why had only his fields fallen prey to the pest attack? Ram thought to himself: "If only I had bought some pesticides!"

Fourteen IFDC staff members walked in Ram Sinha's sandals for 6 hours on March 16, as they participated in a demonstration of the "Green Revolution" game.

Just as Ram Sinha does at the beginning of each growing season, each player in the "Green Revolution" game makes decisions about how his land, labor, and capital resources can best be used to meet his family's rice consumption requirements and earn cash from the sale of surplus rice in the market.

Within the constraints imposed by the resources available to him, each player must decide whether to buy and use fertilizer, whether to dig a well to ensure irrigation of a field, which variety (traditional or modern) to plant, and whether to buy pesticides.

The outcome—kilograms of rice per hectare—of each player's decisions is determined not only by the combination of inputs used but also by environmental factors such as rain, drought, and pest

attacks which occur on a chance basis throughout each growing season. Additionally, market uncertainty is simulated by letting the market price for rice be known only after each participant has decided how much rice he wants to sell in the market.

The "Green Revolution" game was demonstrated by Dr. Graham Chapman, a geographer from the University of Cambridge in England. Dr. Chapman developed the game based on field-level data he had collected earlier in a study of rainfed agriculture in Bihar, India.

At the end of the game, Dr. Chapman led a debriefing session during which participants shared their farming experiences (e.g., why some farmers continued to use traditional varieties rather than adopt modern varieties). By taking the role of the farmer, each participant gained a better understanding of the various constraints, including risk, which the farmer faces daily.

This demonstration of the "Green Revolution" game provided IFDC's training, marketing, and fertilizer evaluation specialists an opportunity to assess the potential for using games of this nature as learning tools in various IFDC training programs.



Dr. Graham Chapman (seated) of the University of Cambridge, England, checks the rice yields of three "Green Revolution" game participants (from left to right): Mr. Joseph Lastigzon (Economist), Mr. Lew B. Williams (Regional Coordinator—Africa), and Dr. Robert T. Smith (Regional Coordinator—Latin America) of IFDC's Outreach Division.

Two Major Developments in Southeast Asia

Two recent developments strengthen IFDC's efforts to increase nitrogen use efficiency in the rice-producing countries of Southeast Asia. One of the developments occurred early in 1981 when a team of IFDC staff members assisted P.T. PUSRI in the smooth startup of the PUSRI I urea granulation unit at Palembang, Indonesia. The other development was an agreement made in March between IFDC and the Australian Development Assistance Bureau (ADAB) to initiate a program with the goal of increasing agricultural production in Southeast Asia.

P.T. PUSRI I Startup—

A PUSRI agronomist, Agus Ridwan Rahmad, stationed at IFDC for a 2-year study, knows firsthand what the PUSRI I urea granulation unit will mean to the farmers of Indonesia.

"At present the average per capita income for an Indonesian farmer is less than \$300 per year," Rahmad said.

Since Indonesia is basically an agricultural economy, any improvement in the agricultural sector (such as fertilizer) improves the lot of the Indonesian farmer.

"It is very difficult for the Indonesian farmer to extend his farm so it is very important for him to be able to increase his food production through greater efficiency of fertilizer," Rahmad said.

The PUSRI I urea granulation unit will aid the Indonesian farmer in achieving greater efficiency in fertilizer use.

This unit utilizes the pan granulation process developed by the Tennessee Valley Authority. Since 1977 IFDC has provided technical assistance and training to PUSRI in preparation for the startup of the PUSRI I urea granulation unit.

Under the leadership of Chemical Engineer M. T. Frederick, IFDC staff reviewed at various stages the engineering, design, and layout work prepared by PUSRI. As an integral part of this preparation effort, 11 supervisory personnel from PUSRI participated in a urea granulation training program held at IFDC Headquarters in August 1979 (see *IFDC Report*, Vol. 4, No. 3).

The PUSRI I granulation unit is the first of its kind in the developing world.

"This project represents a revolution in Indonesian fertilizer technology," Rahmad said.

The PUSRI I unit will produce approximately 100,000 tons per year of granular urea of a larger particle size than prills.

"One advantage of granular urea is that it does not cake as prilled urea does. Another is that a farmer can broadcast granular urea more uniformly. It can be transported in bulk easier without any caking problems arising," Rahmad said.

The plant also has the capability of producing materials which lend themselves to further modification either by size variation or as substrate for coating.

ADAB/IFDC Agreement—

The second high point is an agreement between IFDC and the Australian Development Assistance Bureau (ADAB) to initiate a program with the goal of increasing agricultural production in Southeast Asia. The purpose of the program is to achieve this goal by developing, evaluating, and introducing more efficient fertilizer products and fertilization practices in rice and other crops in Southeast Asia.

The initial focus of the program will be on fertilizers for use in Indonesia. Dr. Paul J. Stangel, IFDC Deputy Managing Director, and Dr. Eric T. Craswell, IFDC Soil Scientist, will travel to Indonesia in May to discuss details of

the program with Indonesian government officials.

The program fits within the framework of a fertilizer efficiency program for Indonesia developed in a meeting of seven senior scientists from Indonesia and scientists from the International Rice Research Institute (IRRI) and IFDC in September 1979 (see *IFDC Report*, Vol. 4, No. 3).

The ADAB/IFDC program is an additional link in the chain of research projects being conducted in Southeast Asia through the collaborative efforts of IFDC, ADAB, IRRI, the International Network for Soil Fertility and Fertilizer Evaluation for Rice (INSFFER), and universities and governmental research organizations in individual countries.



IFDC Technical Aide Mr. T. Alan Nix (left) and PUSRI engineer check progress of the first run on the PUSRI I urea granulation project.



Dr. Donald L. McCune (left) signs preliminary contract as Dr. Eric T. Craswell of IFDC and Dr. Gabrielle J. Persley of ADAB, Department of Foreign Affairs, watch.

PUBLICATIONS AND PAPERS AVAILABLE FROM IFDC

Publications and papers are available at no cost except that a shipping and handling charge is required—**Continental United States**, \$3.00 for first publication or paper, \$1.00 for each copy thereafter; **Other Countries**, \$5.00 for first publication or paper, \$2.00 for each copy thereafter.

IFDC Publications

- "Granular Urea—Advantages and Processes," T-1.
- "The Potential for Regional Cooperation in Fertilizer—A Methodology Study of the ASEAN Group," T-2.
- "West Africa Fertilizer Study (Volumes I-VII)."
 - Volume I—Regional Overview, T-3
 - Volume II—Senegal, T-4
 - Volume III—Mali, T-5
 - Volume IV—Upper Volta, T-6
 - Volume V—Niger, T-7
 - Volume VI—Chad, T-8
 - Volume VII—Mauritania, T-9
- "Suggested Fertilizer-Related Policies for Governments & International Agencies," T-10.
- "The Bangladesh Fertilizer Sector, 1978," T-11.
- "Sulfur in the Tropics," T-12.
- "World Fertilizer Situation and Outlook—1978-85," T-13.
- "Organic Nitrogen Compounds for Use as Fertilizers," T-14.
- "Bolivia Fertilizer Situation and Recommendations," T-15.
- "Mexico: The Fertilizer Industry," T-16.
- "Thailand Strategy for Fertilizer Development—A Prefeasibility Study," T-17.
- "Fertilizer Manual," R-1, Price—US \$15.00.
- "International Fertilizer Market Information Sources," R-2.
- "Progress Report, 1976-1977."
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- "Rate Control of Ammonia Volatilization from Rice Paddies," Reinier J. B. Bouwmeester and Paul L.G. Vlek, *Atmospheric Environment*, Vol. 15, pp. 131-140, 1981.
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